

## Falls are the Leading Cause of Injury Among Spokane County Seniors

In Spokane County, one in eight people are 65 years of age or older. While the proportion of the total population that is a senior has been consistent over the last two decades (12%-13%), the number of seniors in the county has been increasing. In 2011, there were 62,540 seniors in Spokane County.

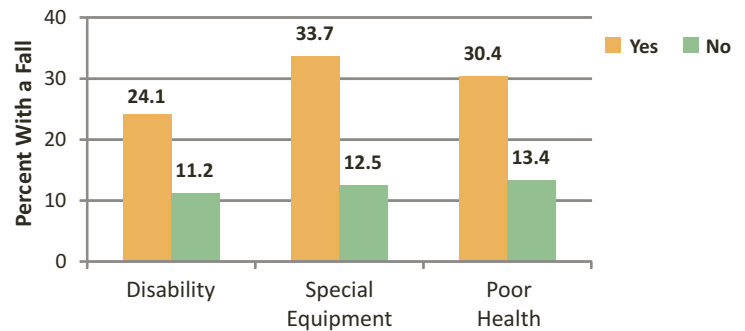
Unintentional injuries can cause lasting physical, mental, and social distress among seniors. After an injury, a senior may have physical limitations or pain, may be afraid of future injury, may not be able to perform their daily activities without assistance, and may experience financial strain from the cost of an injury. Preventing unintentional injuries can improve the quality of life among seniors.

During 2009-2010, one in six seniors (16%) in Spokane County reported falling in the last three months. One in 20 seniors (5%) had a fall in the last three months that caused an injury that limited regular activities for at least a day or made them go see a doctor.<sup>1</sup>

- ◆ Seniors with a disability were 2.5 times more likely to report a fall than were those without a disability.
- ◆ Seniors who use special equipment for a medical condition, such as a cane or wheelchair, were 3.5 times more likely to report a recent fall than were those who do not use special equipment.

- ◆ Seniors who self-report that they are in fair or poor health were 2.8 times more likely to have a recent fall than were those in good health.

Figure 1  
**Seniors Reporting a Fall in the last Three Months by Presence of Physical Factors, Spokane County, 2009-2010<sup>1</sup>**

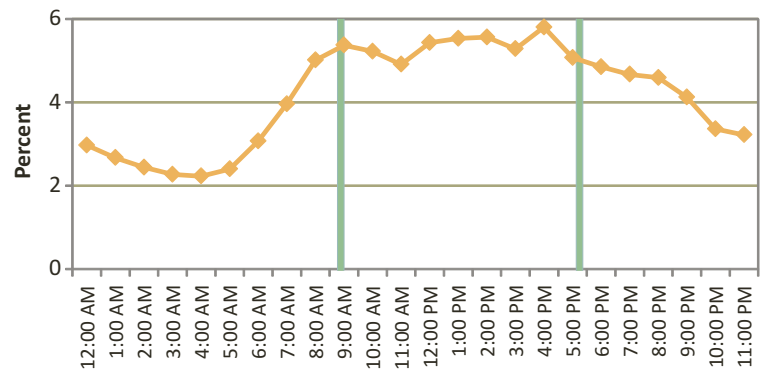


## Fall-Related 911 Calls<sup>2</sup>

During 2009-2010, an average of 990 calls was received through the 911 system for assistance due to a fall each month. The age of the individual needing assistance was not reported. As such, 911 calls for a fall reflect all people, not just seniors. Fire personnel in Spokane County were dispatched an average of 16 times per day to assist with a fall. Almost one in four calls (22.6%) to 911 for a fall was for public assistance without an injury. These calls were for individuals who had fallen and needed help getting up. Less than one in 10 calls (8.1%) were for a fall that resulted in a serious injury. The majority of fall-related calls (59.1%) were for assistance with a likely non-serious injury from a fall. The remaining calls were received with an unknown status of the person who had fallen.

The level of 911 calls for assistance because of a fall remained fairly consistent throughout the year. December had the highest average number of daily calls at 18. April had the lowest average number of daily calls at 15. Throughout the day, the number of 911 fall calls was steady between 9:00 am and 5:00 pm, at which point the call levels began to decrease throughout the night. At 5:00 am, the call volume began to increase.

Figure 2  
**911 Calls for Assistance With a Fall by Time of Day Spokane County, 2009-2010**



### Fall-Related Emergency Department Visits<sup>3</sup>

During 2006-2010, an average of 4,300 seniors was seen in Spokane County emergency departments (ED) each year for a fall-related injury. The ED visit rate decreased significantly in that five-year period; a decrease from 61.5 per 1,000 in 2006 to 41.0 per 1,000 in 2010.

Women accounted for 68.4% of fall-related ED visits among people 65 years of age or older. Adjusting for the difference in population, the female ED visit rate was still significantly higher than the male rate; 61.1 per 1,000 for females and 37.5 per 1,000 for males.

The risk of a fall-related ED visit increased with age. Compared to individuals 65-74 years of age, those 85 years of age or older were

20% more likely to have a fall-related ED visit. The rate among those 75-84 years of age was similar to those 65-74 years of age.

Among seniors who went to the ED from a fall, 9% had an associated fractured femur. A smaller proportion (3%) had a traumatic brain injury as a primary diagnosis. Nearly one in four seniors (23.6%) seen in an ED for a fall-related injury was admitted to the hospital.

The average charge for a fall-related ED visit among seniors during 2006-2010 was \$7,200. The total charge in the five-year period was \$106 million. The total charge per year increased from \$19 million in 2006 to \$23 million in 2010.

Figure 3

**Emergency Department Visit Rate From a Fall Among Seniors, Spokane County, 2006-2010**

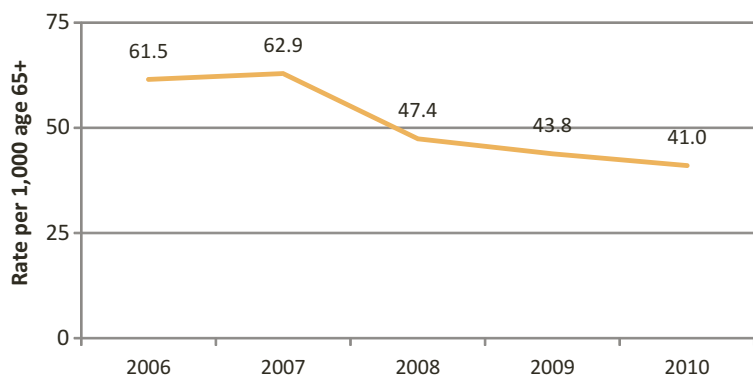
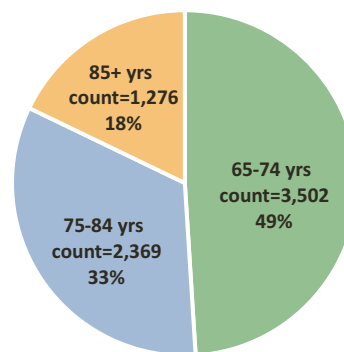


Figure 4

**Fall-Related Emergency Department Visits by Age Group Spokane County, 2006-2010**



### Fall-Related Hospitalizations<sup>4</sup>

Each year, there are approximately 1,900 hospitalizations due to fall-related injuries among people of all ages. Two in three of those occurred among individuals 65 years of age or older; approximately 1,250 per year. The rate of hospitalization among seniors for a fall-related injury was stable from 2006-2010; 2,134 per 100,000 in 2010.

Women accounted for 67.2% of fall-related hospitalizations among people 65 years of age or older. Adjusting for the difference in population, the female hospitalization rate was still significantly higher than the male rate; 25.8 per 1,000 for females and 16.7 per 1,000 for males.

The risk of a fall-related hospitalization increased with age. Compared to individuals 65-74 years of age, those 75-84 years of age were nearly three times more likely to have a fall-related

hospitalization and those 85 years of age or older were seven times more likely to have a fall-related hospitalization.

Among seniors who were hospitalized from a fall, 38% had an associated fractured femur. A small proportion (6%) had a traumatic brain injury as a primary diagnosis.

The average charge for a fall-related hospitalization among seniors during 2006-2010 was \$28,000. The total charge in the five year period was \$177 million.

Only 16% of seniors hospitalized for a fall-related injury had a routine discharge. Half were discharged to a skilled nursing facility. Another 16% were discharged to home with home health assistance and 9% were discharged to a rehabilitation facility. Four percent died and the remaining 5% had various other discharge types.

Figure 5  
**Cost of Fall-Related Hospitalizations Among Seniors  
 Spokane County, 2006-2010**

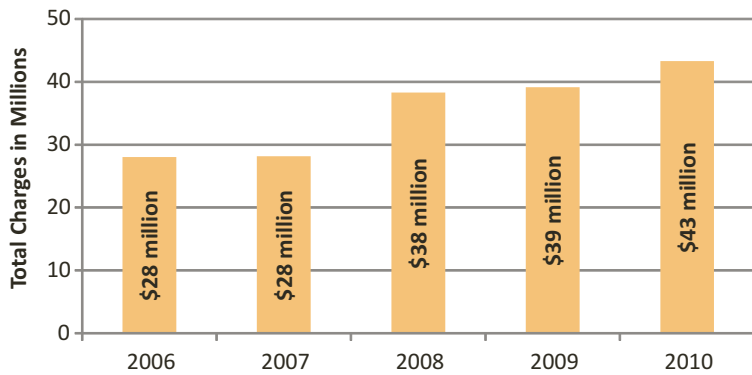
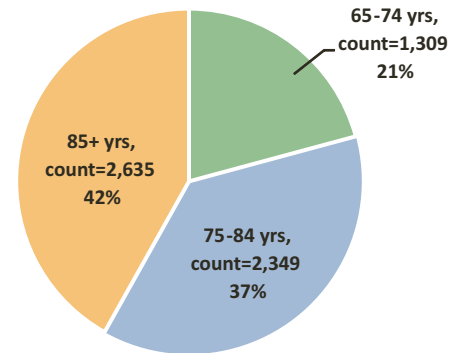


Figure 6  
**Fall-Related Hospitalizations by Age Group  
 Spokane County, 2006-2010**



**Fall-Related Deaths<sup>5</sup>**

Unintentional injury was the sixth leading cause of death among seniors in Spokane County in 2010. Of those, 77.6% were from fall-related injuries. The death rate from falls increased significantly from 2006 to 2010. The number of deaths increased from 64 in 2006 to 118 in 2010. A total of 440 fall-related deaths occurred during 2006-2010 among seniors.

More deaths from a fall occurred among women who accounted for 57.3% of fall-related deaths among people 65 years of age or older. However, there were more women in the 65 or older population. Adjusting for the difference in population, male and female seniors had a similar fall-related death rate.

The risk of a fall-related death increased with age. Compared to individuals 65-74 years of age, those 75-84 years of age were six times more likely to have a fall-related death and those 85 years of age or older were 25 times more likely to have a fall-related death.

Among seniors who died from a fall-related injury, 48.4% fell at home. Another 39.6% fell at a nursing home. A small proportion, 4.3%, fell in a public location. The remainder either fell at a worksite or at an unknown location.

Nearly half of seniors who died from a fall-related injury (47.3%) died as a hospital inpatient. More than one-quarter (29.1%) died in a nursing home, 8.9% died at home, 8.9% died in hospice care, and 3.6% died in an emergency room. The remaining 2.3% died in other locations.

Among those who died from a fall-related injury, 45.7% had an associated femur fracture. Another 22.6% of fall-related deaths had a traumatic brain injury.

Figure 7  
**Death Rate From a Fall Among Seniors  
 Spokane County, 2006-2010**

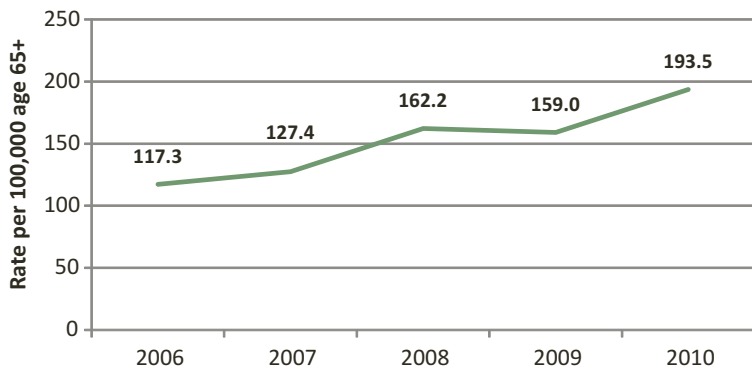
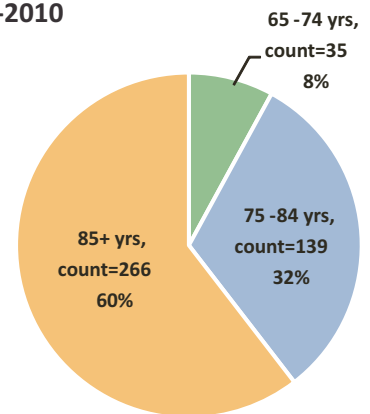


Figure 8  
**Fall-Related Deaths by Age Group  
 Spokane County, 2006-2010**



## What We Can Do About Preventing Falls

As evidenced through the preceding data, falls among older adults poses a serious problem—for the health, well-being and life expectancy of individual seniors; for family members and other providers who care for seniors; and for the community at large. Action by individuals and different sectors of our community can prevent many falls. The number of seniors will be increasing dramatically over the coming decades, underscoring the importance of falls prevention. The recommendations below are based on falls prevention research over the last decade and provided through the:

- Centers for Disease Control and Prevention, 2008
- U.S. Preventive Services Task Force Recommendation Statement, August 2012

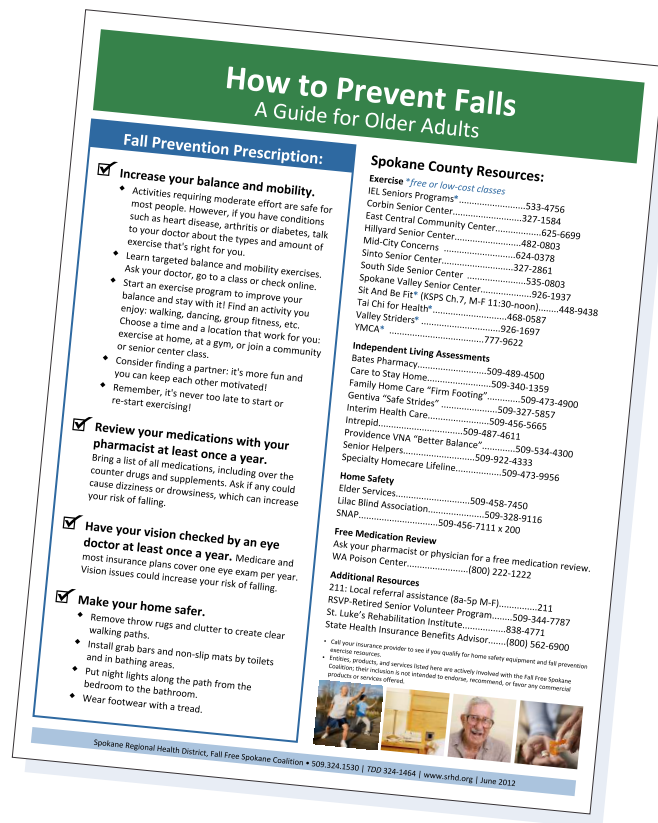
Each sector of the community identified below plays an important role in reducing falls among older adults. Key actions that each group can take are outlined. More information is available from the organizations listed in the resource section.

### Seniors, Families, and Caregivers

- **Increase balance and mobility (the most effective intervention)**
  - Strong muscles and bones help older adults move better with ease.
  - Exercises can increase balance, strength, and flexibility and reduce risk of falls.
  - People new to exercise or with conditions such as heart disease, arthritis or diabetes should talk with their doctor before they begin.
- **Take Vitamin D supplements**
  - Taking vitamin D supplements can reduce risk of falls among older adults.
  - Individuals should check with their doctor before starting supplements.
- **Have vision checked by an eye doctor at least once a year**
  - Poor vision is associated with an increased risk of falling.
- **Individuals should use one pharmacy and have medications and supplements reviewed at least once a year**
  - As individuals age, the way medicines work in their body can change.
  - Some medicines, or combinations of medicines, can make someone sleepy or dizzy and can cause a fall.
- **Make home safer**
  - Remove throw rugs and clutter to create clear walking paths.
  - Install grab bars and non-slip mats by toilets and in bathing areas.
  - Put night lights along the path from the bedroom and bathroom.
  - Wear footwear with a tread.
- **Identify and correct risk factors for a fall**
  - Older adults can ask their doctor to conduct a comprehensive fall risk assessment or they can use one that is online.
  - Creating a personal plan to reduce the risks identified is a powerful tool in remaining independent and healthy.

### Health Care Providers

- Recommend patients begin physical therapy or an exercise program with balance and strength training based on risk assessment. A meta-analysis of exercise interventions found that balance training should be a part of any exercise program to decrease falls.
- Remind patients that additional calcium and Vitamin D intake is important to prevent bone loss or reduce fracture risk.
- Review medications and side effects with patients.
- Recommend patients modify their home environment and personal fall risk factors.
- Refer patients to a specialist (physical therapists, occupational therapist, home health fall prevention programs, etc.) when they are at risk of a fall.



### Community

- ◆ Develop and participate in a community-based falls prevention coalition to pool community resources and develop collaborative solutions.
- ◆ Increase the availability of low-cost, accessible exercise programs tailored for older adults that feature balance, strength and flexibility.
- ◆ Advocate for physical activity opportunities for all community members including complete streets and walkable environments.

### Policy Makers

- ◆ Adequately fund mandates that support Medicare changes to include physical activity and durable medical equipment benefits.
- ◆ Prioritize prevention, including senior fall prevention, by placing it on the public health agenda.

## FALLS PREVENTION RESOURCES

### Centers for Disease Control & Prevention

[www.cdc.gov/HomeandRecreationalSafety/Falls](http://www.cdc.gov/HomeandRecreationalSafety/Falls)

### U.S. Preventive Services Task Force

[www.uspreventiveservicestaskforce.org](http://www.uspreventiveservicestaskforce.org)

### Fall Prevention Center for Excellence

[www.stopfalls.org](http://www.stopfalls.org)

### National Institute on Aging

[www.nia.nih.gov/health/topics/falls](http://www.nia.nih.gov/health/topics/falls)

What YOU Can Do To Prevent Falls

### Make your home safer

Three other things YOU can do to prevent falls:

- Begin a regular exercise program
- Have your health care provider review your medicines
- Have your vision checked

"I'm glad I had handrails put on both sides of my stairs."

Spokane County Health Foundation

What YOU Can Do To Prevent Falls

### Begin a regular exercise program

Three other things YOU can do to prevent falls:

- Have your vision checked
- Have your health care provider review your medicines
- Make your home safer

"Exercise makes me stronger and helps me feel better."

Spokane County Health Foundation

What YOU Can Do To Prevent Falls

### Have your vision checked

Three other things YOU can do to prevent falls:

- Begin a regular exercise program
- Have your health care provider review your medicines
- Make your home safer

"I have my eyes checked by an eye doctor every year. Last time I found out I needed new glasses."

Spokane County Health Foundation

What YOU Can Do To Prevent Falls

### Have your health care provider review your medicines

Three other things YOU can do to prevent falls:

- Begin a regular exercise program
- Have your vision checked
- Make your home safer

"My doctor and I talked about my medicines. One kind made me dizzy so he prescribed something else."

Spokane County Health Foundation

## Pilot Assessment: Senior Activity Programs

Spokane Regional Health District conducted a pilot assessment with the three organizations offering the most senior activity programs. They included the YMCA, Institute for Extended Learning, and Cheney parks and recreation departments.

The primary goal of the assessment was to determine the amount and type of balance activities included in physical activity programs marketed to older adults. Criteria for inclusion in the project included widespread geographic reach and large portion of classes targeted to older adults.

### Findings from the senior exercise class assessment included:

- ♦ 10 types of exercise classes were observed and assessed for the types and amounts of balance activities.
- ♦ Of classes observed, 62% exceeded established benchmarks for balance components, 22% met minimum benchmarks with only 16% below benchmarks.
- ♦ Half of classes identified below benchmarks were open to older adult attendees, but were targeted to heart health and cardiac rehabilitation patients.
- ♦ Organizations involved in the assessment project are currently engaged in a quality improvement process to increase strength and balance components of exercise classes to more effectively prevent falls in older adults.

Figure 9

### Senior Population and Locations for Senior Activities Spokane County, 2006-2010

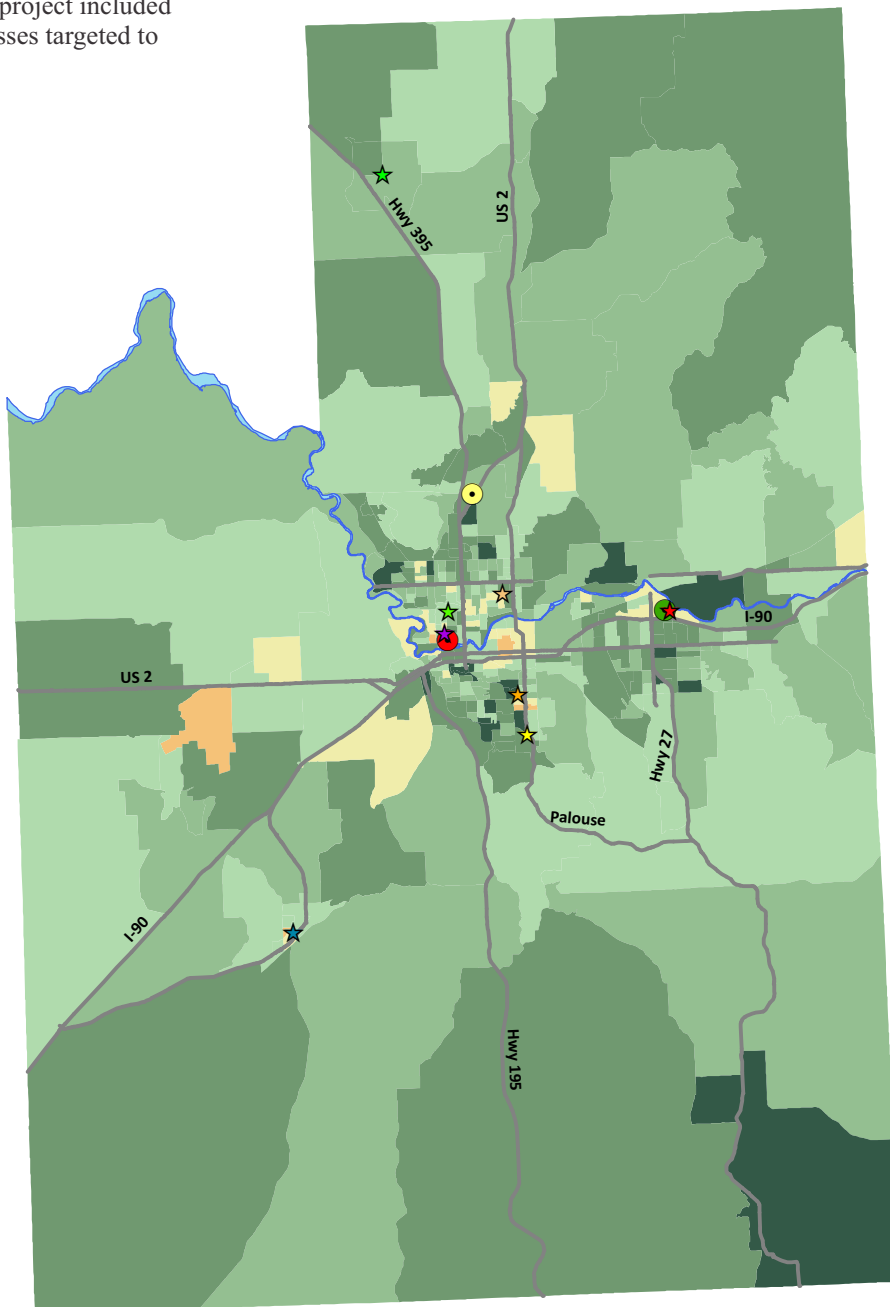
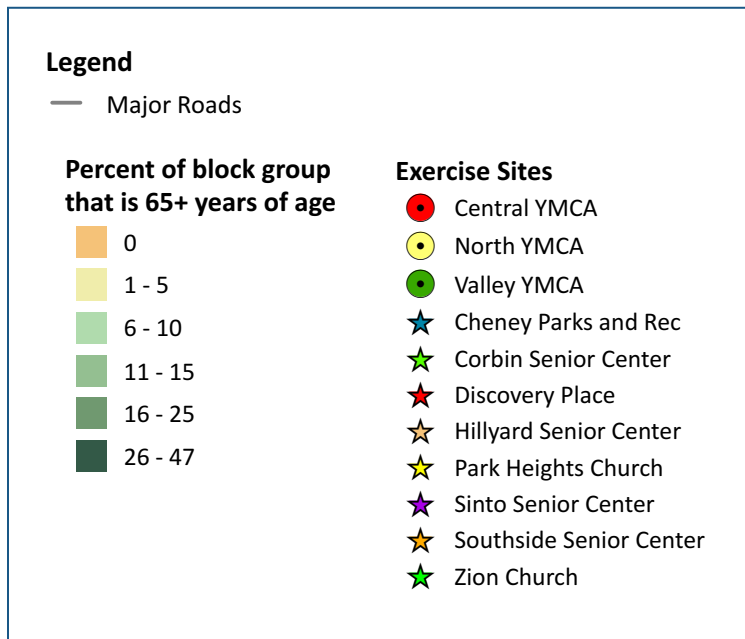
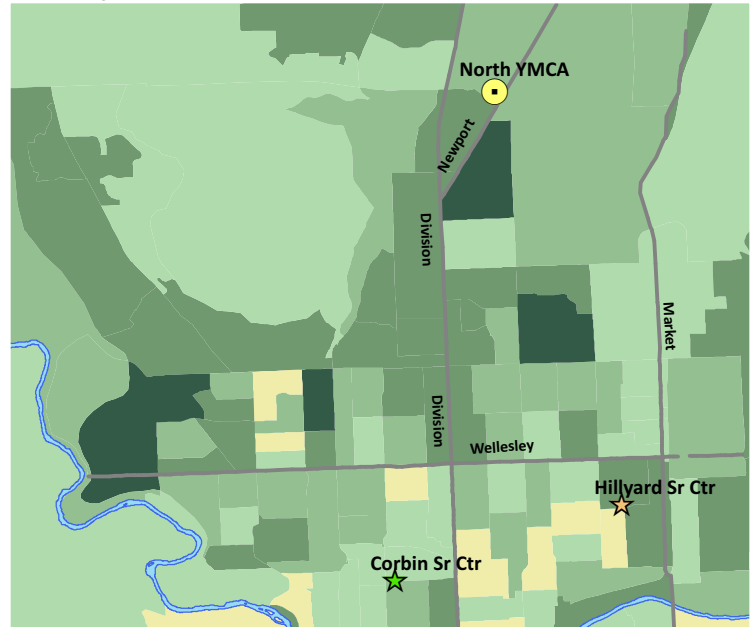


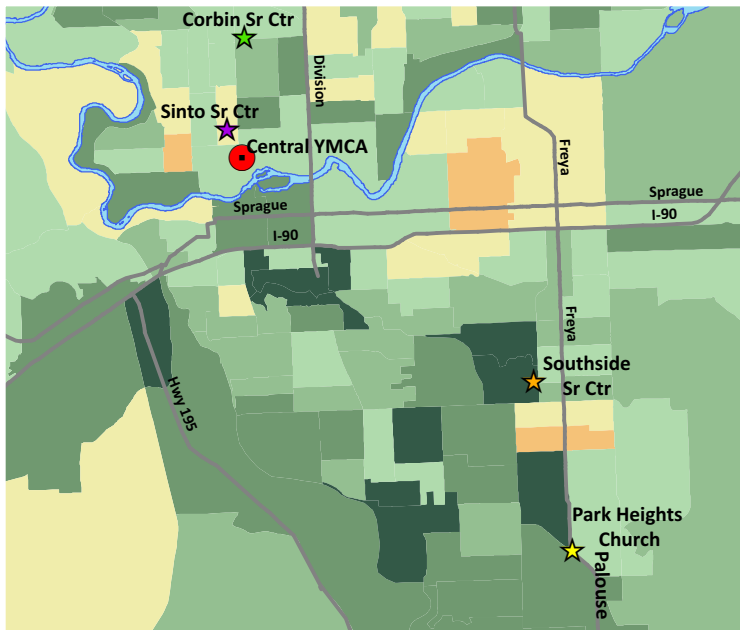
Figure 10  
**Senior Population and Locations for Senior Activities**  
**Spokane County, 2006-2010**



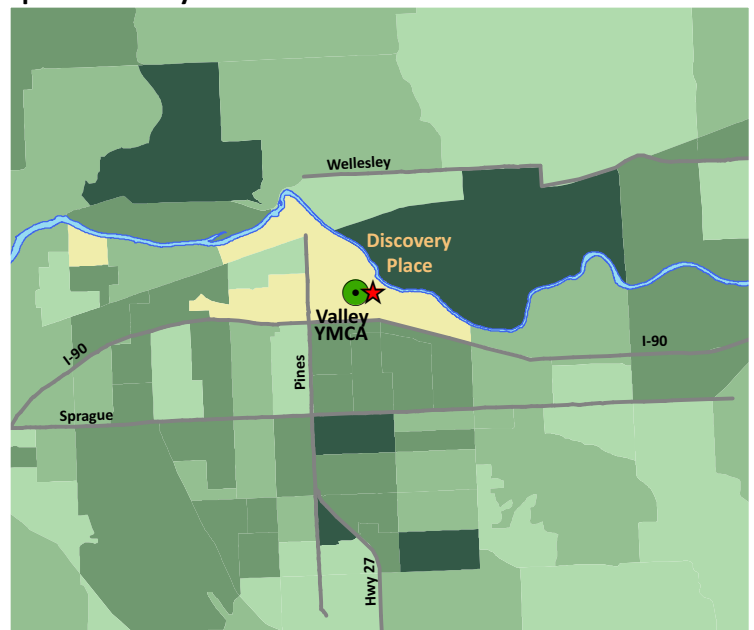
**North Spokane**



**Central Spokane**



**Spokane Valley**



Population Data Source: 2006-2010 American Community Survey  
 Created by Spokane Regional Health District, July 2012

Sample prevention publication:

## Check for Safety: A Home Fall Prevention Checklist for Older Adults

[www.cdc.gov/homeandrecreationalafety/falls/pubs.html](http://www.cdc.gov/homeandrecreationalafety/falls/pubs.html)

### Floors: Look at the floor in each room.

**Q: When you walk through a room, do you have to walk around furniture?**

Ask someone to move the furniture so your path is clear.

**Q: Do you have throw rugs on the floor?**

Remove the rugs or use double-sided tape or a non-slip backing so the rugs won't slip.

**Q: Are there papers, books, towels, shoes, magazines, boxes, blankets, or other objects on the floor?**

Pick up things that are on the floor. Always keep objects off the floor.

**Q: Do you have to walk over or around wires or cords (like lamp, telephone, or extension cords)?**

Coil or tape cords and wires next to the wall so you can't trip over them. If needed, have an electrician put in another outlet.

### Kitchen: Look at your kitchen and eating area.

**Q: Are the things you use often on high shelves?**

Move items in your cabinets. Keep things you use often on the lower shelves (about waist level).

**Q: Is your step stool unsteady?**

If you must use a step stool, get one with a bar to hold on to. Never use a chair as a step stool.

### Bathrooms: Look at all your bathrooms.

**Q: Is the tub or shower floor slippery?**

Put a non-slip rubber mat or self-stick strips on the floor of the tub or shower.

**Q: Do you need some support when you get in and out of the tub or up from the toilet?**

Have a carpenter put grab bars inside the tub and next to the toilet.



### Stairs and Steps: Look at the stairs you use both inside and outside your home.

**Q: Are there papers, shoes, books, or other objects on the stairs?**

Pick up things on the stairs. Always keep objects off stairs.

**Q: Are some steps broken or uneven?**

Fix loose or uneven steps.

**Q: Are you missing a light over the stairway?**

Have an electrician put in an overhead light at the top and bottom of the stairs.

**Q: Do you have only one light switch for your stairs (only at the top or at the bottom of the stairs)?**

Have an electrician put in a light switch at the top and bottom of the stairs. You can get light switches that glow.

**Q: Has the stairway light bulb burned out?**

Have a friend or family member change the light bulb.

**Q: Is the carpet on the steps loose or torn?**

Make sure the carpet is firmly attached to every step, or remove the carpet and attach non-slip rubber treads to the stairs.

**Q: Are the handrails loose or broken? Is there a handrail on only one side of the stairs?**

Fix loose handrails or put in new ones. Make sure handrails are on both sides of the stairs and are as long as the stairs.

### Bedrooms: Look at all your bedrooms.

**Q: Is the light near the bed hard to reach?**

Place a lamp close to the bed where it's easy to reach.

**Q: Is the path from your bed to the bathroom dark?**

Put in a night-light so you can see where you're walking. Some night-lights go on by themselves after dark.

#### Sources:

- Centers for Disease Control and Prevention (CDC). Behavioral Risk Factor Surveillance System Survey Data. Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 2009-2010. Data analysis by Spokane Regional Health District.
- Spokane County Combined Communication Center, Limited 911 call data, 2009-2010. Data analysis by Spokane Regional Health District.
- Inland Northwest Health Services, Meditech data, 2006-2010. Data analysis by Spokane Regional Health District.
- Washington State Department of Health, Comprehensive Hospital Abstract Reporting System, 2006-2010. Data analysis by Spokane Regional Health District.
- Washington State Department of Health, Center for Health Statistics, 2006-2010. Data analysis by Spokane Regional Health District.