



**Report to the Legislature**

## **Traumatic Brain Injury Annual Report**

RCW 74.31.030 (5)

December 2009

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## Executive Summary

This report from the Department of Social and Health Services (DSHS) meets the following requirements specified in RCW 74.31.030 (5):

*By December 1, 2007, and by December 1st each year thereafter, the department shall issue a report to the governor and the legislature containing the following:*

- (a) A summary of action taken by the department to meet the needs of individuals with traumatic brain injuries; and*
- (b) Recommendations for improvements in services to address the needs of individuals with traumatic brain injuries.*

Chapter 74.31 RCW, also known as the Tommy Manning Act, addresses issues related to Traumatic Brain Injury (TBI). The intent of the statute is to bring together expertise from the public and private sectors to address the needs and gaps in services for this population. To build this report, the department worked in collaboration with the TBI Council to identify gaps and needs and create recommendations that reflect the expertise of survivors, family members, providers, and caregivers, representing private and public sectors.

Currently the 22 member Washington Traumatic Brain Injury Strategic Partnership Advisory Council provides recommendations to the department on TBI services and resources needed in our state.

The department is using the funds appropriated by the legislature from the TBI account in the state treasury RCW 46.63.110 (7) (b) to fund:

- Statewide toll free Helpline (877-TBI-1766)
- Website [www.TBIwashington.org](http://www.TBIwashington.org)
- Resource Coordination case management pilot program
- Two day Conference (April 30 – May 1, 2010)
- Twenty-four TBI support group grants
- TBI Clubhouse pilot site in WA State
- Council meeting costs
- 1 FTE staff person

The Office of Financial Management estimates the TBI account will generate approximately \$1.5 million annually. The department has been appropriated from the fund, \$1.8 million for the biennium, or \$908,000 each year for fiscal year (FY) 2009 and FY 10.

In collaboration with the TBI Council, the department recommends:

- Maintain current appropriation amount. Continue current authority of programs, services, and in-person council meetings offered;
- Continue to develop public and private partnerships to help “fill the gaps” in services for people with TBI in Washington State.

## Summary of Action by the Department

Under Chapter 74.31 RCW, the department has accomplished many foundational activities to implement the type of infrastructure that provides appropriate services needed by individuals with TBI. Those foundational activities include:

1. **Establishing a statewide Information and Referral Service.** DSHS partnered with the TBI Council to develop criteria and expectations for a Request for Proposal process. DSHS contracted with the Brain Injury Association of Washington in December of 2007. The statewide toll-free helpline provides information and referral services to callers looking for TBI services and resources in Washington State. Since March 2008, the helpline has answered 970 calls for resources, and assisted 451 people with referrals to services.
2. **Funding TBI specific support groups throughout the state.** Sixteen TBI specific support groups from across the state applied for and received funding in FY 09. Funding for 24 TBI support groups is planned for FY 10.
3. **Increasing Public Awareness of TBI.** The TBI Council and department have partnered to develop the following public awareness activities:
  - Annual **March TBI Public Awareness Campaign:** In March 2009, this included developing handouts, including three media stories, a Governor's Proclamation, and Senate Resolution 8635.
  - Organized and funded a **TBI Conference** (May 4, 2009) for TBI survivors, caregivers, and professionals. There were 263 attendees. Evaluations were overwhelmingly positive with many participants specifically requesting a longer conference. Plans for the 2010 Conference plans include a two-day conference for 400 attendees, of which 150 scholarships will be available for people with TBIs.
  - Expanded the **Washington TBI Website**, [www.TBIWashington.org](http://www.TBIWashington.org) to include recent news, TBI related legislation, on-line caregiver training and TBI prevention videos, Veterans resources, and national links to TBI related services.
  - Developed a **TBI prevention teen driving video** and distributed *500 copies* statewide to driving schools. The 14-minute video includes interviews with TBI survivors of teen driving accidents. Department of Health collaborated with ADSA to develop the product.
4. **Pilot Resource Coordination project.** The department partnered with the TBI Council to develop criteria and expectations for a Request for Proposal. DSHS contracted with Washington Adult Day Service

Association in January 2009 to provide services to participants in four counties: Clark, Pierce, King, and Spokane. The Resource Coordination pilot includes assessment and person-centered planning with eligible TBI survivors to help them develop and achieve their goals for reintegrating into their communities after sustaining a TBI. In addition to advocacy, the Resource Coordinators provide outreach and public awareness to community hospitals and rehab staff about TBI services and resources in Washington State.

Initial results of pilot between January and August 2009 show that the project has:

- Received and screened 61 referrals of people with TBI;
- Of these 61 people, 42 TBI survivors chose to participate in the project.

The pilot project has been extended to June 30, 2010 with a goal of enrolling and serving 115 new participants. A written evaluation of the pilot to date is also planned for January 2010.

5. **Initiating a TBI Clubhouse pilot project.** The department partnered with the TBI Council to develop criteria and expectations for a Request for Proposal process to establish a TBI Clubhouse pilot. Services are scheduled to begin in November 2009 for a three-year pilot.
6. **The department and council supported** the Department of Health in the development of TBI Fact Sheets regarding the hospitalization and death rates from TBIs in Washington State. (See **Appendix A.**)

### **TBI Grant Activity**

The Department of Social and Health Services' Aging and Disability Services Administration (ASDA) is the lead agency for Washington's TBI Grant from the federal Health Resources and Services Administration (TBI Program Grant H21MC06765). In the past year, ASDA has completed the following activities using grant funding:

Training curriculum was completed for paid and unpaid care providers who care for individuals with TBI. The curriculum included a DVD component featuring Washington State survivors of TBI and their caregivers. The Washington State American Indian Health Commission assisted by providing consultation during the development of the DVD. The training was distributed statewide and posted on the website: [www.tbiwashington.org](http://www.tbiwashington.org)

The Department partnered with the Office of Superintendent of Public Instruction to leverage resources and distribute the highly rated “Brain Stars” manual. The manual and two-day training are designed for Special Education teachers in each school district to learn effective interventions for working with children who have a TBI. The training will be conducted by nationally recognized expert Dr. Jeanne Dice-Lewis in July of 2010.

## **Recommendations for Improvements**

The department funds the following four activities with TBI Funds:

- Supporting the Council
- Information and Referral
- Public Awareness
- Supporting TBI Support Groups

The department and council recommend:

1. Maintain the current level of appropriation of \$1.8 million for the biennium to provide essential services;
2. Continue Council meetings six times per year using virtual technology as appropriate to reduce travel costs;
3. Continue development of public and private partnerships to help “fill the gaps” in services for people with TBI in Washington State.

These recommendations will allow the department and the TBI Council to continue to support current efforts to address the needs of individuals with Traumatic Brain Injuries.

## **Conclusion**

Traumatic brain injury can instantly and forever alter the life of the person injured and often has a devastating, long-term impact on his or her family and community. Until recently, no cohesive support system existed in Washington State to specifically address the unique needs of people who have sustained a TBI or their families. The legislature took an important step towards addressing these issues by establishing the TBI Council and the TBI Fund.

The department will continue its collaborative work with the TBI Council to enhance those foundational activities to achieve the long-term vision for Washington to be a state that:

- Is aware of the life altering impact of traumatic brain injury;
- Understands and applies prevention strategies;

- Reduces the disparate impact of TBI on populations where it is most prevalent;
- Is educated about how to identify and deliver culturally competent services across the life span to survivors and their families; and
- Has TBI specific rehabilitation and long-term services and supports available across the state.

# Traumatic Brain Injury: Prevalence, External Causes, and Associated Risk Factors

## Overview

### Background

Traumatic Brain Injury (TBI) involves a blow or jolt to the head or a penetrating injury that disrupts brain function. TBI may cause death as well as short and long term injuries. It affects thinking, language, learning, emotions, behavior, memory and general independent body functions.<sup>1</sup>

1. Programs and policies to reduce traumatic brain injury (TBI) rates also help reduce injury rates overall. TBI is a significantly large portion of all injuries in Washington State.
2. TBI deaths are not randomly distributed geographically. There are five distinct areas in the State where these fatalities are more likely. TBI deaths are mainly due to transport related injuries, firearms, and falls.
3. TBI prevention programs targeting young male residents of the State will likely have the greatest impact as they are in the highest risk group.
4. Death records show that people living in rural areas, Hispanics, and people working in agriculture and construction industries tend to have a slightly higher risk of dying of TBI.

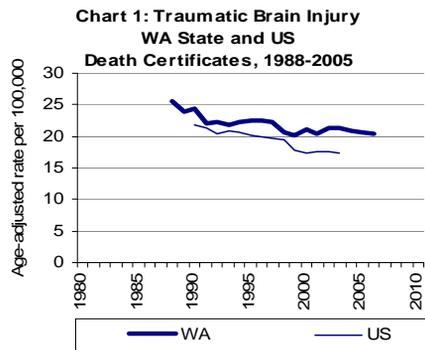
### How common is TBI?

- Every year Washington residents have about 5,500 TBI hospitalizations. This is an age-adjusted rate of 88 ( $\pm 1$ ) hospitalizations per 100,000 population during 2002-2006.
- Every year about 1,300 residents die of traumatic brain injuries. This is an age-adjusted rate of 21.2 ( $\pm 1$ ) deaths per 100,000 population during 2002-2006.
- TBI hospitalizations are about 10% of all injury-related hospitalizations.
- TBI deaths are about 29% of all injury-related fatalities.
- Only a small portion of TBI cases result in hospitalization or death. One national estimate places the proportion at 23% for hospitalizations and 5% for deaths.<sup>2</sup>
- National estimates indicate that about 2% of the US population live with long-term or lifelong TBI-related disability.<sup>3, 4</sup>
- If these national estimates hold true in Washington State, there are a total of nearly 123,750 residents with TBI-related disabilities.

### Who is at risk for severe TBI?

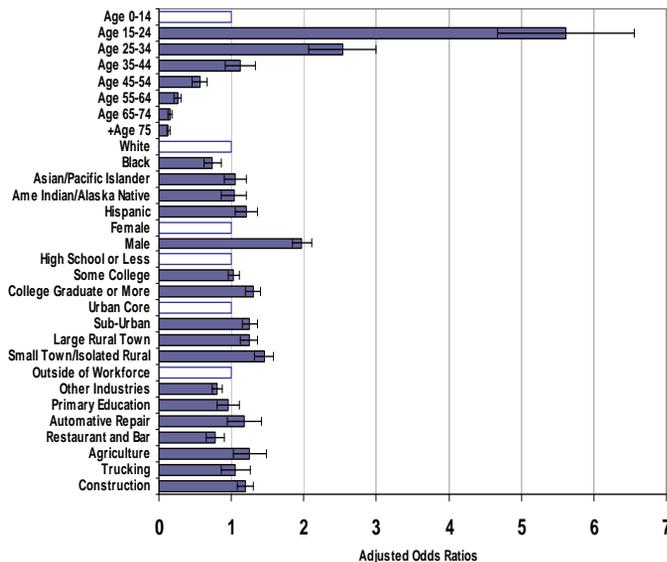
- The likelihood of death from severe TBI is associated with age, gender, race and ethnicity, and education level. Where one lives – urban or rural – and the industry one works in also appear to make a difference. (Chart 2).
- Adjusting for these factors, the likelihood of TBI death is the highest among the 15-24 and 25-34 age groups.
- Men are twice as likely to die of TBI than women.
- In terms of race and ethnicity, Hispanics are the most prone to TBI deaths.
- TBI deaths occur more often in particular industries such as agriculture and construction.
- The likelihood of TBI death increases as one goes further away from urban core areas. For example, TBI deaths are more likely to occur in rural Ferry County than downtown Seattle.

### How is Washington State doing nationally?



- Despite an overall decrease since 1988, Washington's TBI death rates (Chart 1) are higher than the nation's as a whole. The gap appears to be widening.

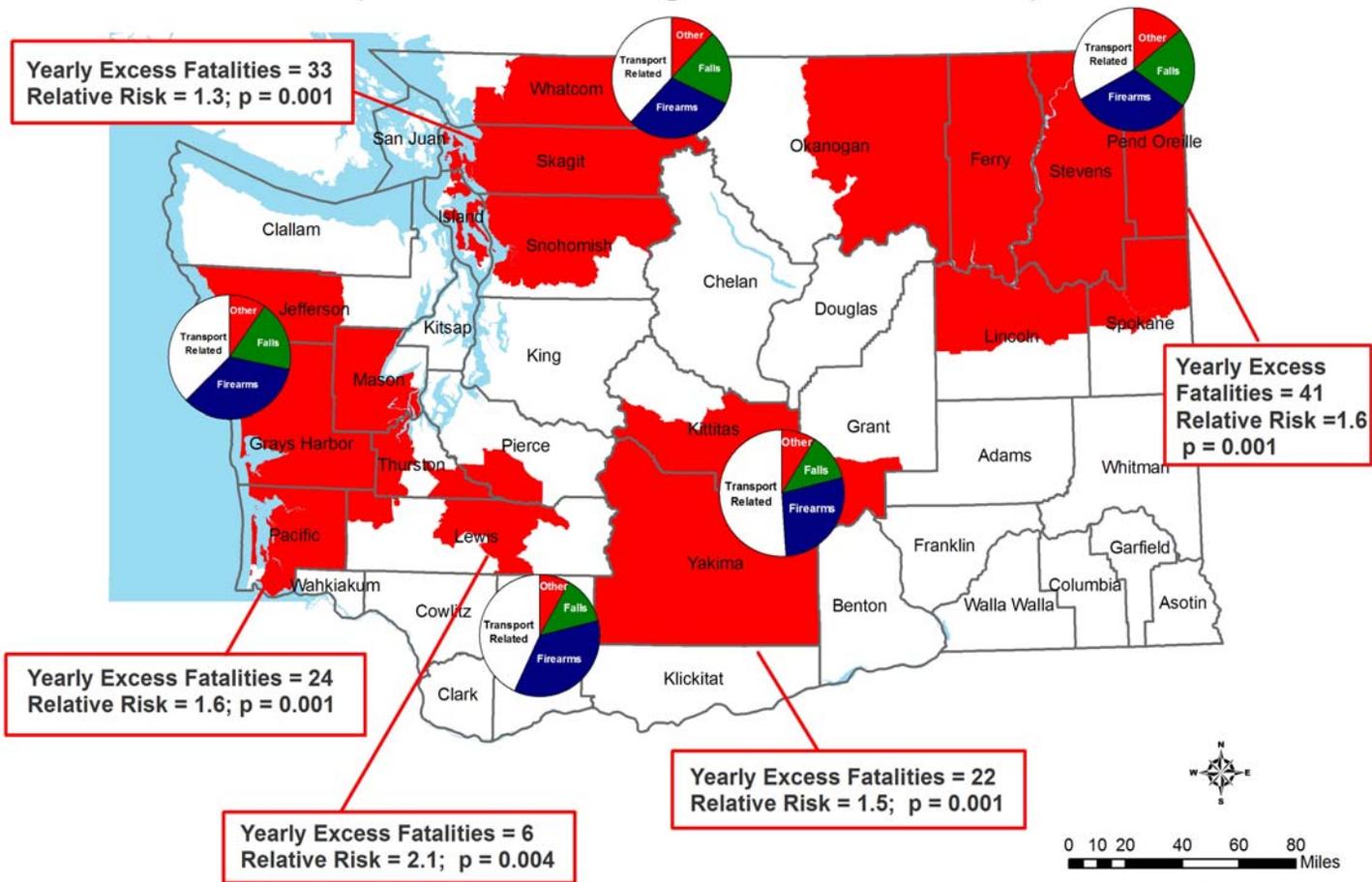
Chart 2: Traumatic Brain Injury Deaths Death Certificates, 2002-2006



## Are there areas in the State more at risk for severe TBI?

### Clusters Where Traumatic Brain Injury (TBI) Deaths Are More Likely Than in the Rest of Washington State, 2002-2006

(Pie charts show leading causes of fatal TBI events)



Prepared by Zeyno Shorter, 01/12/09  
Adjusted for Age and Sex

Data Source: Washington State Department of Health, Center for Health Statistics, Death Certificates

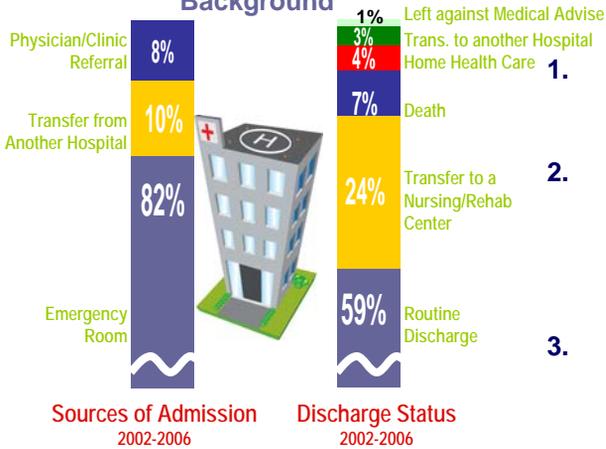
- Traumatic brain injury deaths show clusters in five distinct areas of the state. The highest concentration of yearly TBI deaths is in the northeast. The highest risk of such fatalities is in an area intersecting Thurston, Pierce, and Lewis Counties.
- In each cluster, falls, firearms, and transport-related injuries are the leading causes of TBI deaths. Transport-related injuries involve motor vehicle occupants, pedestrians, bicyclists, motorcyclists, and others.

### References

- 1 U.S. Centers for Disease Control and Prevention. Traumatic Brain Injury Prevention. Retrieved January 20, 2009 from <http://www.cdc.gov/ncipc/tbi/TBI.htm>
- 2 Langlois, J. A., Rutland-Brown, W. & Thomas, K. E. (2006). Traumatic Brain Injury in the United States: emergency department visits, hospitalizations, and deaths. U.S. Centers for Disease Control and Prevention, National Center for Injury Prevention and Control. Atlanta, GA. Retrieved April 2, 2007 from <http://www.cdc.gov/ncipc/tbi/TBI.htm>
- 3 Thurman, D. J., Alverson, C. A., Dunn, K. A., Guerrero, J. & Sniezek, J. E. (1999). Traumatic Brain Injury in the United States: a public health perspective. *Journal of Head Trauma Rehabilitation*, 14(6), 602-615.
- 4 U.S. Centers for Disease Control and Prevention. Traumatic Brain Injury Prevention. Retrieved January 20, 2009 from <http://www.cdc.gov/ncipc/tbi/Overview.htm>

# Traumatic Brain Injury: Prevalence, External Causes, and Associated Risk Factors – Focus on Hospitalizations<sup>1</sup>

## Background

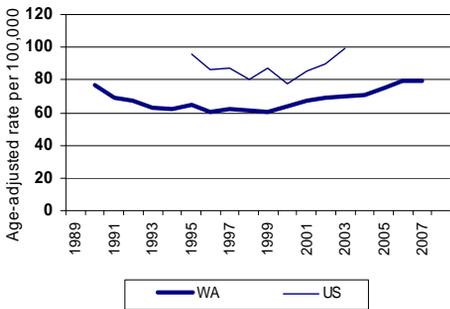


## Overview

1. Washington's rates for traumatic brain injury (TBI) hospitalizations have been rising since 2000. TBI hospitalizations due to falls propelled the increase.
2. TBI hospitalizations are concentrated in certain areas of the state. There are eight distinct areas where these hospitalizations are more likely. TBI hospitalizations are mainly due to transport-related injuries, falls, and being hit by or against an object.
3. TBI prevention programs targeting young male residents of the state will likely have the greatest impact. They are in the highest known risk group.

## How is Washington State doing nationally?

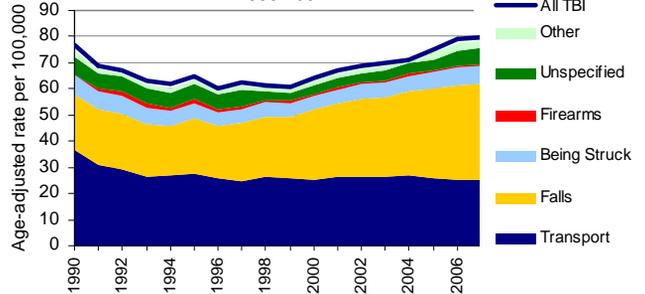
Chart 1: Traumatic Brain Injury Hospitalizations 1990-2007



Washington's rates for TBI hospitalizations declined during the 1990s. From 2000 to 2007, there was an upward trend. National rates from 1995 to 2003 suggest a similar u-shaped pattern.

## What is the reason for the recent rise in TBI hospitalizations?

Chart 2: Traumatic Brain Injury Hospitalizations by Cause 1990-2007

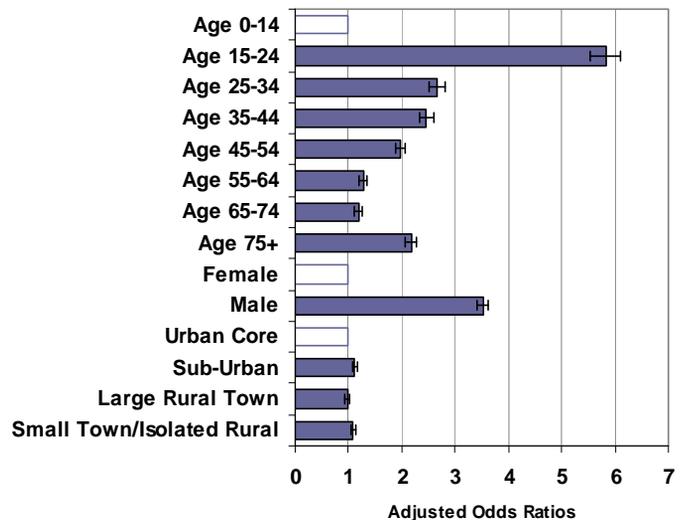


TBI hospitalizations due to transport injuries of various types fell in the earlier years, and then leveled out. Falls, on the other hand, gradually rose since the late 1990s. They explain the overall rise in TBI hospitalizations.

## Who is at risk for TBI Hospitalizations?

- Using the DOH hospitalization data, we can look at the influence of age, gender, and the rural-urban location of residence on TBI hospitalizations.
- The likelihood of TBI hospitalizations is strongly associated with age and gender (Chart 3).
- Adjusting for these factors, the likelihood of TBI hospitalizations is highest among the 15-24 age group. The likelihood decreases by age in age groups from 25-34 to 65-74. Elderly people age 75 and older appear to have a higher likelihood of hospitalization due to TBI than people in age groups from 45 to 74.
- Men are three and half times more likely to have TBI-related hospitalizations than women.
- Where one lives – urban or rural – might have a marginal effect on the likelihood of hospitalization.

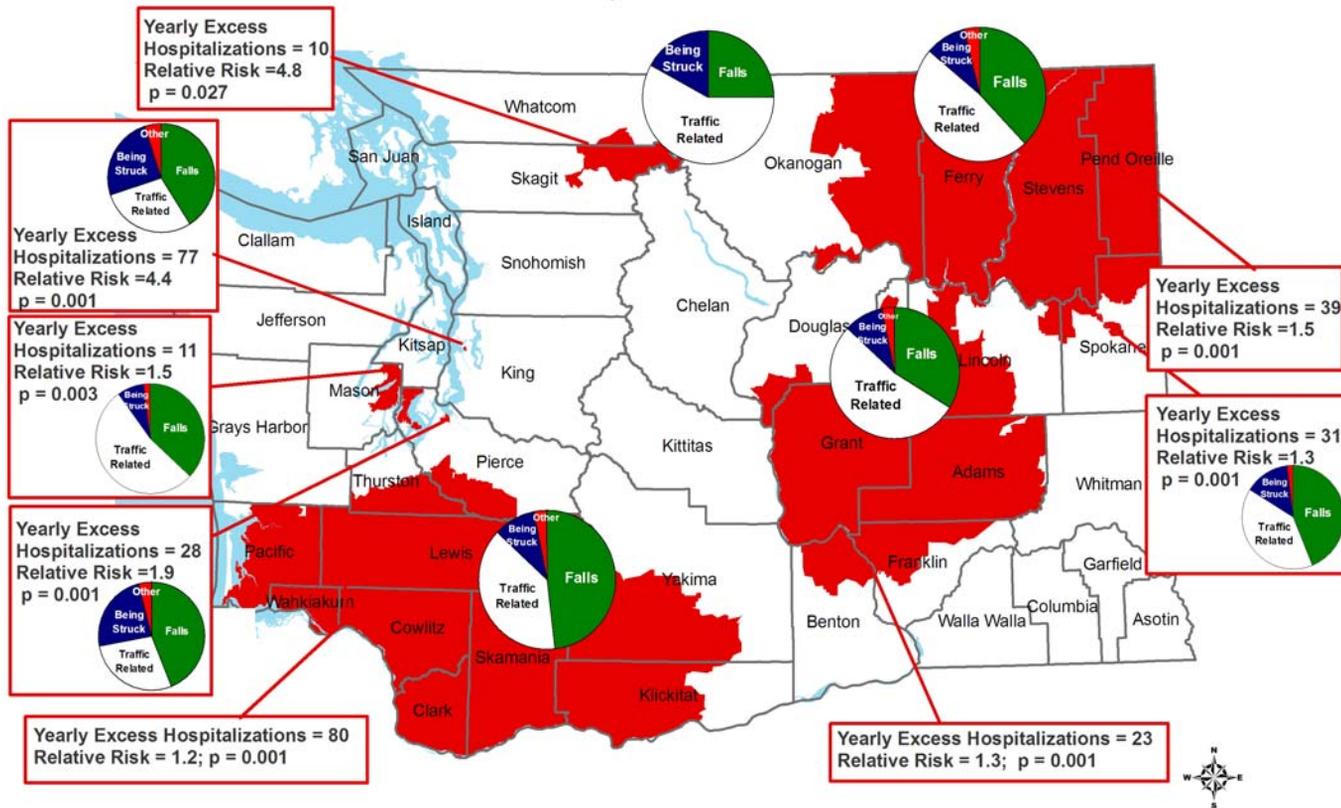
Chart 3: Traumatic Brain Injury Hospitalizations 2002-2006



## Are there areas in the State more at risk for TBI Hospitalizations?

### Clusters Where Traumatic Brain Injury (TBI) Hospitalizations are More Likely than in the Rest of Washington State, 2002-2006

Pie charts show proximate causes of TBIs.



Data Source: Washington State Department of Health, Center for Health Statistics, Comprehensive Hospital Abstract Reporting System and Washington Residents Hospitalized in Oregon

Prepared by Zeyno Shorter, 02/16/09  
Adjusted for Age and Sex

- Traumatic brain injury hospitalizations show clusters in eight distinct areas of the state. The two highest concentrations of yearly TBI hospitalizations are in the southwest and in Seattle, King County. The highest risk of such hospitalizations is in an area connecting Skagit and Whatcom Counties. Seattle, King County has the second highest relative risk.
- In each cluster, falls, being struck by or against an object, and transport-related injuries are the known leading causes of TBI deaths. Transport-related injuries involve motor vehicle occupants, pedestrians, bicyclists, motorcyclists, and others.

### Endnote

<sup>1</sup> The Department of Health data sources for civilian hospitalizations are Washington State Comprehensive Hospital Abstract Reporting System and Washington State residents hospitalized in Oregon. Data source for the national rates is the National Hospital Discharge Survey.