

# **PUBLIC HEALTH**

**ALWAYS WORKING FOR A SAFER AND  
HEALTHIER WASHINGTON**

## **Health in Washington**

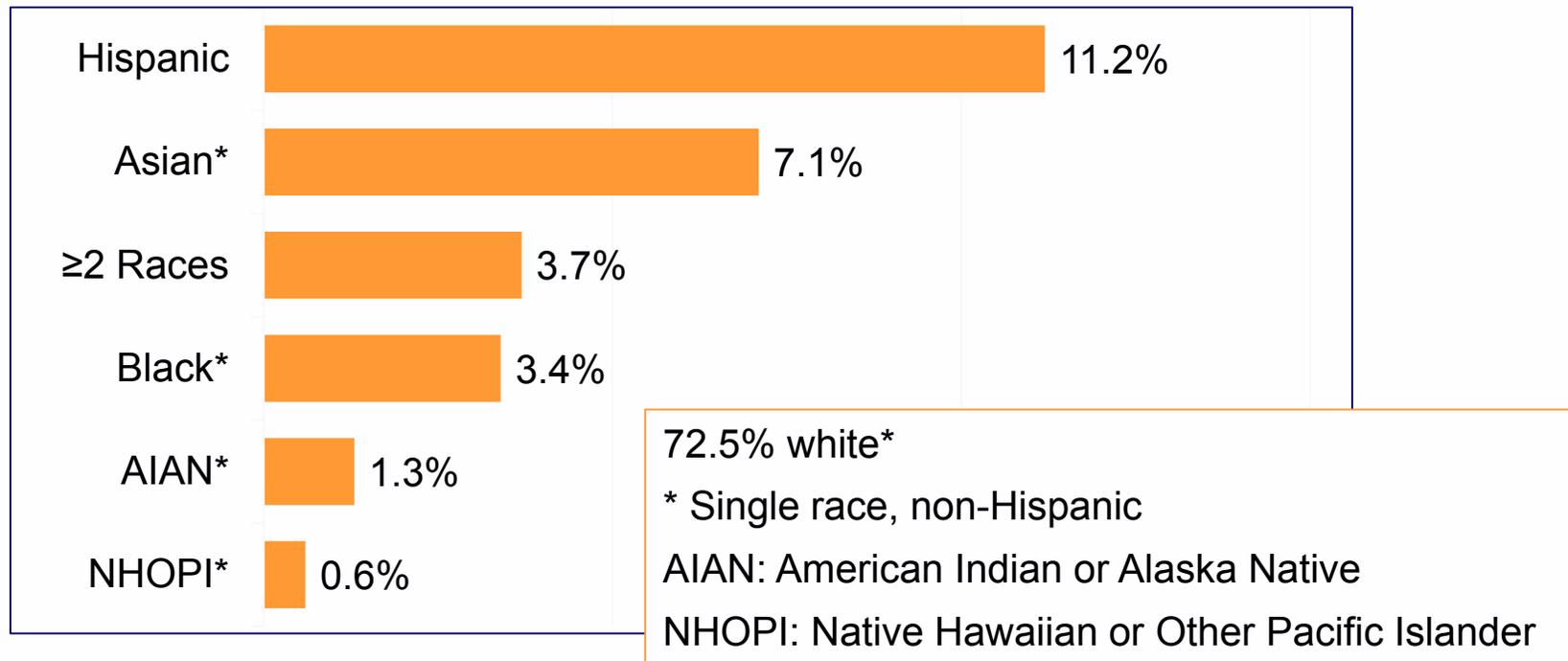
April, 2014

Juliet VanEenwyk, PhD, State Epidemiologist for Non-Infectious Conditions

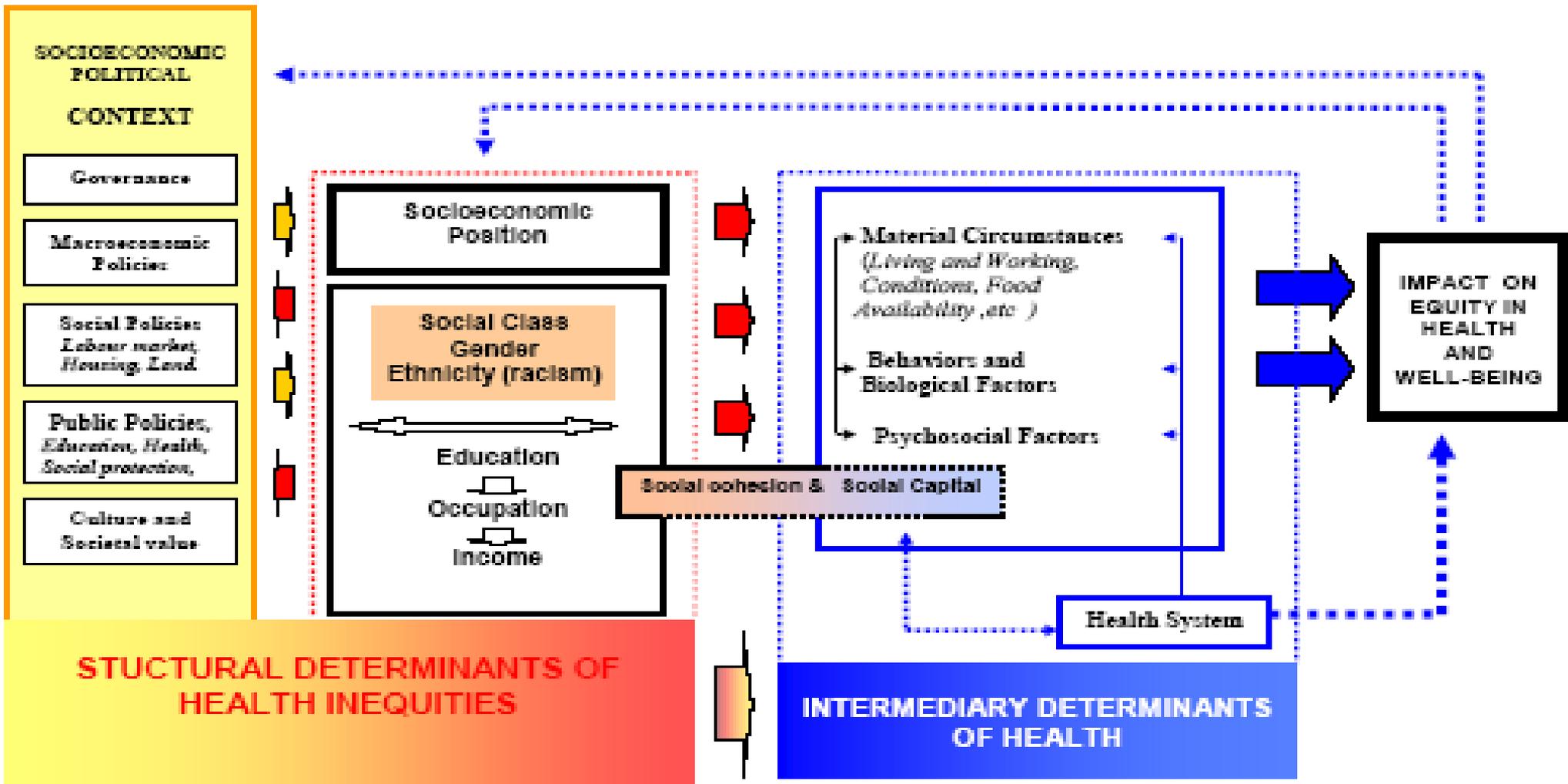
## Who are we?

- Almost 6.9 million people in 2013 (OFM Population Estimates)
  - About 14% ages 65 and older
  - About 26% ages 19 and younger

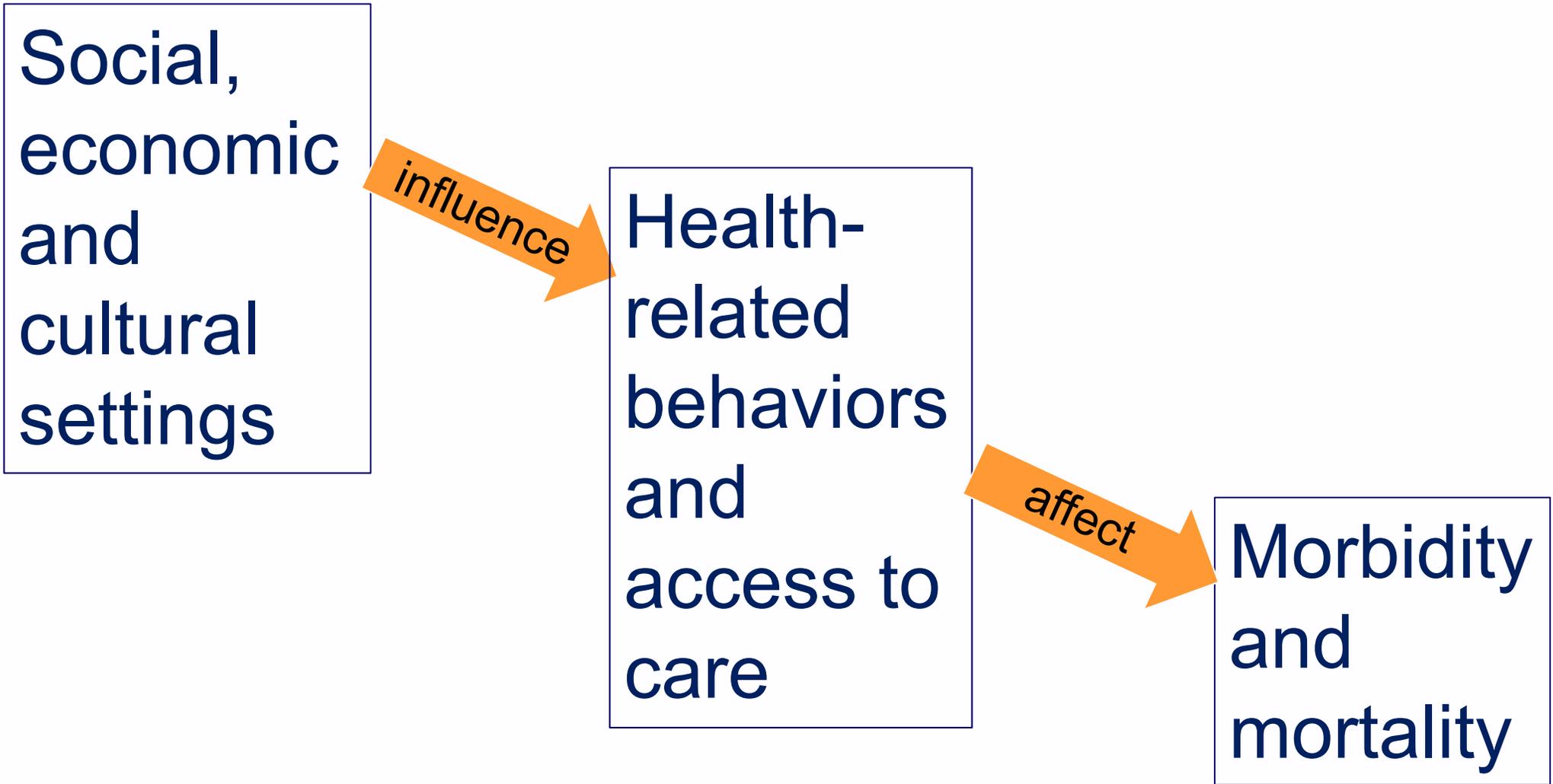
### 2010 U.S. Census showed...



# Conceptual Framework: World Health Organization



# Conceptual Framework Simplified

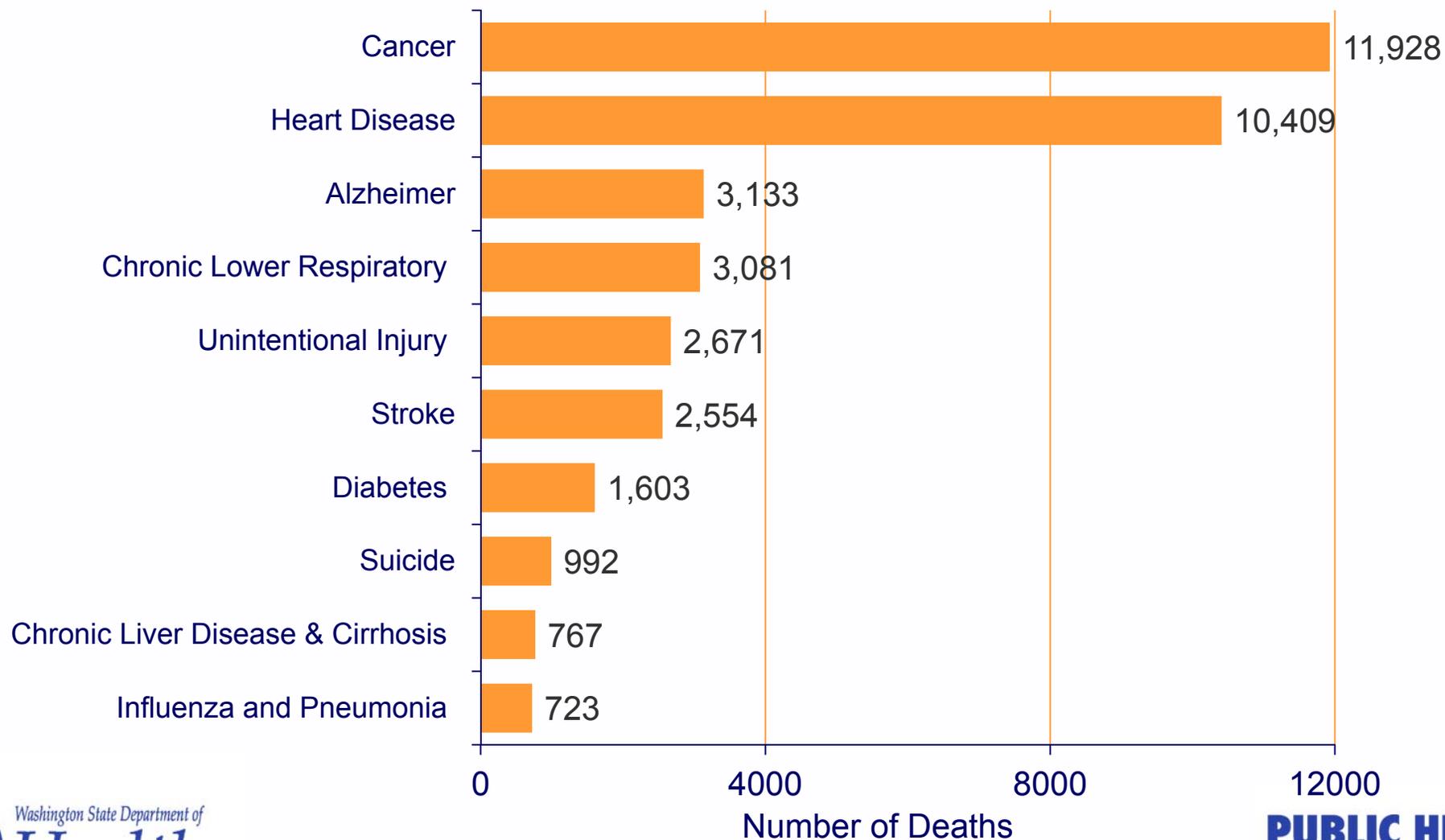


# Mortality and Morbidity

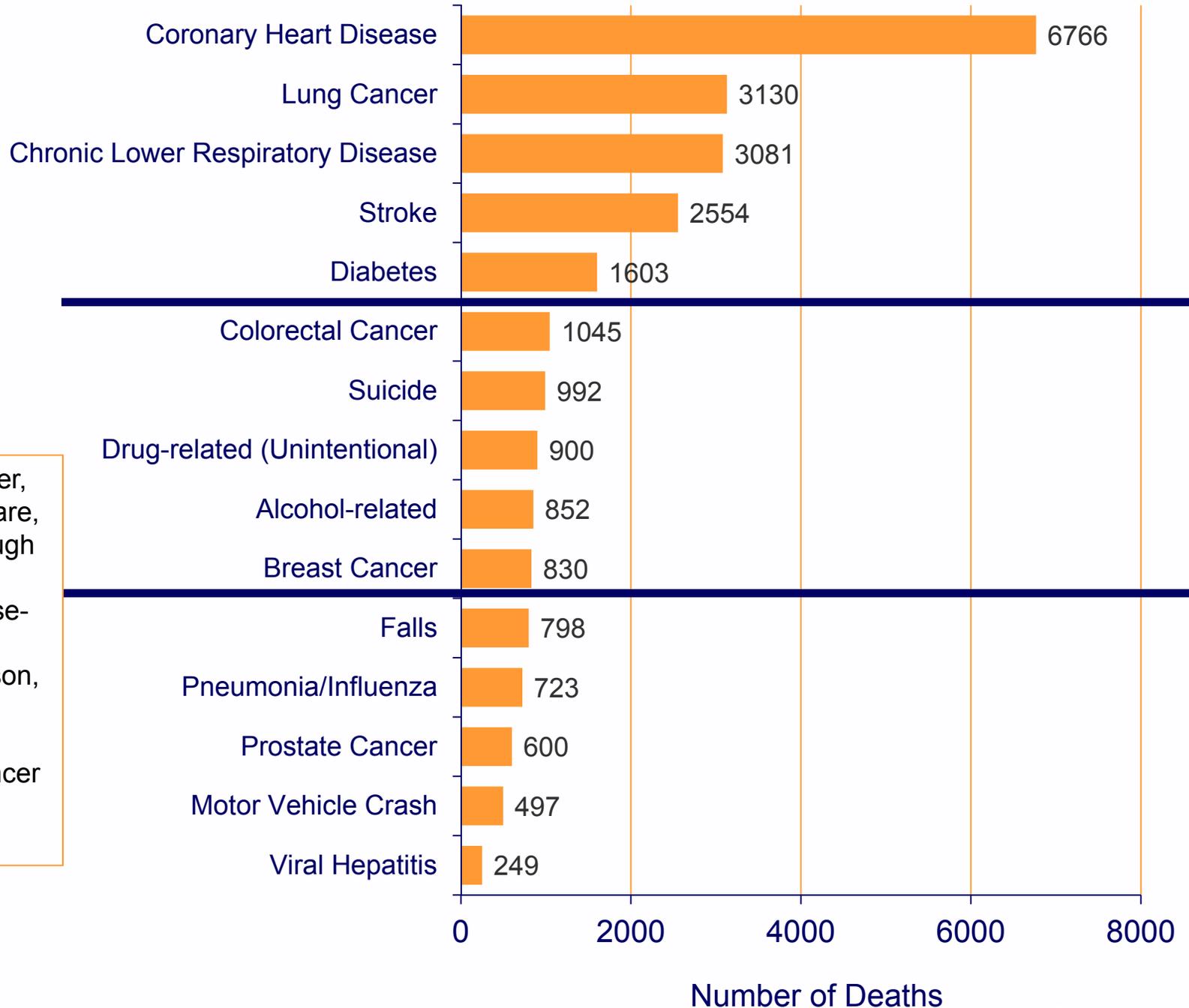


# Leading Causes of Death in Washington State: 2011

## National Center for Health Statistics (NCHS) Major Categories



# Underlying Cause of Death\*: Washington State, 2011 All Ages



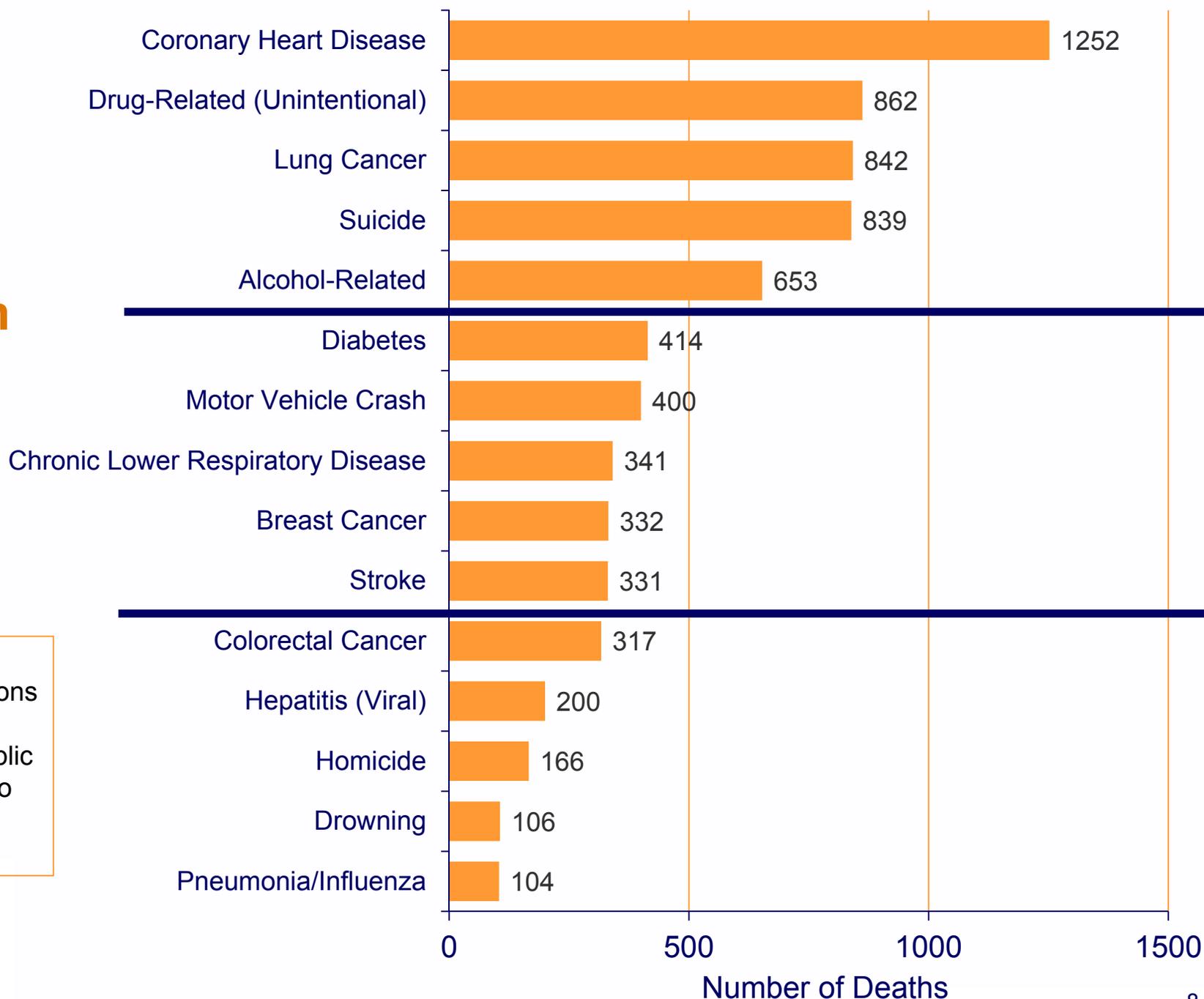
\* Except for prostate cancer, includes conditions that are, in part, preventable through public health action; grouped to be more cause-specific than NCHS categories. For comparison, about:

- 3,000 Alzheimers
- 800 pancreatic cancer
- 500 leukemia

deaths annually.

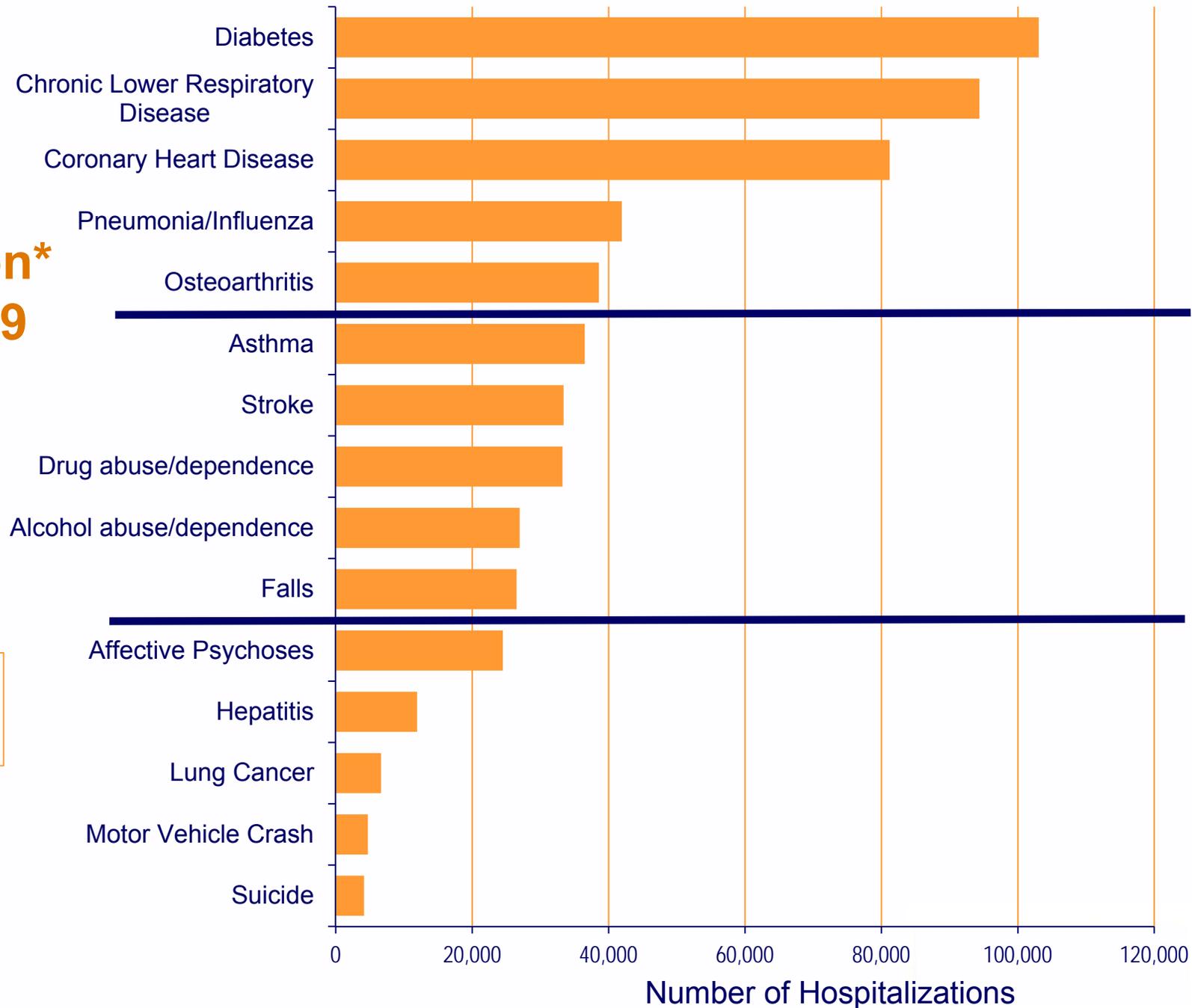


# Underlying Cause of Death\*: Washington State, 2011 Ages 0–64



\* Except for prostate cancer, includes conditions that are, in part, preventable through public health action; grouped to be more cause-specific than NCHS categories.

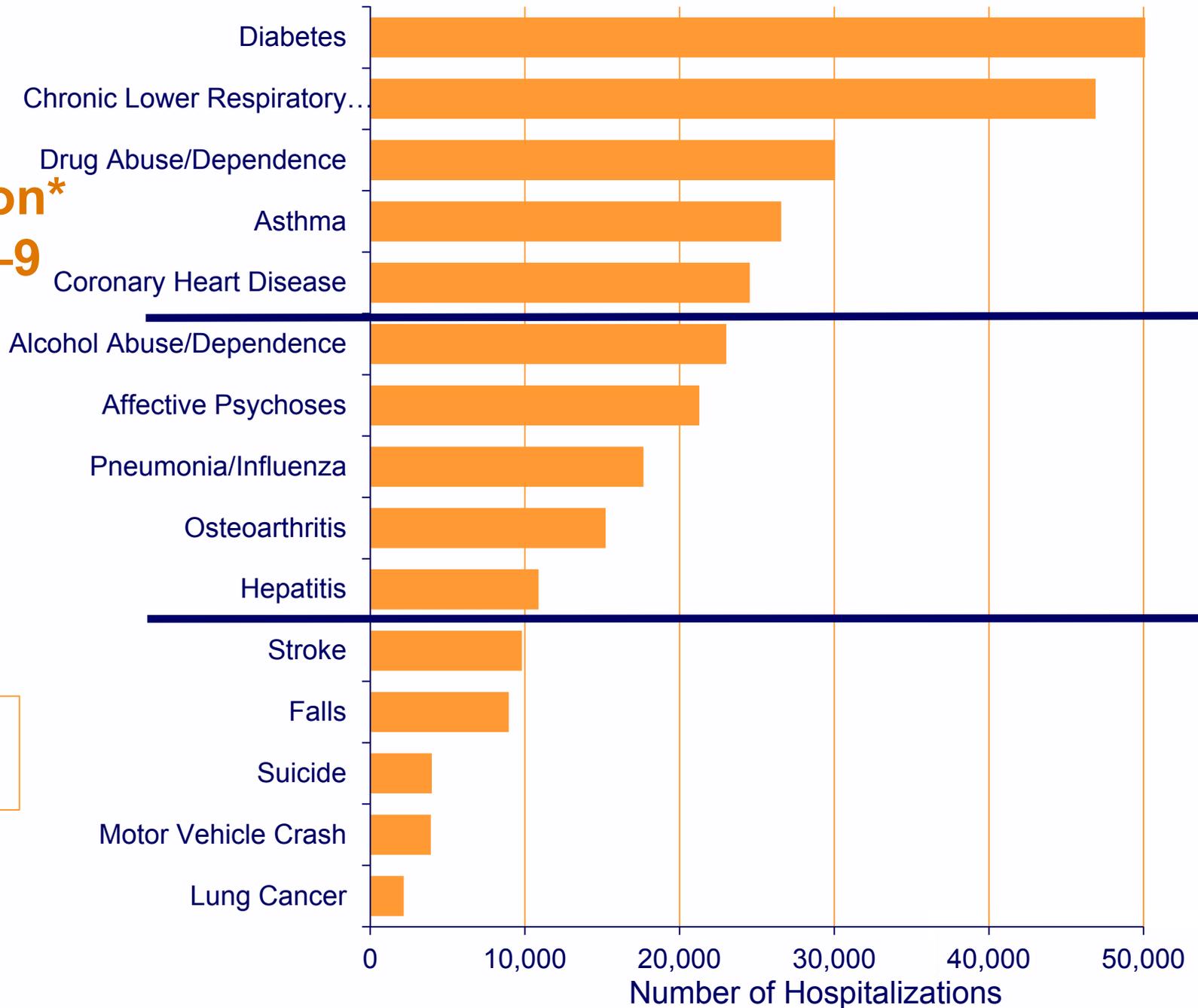
# Leading Causes of Hospitalization\* Diagnoses 1–9 All Ages Washington 2011



\* Washington acute care non-federal hospitals (CHARS)

# Leading Causes of Hospitalization\* Diagnoses 1–9

## Ages 0–64 Washington 2011



\* Washington acute care non-federal hospitals (CHARS)

## Summary View 1: Cause of Death and Hospitalization Rankings

Cause	Death (1=most frequent)		Hospitalization (1=most frequent)	
			Diagnoses 1–9	
	All Ages	0-64	All Ages	0-64
Coronary Heart	1	1	3	5
Lung Cancer	2	3	(15)	(13)
Chronic Lower Respiratory Disease	3	8	2	2
Stroke	4	10	7	(11)
Diabetes	5	6	1	1
Colorectal Cancer	6	(11)		
Suicide	7	4	(15)	(13)
Drug-related	8	2	8	3
Alcohol-related	9	5	9	6
Breast Cancer	10	9		
Pneumonia/Influenza	(12)	(15)	4	8
Motor Vehicle Crash	(14)	7	(14)	(14)
Asthma			6	4
Osteoarthritis			5	9
Affective Psychosis			(11)	7

# Rankings after adding

Lowest 2 Rankings		
Coronary Heart		
Diabetes		
Chronic Lower Respiratory		
Drug-related		
Lung Cancer		
Asthma		
Alcohol-related		
Stroke		
Suicide		
Pneumonia/Influenza		
Osteoarthritis		
Colorectal Cancer		
Affective Psychosis		
Breast Cancer		
Motor Vehicle Crash		
Hepatitis		

# Rankings after adding

Lowest 2 Rankings	All Rankings
Coronary Heart	Coronary Heart
Diabetes	Diabetes
Chronic Lower Respiratory	Chronic Lower Respiratory
Drug-related	Drug-related
Lung Cancer	Alcohol-related
Asthma	Stroke
Alcohol-related	Lung Cancer
Stroke	Suicide
Suicide	Pneumonia/Influenza
Pneumonia/Influenza	Colorectal Cancer
Osteoarthritis	Motor Vehicle Crash
Colorectal Cancer	Hepatitis
Affective Psychosis	Asthma
Breast Cancer	Breast Cancer
Motor Vehicle Crash	(Osteoarthritis)
Hepatitis	(Affective Psychosis)

# Rankings after adding

Lowest 2 Rankings	All Rankings	Rankings for <65 years
Coronary Heart	Coronary Heart	Drug-related
Diabetes	Diabetes	Coronary Heart
Chronic Lower Respiratory	Chronic Lower Respiratory	Diabetes
Drug-related	Drug-related	Chronic Lower Respiratory
Lung Cancer	Alcohol-related	Alcohol-related
Asthma	Stroke	Lung Cancer
Alcohol-related	Lung Cancer	Suicide
Stroke	Suicide	Stroke
Suicide	Pneumonia/Influenza	Motor Vehicle Crash
Pneumonia/Influenza	Colorectal Cancer	Hepatitis
Osteoarthritis	Motor Vehicle Crash	Pneumonia/Influenza
Colorectal Cancer	Hepatitis	Asthma
Affective Psychosis	Asthma	Colorectal Cancer
Breast Cancer	Breast Cancer	Breast Cancer
Motor Vehicle Crash	(Osteoarthritis)	(Affective Psychosis)
Hepatitis	(Affective Psychosis)	(Osteoarthritis)

## Other Conditions Affecting Large Numbers of People

	<b>Estimated Number With</b>	<b>Number New Per Year</b>	<b>Years</b>	<b>Notes</b>
Chronic Hepatitis	100,000	7,500	2010	6,000 Hep C 1,500 Hep B
Chlamydia		23,000	2010–2012	
HIV	13,000	330–725	2011	
Gonorrhea		3,000	2010–2012	
	<b>Pregnancy</b>	<b>Births</b>		
Teen Pregnancy	2,500	1,500	2010–2012	Average annual

# Behaviors



# Actual Causes of Preventable Premature Death

	Source	Estimated Number of WA Deaths <sup>1</sup>	
		All ages	Age 0-64
Tobacco	SAMMEC <sup>2</sup>	7,400	1,800
Poor diet/physical inactivity	Based on national percent <sup>3</sup>	8,000	
Alcohol abuse	ARDI	2,400	1,500
Microbes	Death Certificate	1,700	600
Toxic substances	Based on national percent <sup>3</sup>	1,100	
Motor vehicles	Death Certificate	500	400
Firearms	Death Certificate	600	500
Sexual behavior	Based on national percent <sup>3</sup>	400	
Illicit drug use	Death Certificate	1,000 <sup>4</sup>	900 <sup>4</sup>

<sup>1</sup> Rounded to nearest 100; total 2010 deaths = 47,981

<sup>2</sup> 2010 BRFSS with 2009 death data

<sup>3</sup> Estimated by multiplying the total number of Washington deaths by the national percentage of deaths due to this cause

<sup>4</sup> Numbers include all drug abuse (illicit and legal drugs). They do NOT include adverse reactions to medicines properly prescribed and taken; includes intentional and unintentional.

# Tobacco

Lowest 2 Rankings	All Rankings	Rankings for <65 years
Coronary Heart	Coronary Heart	Drug-related
Diabetes	Diabetes	Coronary Heart
Chronic Lower Respiratory	Chronic Lower Respiratory	Diabetes
Drug-related	Drug-related	Chronic Lower Respiratory
Lung Cancer	Alcohol-related	Alcohol-related
Asthma	Stroke	Lung Cancer
Alcohol-related	Lung Cancer	Suicide
Stroke	Suicide	Stroke
Suicide	Pneumonia/Influenza	Motor Vehicle Crash
Pneumonia/Influenza	Colorectal Cancer	Hepatitis
Osteoarthritis	Motor Vehicle Crash	Pneumonia/Influenza
Colorectal Cancer	Hepatitis	Asthma
Affective Psychosis	Asthma	Colorectal Cancer
Breast Cancer	Breast Cancer	Breast Cancer
Motor Vehicle Crash	(Osteoarthritis)	(Affective Psychosis)
Hepatitis	(Affective Psychosis)	(Osteoarthritis)

# Tobacco

Lowest 2 Rankings	All Rankings	Rankings for <65 years
Coronary Heart	Coronary Heart	Drug-related
Diabetes	Diabetes	Coronary Heart
Chronic Lower Respiratory	Chronic Lower Respiratory	Diabetes
Drug-related	Drug-related	Chronic Lower Respiratory
Lung Cancer	Alcohol-related	Alcohol-related
Asthma	Stroke	Lung Cancer
Alcohol-related	Lung Cancer	Suicide
Stroke	Suicide	Stroke
Suicide	Pneumonia/Influenza	Motor Vehicle Crash
Pneumonia/Influenza	Colorectal Cancer	Hepatitis
Osteoarthritis	Motor Vehicle Crash	Pneumonia/Influenza
Colorectal Cancer	Hepatitis	Asthma
Affective Psychosis	Asthma	Colorectal Cancer
Breast Cancer	Breast Cancer	Breast Cancer
Motor Vehicle Crash	(Osteoarthritis)	(Affective Psychosis)
Hepatitis	(Affective Psychosis)	(Osteoarthritis)

# Diet and Physical Activity

Lowest 2 Rankings	All Rankings	Rankings for <65 years
Coronary Heart	Coronary Heart	Drug-related
Diabetes	Diabetes	Coronary Heart
Chronic Lower Respiratory	Chronic Lower Respiratory	Diabetes
Drug-related	Drug-related	Chronic Lower Respiratory
Lung Cancer	Alcohol-related	Alcohol-related
Asthma	Stroke	Lung Cancer
Alcohol-related	Lung Cancer	Suicide
Stroke	Suicide	Stroke
Suicide	Pneumonia/Influenza	Motor Vehicle Crash
Pneumonia/Influenza	Colorectal Cancer	Hepatitis
Osteoarthritis	Motor Vehicle Crash	Pneumonia/Influenza
Colorectal Cancer	Hepatitis	Asthma
Affective Psychosis	Asthma	Colorectal Cancer
Breast Cancer	Breast Cancer	Breast Cancer
Motor Vehicle Crash	(Osteoarthritis)	(Affective Psychosis)
Hepatitis	(Affective Psychosis)	(Osteoarthritis)

# Diet and Physical Activity

Lowest 2 Rankings	All Rankings	Rankings for <65 years
Coronary Heart	Coronary Heart	Drug-related
Diabetes	Diabetes	Coronary Heart
Chronic Lower Respiratory	Chronic Lower Respiratory	Diabetes
Drug-related	Drug-related	Chronic Lower Respiratory
Lung Cancer	Alcohol-related	Alcohol-related
Asthma	Stroke	Lung Cancer
Alcohol-related	Lung Cancer	Suicide
Stroke	Suicide	Stroke
Suicide	Pneumonia/Influenza	Motor Vehicle Crash
Pneumonia/Influenza	Colorectal Cancer	Hepatitis
Osteoarthritis	Motor Vehicle Crash	Pneumonia/Influenza
Colorectal Cancer	Hepatitis	Asthma
Affective Psychosis	Asthma	Colorectal Cancer
Breast Cancer	Breast Cancer	Breast Cancer
Motor Vehicle Crash	(Osteoarthritis)	(Affective Psychosis)
Hepatitis	(Affective Psychosis)	(Osteoarthritis)

# Alcohol and Drugs

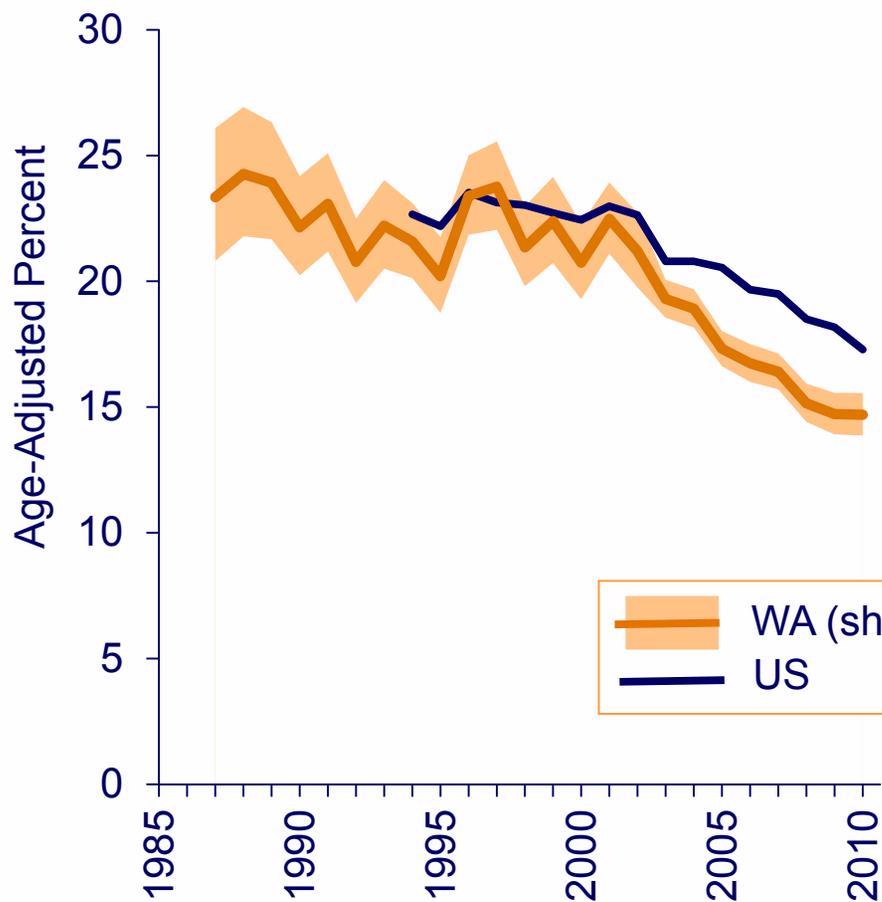
Lowest 2 Rankings	All Rankings	Rankings for <65 years
Coronary Heart	Coronary Heart	Drug-related
Diabetes	Diabetes	Coronary Heart
Chronic Lower Respiratory	Chronic Lower Respiratory	Diabetes
Drug-related	Drug-related	Chronic Lower Respiratory
Lung Cancer	Alcohol-related	Alcohol-related
Asthma	Stroke	Lung Cancer
Alcohol-related	Lung Cancer	Suicide
Stroke	Suicide	Stroke
Suicide	Pneumonia/Influenza	Motor Vehicle Crash
Pneumonia/Influenza	Colorectal Cancer	Hepatitis
Osteoarthritis	Motor Vehicle Crash	Pneumonia/Influenza
Colorectal Cancer	Hepatitis	Asthma
Affective Psychosis	Asthma	Colorectal Cancer
Breast Cancer	Breast Cancer	Breast Cancer
Motor Vehicle Crash	(Osteoarthritis)	(Affective Psychosis)
Hepatitis	(Affective Psychosis)	(Osteoarthritis)

# Alcohol and Drugs

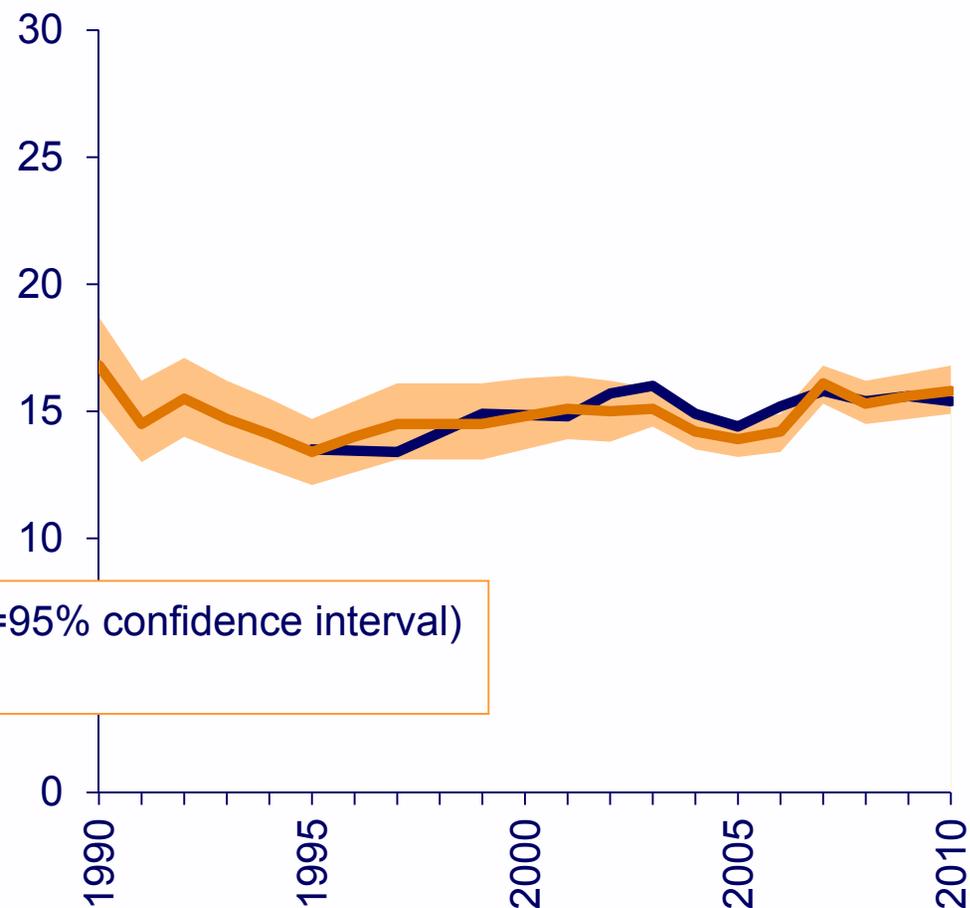
Lowest 2 Rankings	All Rankings	Rankings for <65 years
Coronary Heart	Coronary Heart	Drug-related
Diabetes	Diabetes	Coronary Heart
Chronic Lower Respiratory	Chronic Lower Respiratory	Diabetes
Drug-related	Drug-related	Chronic Lower Respiratory
Lung Cancer	Alcohol-related	Alcohol-related
Asthma	Stroke	Lung Cancer
Alcohol-related	Lung Cancer	Suicide
Stroke	Suicide	Stroke
Suicide	Pneumonia/Influenza	Motor Vehicle Crash
Pneumonia/Influenza	Colorectal Cancer	Hepatitis
Osteoarthritis	Motor Vehicle Crash	Pneumonia/Influenza
Colorectal Cancer	Hepatitis	Asthma
Affective Psychosis	Asthma	Colorectal Cancer
Breast Cancer	Breast Cancer	Breast Cancer
Motor Vehicle Crash	(Osteoarthritis)	(Affective Psychosis)
Hepatitis	(Affective Psychosis)	(Osteoarthritis)

# Tobacco and Alcohol

## Smoking: Can we maintain gains?



## Binge drinking: No change



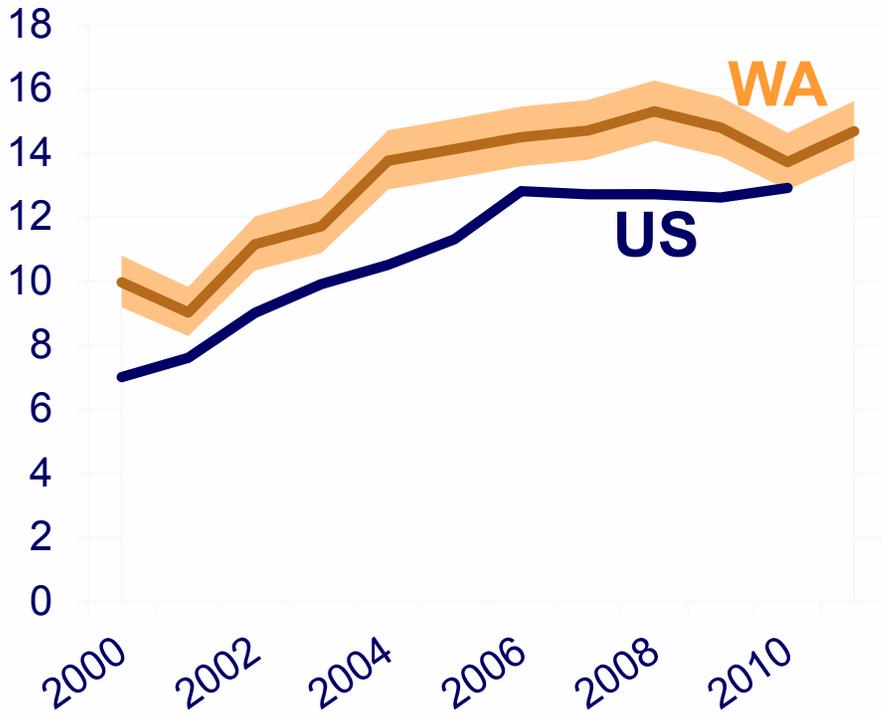
WA (shading=95% confidence interval)  
 US

Data: WA and US BRFSS, DOH HWS

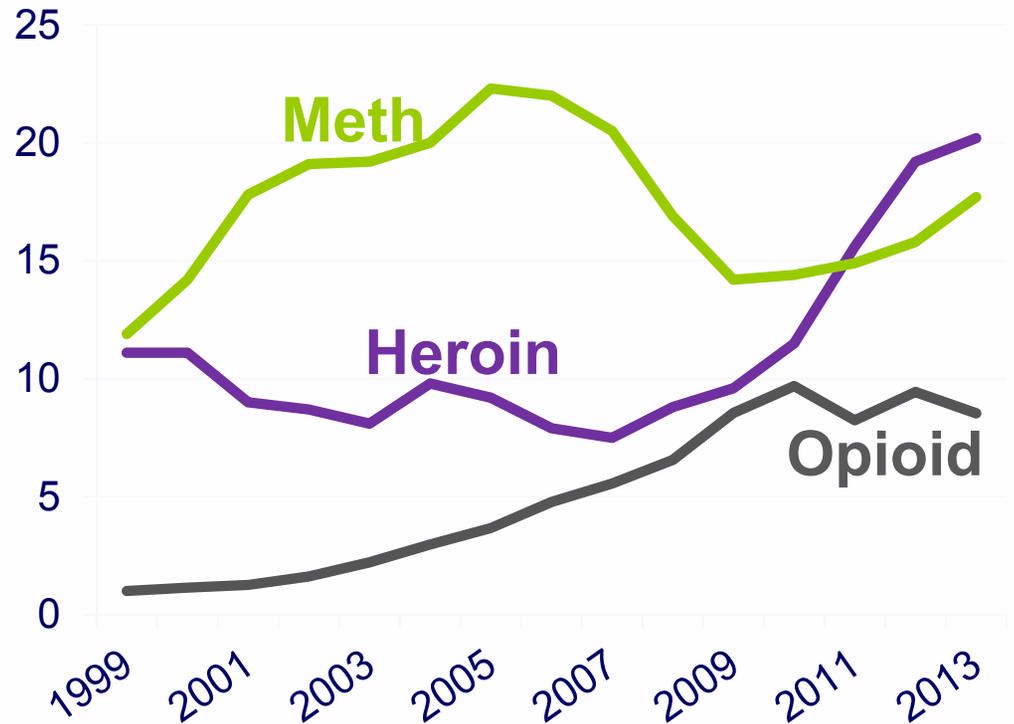
- Smoking: 100 cigarettes ever and currently some days or every day
- Binge drinking in past month: men: 5 drinks/occasion ; women 4/occasion

# Drug use

## Drug-Related Deaths

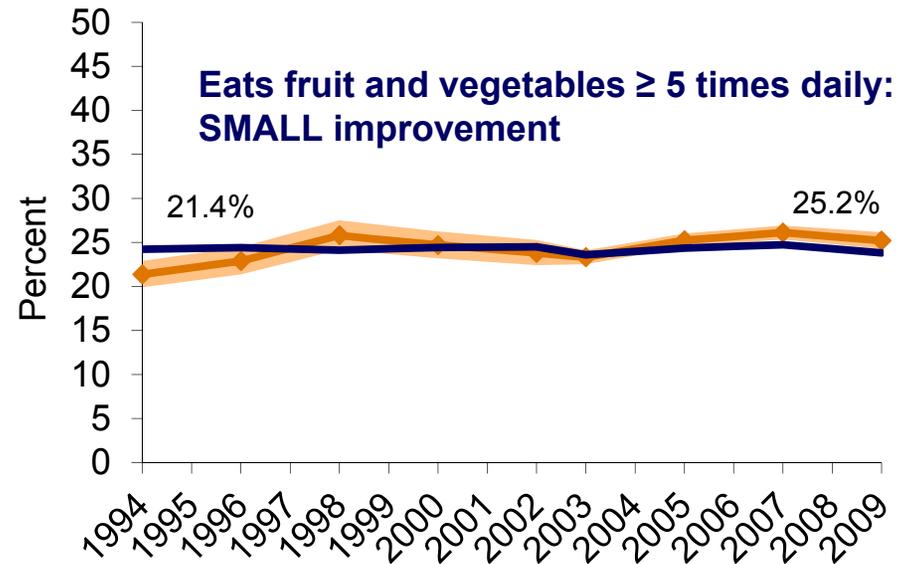
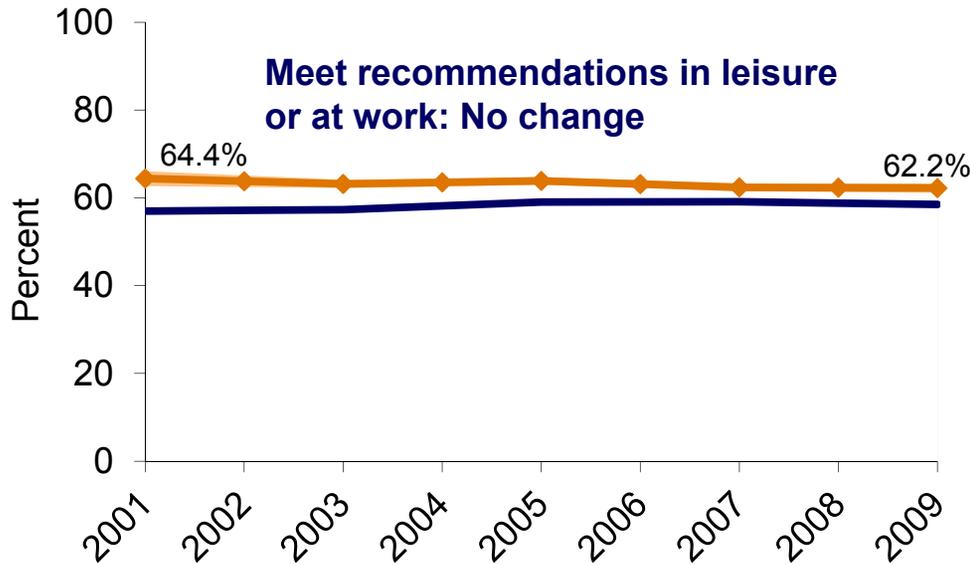
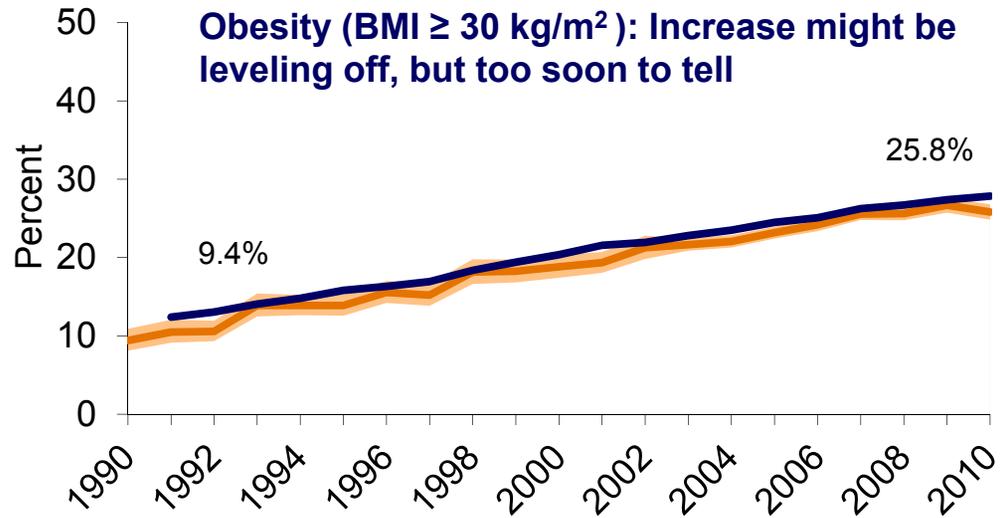


## Percent of Adult Admissions for Substance Abuse and Treatment Washington State, DSHS



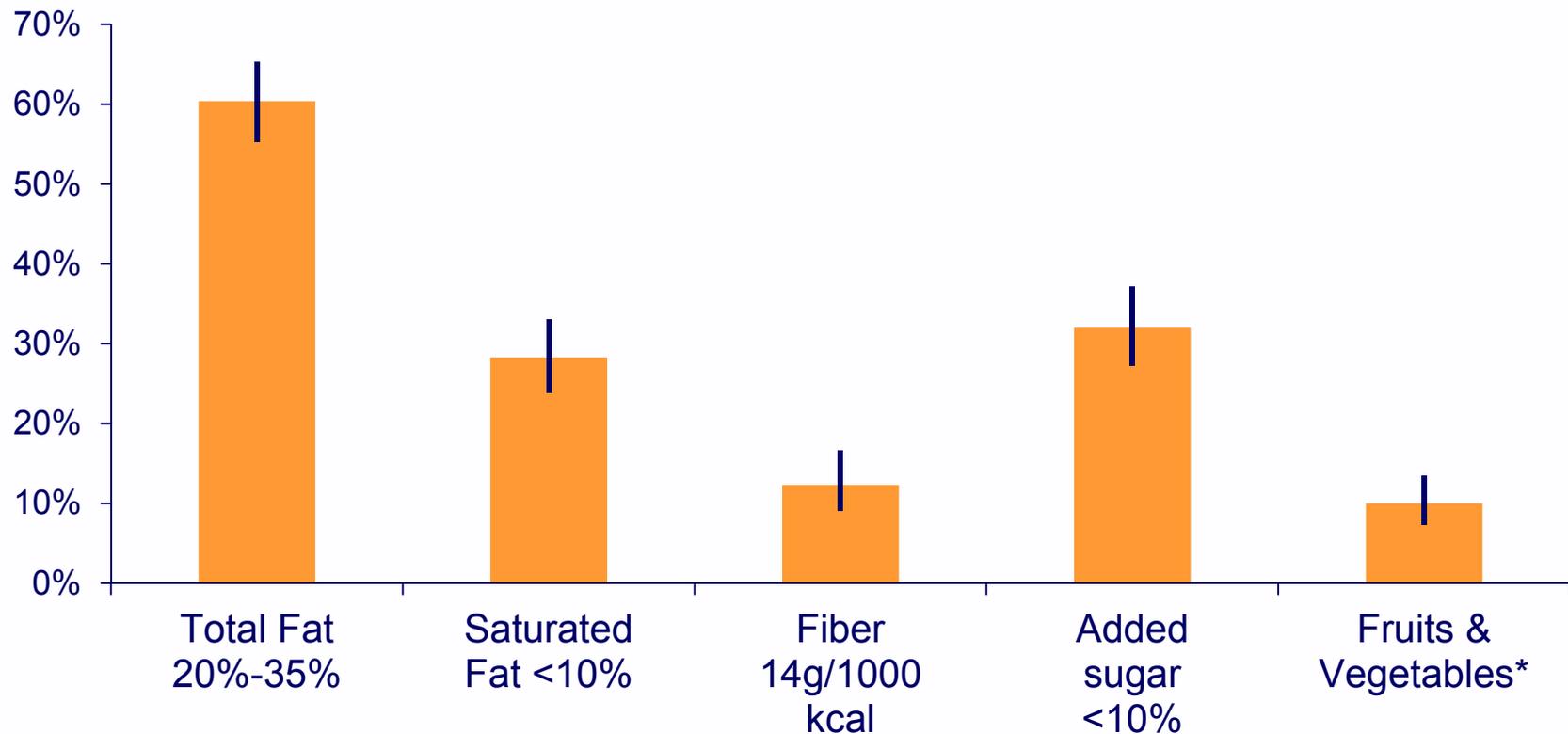
# Obesity, Physical Activity, Nutrition

 WA (shading: 95% confidence interval)  
 US



Data: WA and US BRFSS, DOH-NPAO  
 • BMI calculated from self-reported heights and weights  
 • Physical activity: Meets recommendations in leisure or at work

## Percent Washington adults ages 25 and older meeting selected USDA dietary guidelines 2006-2007

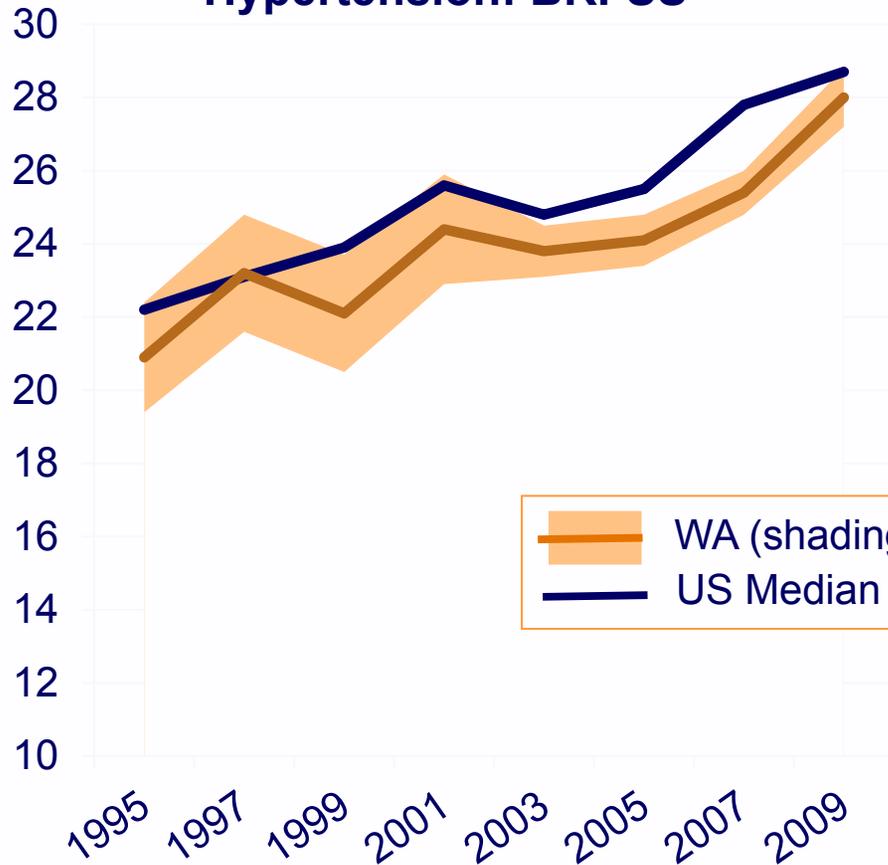


\*Total of 4-13 serving/day, based on caloric intake, not considering relative proportions of fruits

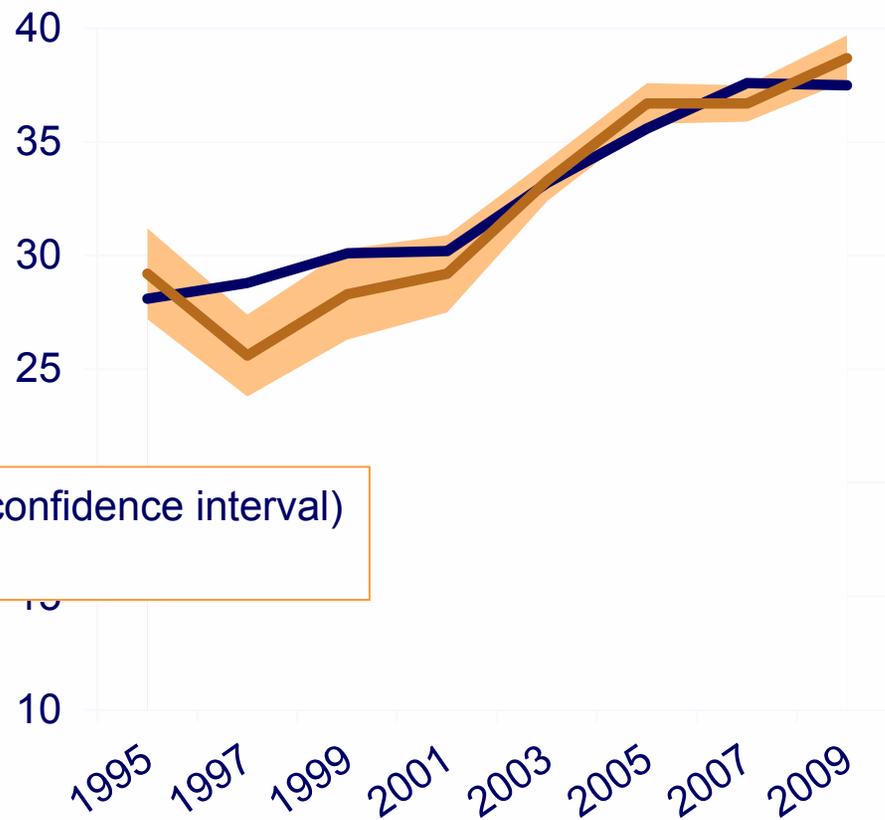
Source: Washington Adult Health Survey, Compiled by DOH-NICE.

# Cardiovascular Risk Factors

## Percent of Adults Reporting Hypertension: BRFSS



## Percent of Screened Adults Reporting High Cholesterol



WA (shading=95% confidence interval)  
 US Median

Data: WA and US BRFSS: National BRFSS Website

- Hypertension: Ever being told by a healthcare professional that had high blood pressure
- High Blood Cholesterol: Had blood cholesterol checked and ever told by a healthcare professional that it was high.

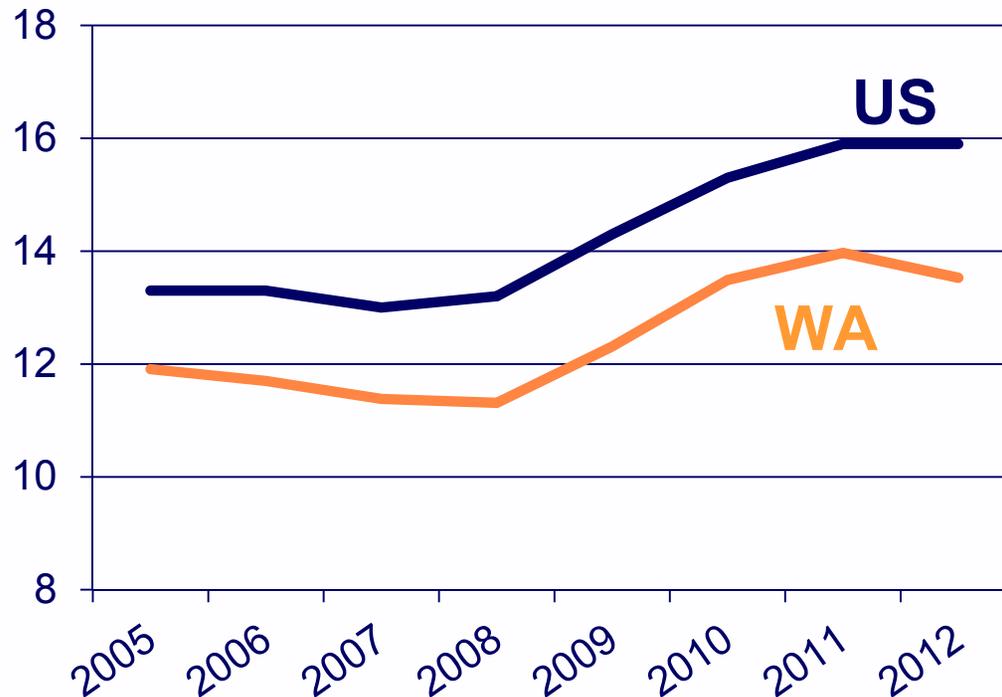


# Social, Economic and Cultural Settings



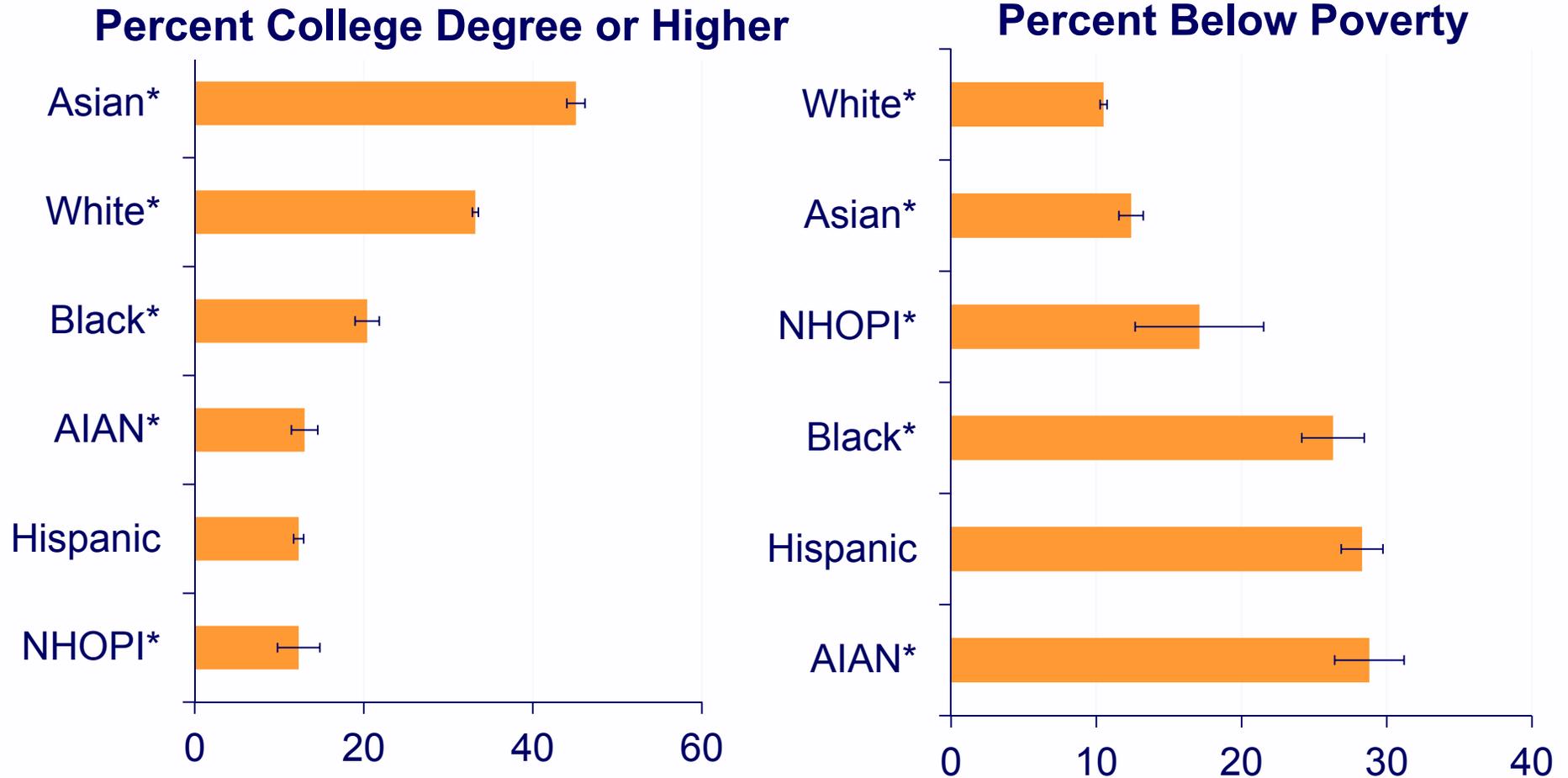
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## Percent in poverty\* grew during the recent recession



\* Below federal poverty threshold; data form the American Community Survey PUMS files.

# Poverty and education are not distributed equally across racial and ethnic groupings



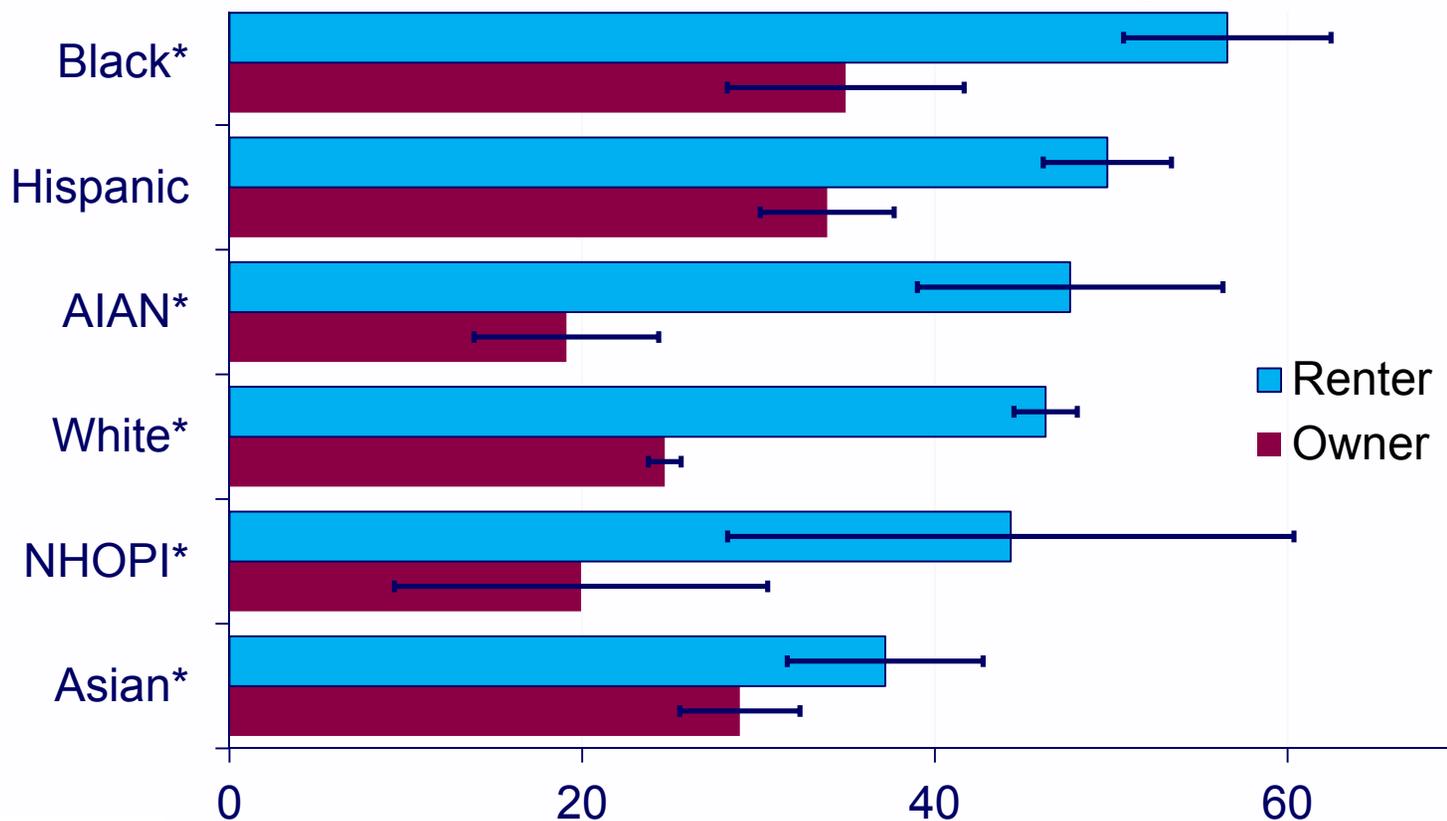
Data: American Community Survey, WA 2010-2012; compiled by DOH-NICE

\* Race groups include single race only, non-Hispanic; AIAN: American Indian or Alaska Native; NHOPI: Native Hawaiian or Other Pacific Islander

- Poverty: Below federal poverty threshold
- Education: Among residents ages 25 and older

# Affordable housing is not distributed equally among racial and ethnic groupings.

## Percent Living in Households Paying >30% of Household Income for Housing



Data: American Community Survey, WA 2012; compiled by DOH-NICE  
 \* Race groups include single race only, non-Hispanic; AIAN: American Indian or Alaska Native; NHOPI: Native Hawaiian or Other Pacific Islander

## Economic Factors: In Washington, those with fewer economic resources at higher risk for....

- No health insurance (18-64)
- No flu vaccination (65+)
- Not current for colorectal cancer screening (50+)
- Infant mortality
- Motor vehicle crash death
- Suicide
- Drug-induced death
- Teen birth rate
- Preterm birth
- Coronary heart disease (CHD) death
- Homicide
- Obesity
- Asthma
- Diabetes
- Hypertension (HT)
- Binge drinking
- Smoking

# Washington High Risk Groups by Racial and Ethnic Grouping

## AIAN

- Obesity
- Diabetes
- Hypertension
- Coronary Heart Dis\*
- Asthma
- Smoking
- Preterm birth
- Infant mortality\*
- Motor vehicle\*
- Suicide\*
- Drug-induced\*
- Teen pregnancy\*
- Binge drinking

## Black

- Obesity
- Diabetes
- Hypertension
- Coronary Heart Dis\*
- Asthma
- Smoking
- Preterm birth
- Infant mortality\*
- Stroke\*
- Homicide\*
- HIV\*

## Hispanic

- Obesity
- Diabetes
- No health insurance
- No CRC screen
- HIV\*
- Teen pregnancy\*

\*Population NOT adjusted to 2010 Census.  
• AIAN rates likely even higher  
• Hispanic rates likely somewhat lower  
Race groups: single race only, non-Hispanic  
AIAN: American Indian or Alaska Native

# Washington High Risk Groups by Racial and Ethnic Grouping

## NHOPI

- Obesity
- Hypertension
- Coronary Heart Dis\*
- Homicide\*
- Teen pregnancy\*
- Preterm birth

Not always reported due to small numbers

## White

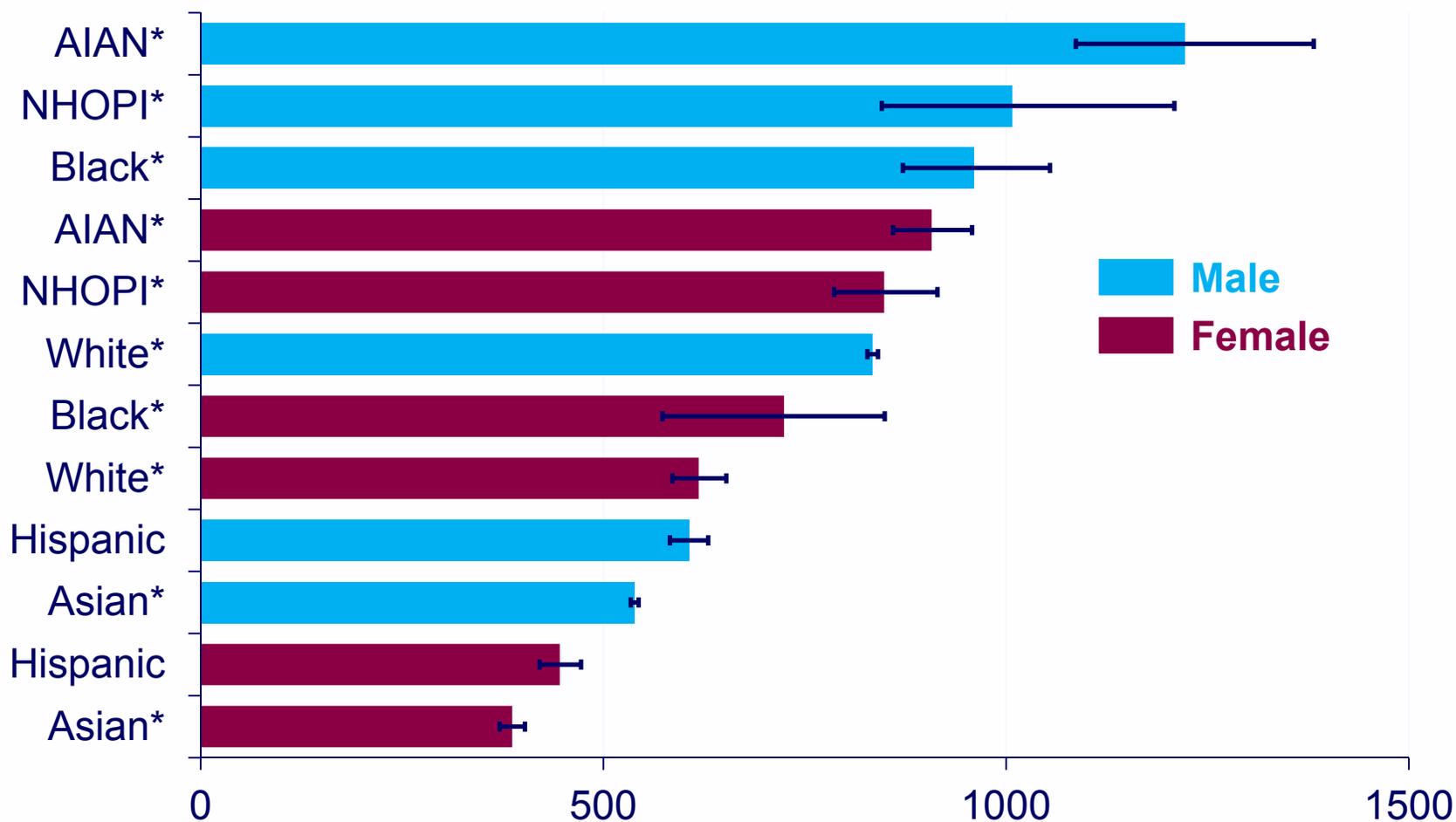
- Suicide

2<sup>nd</sup> most frequent low risk group

## Asian

Most frequent low risk group

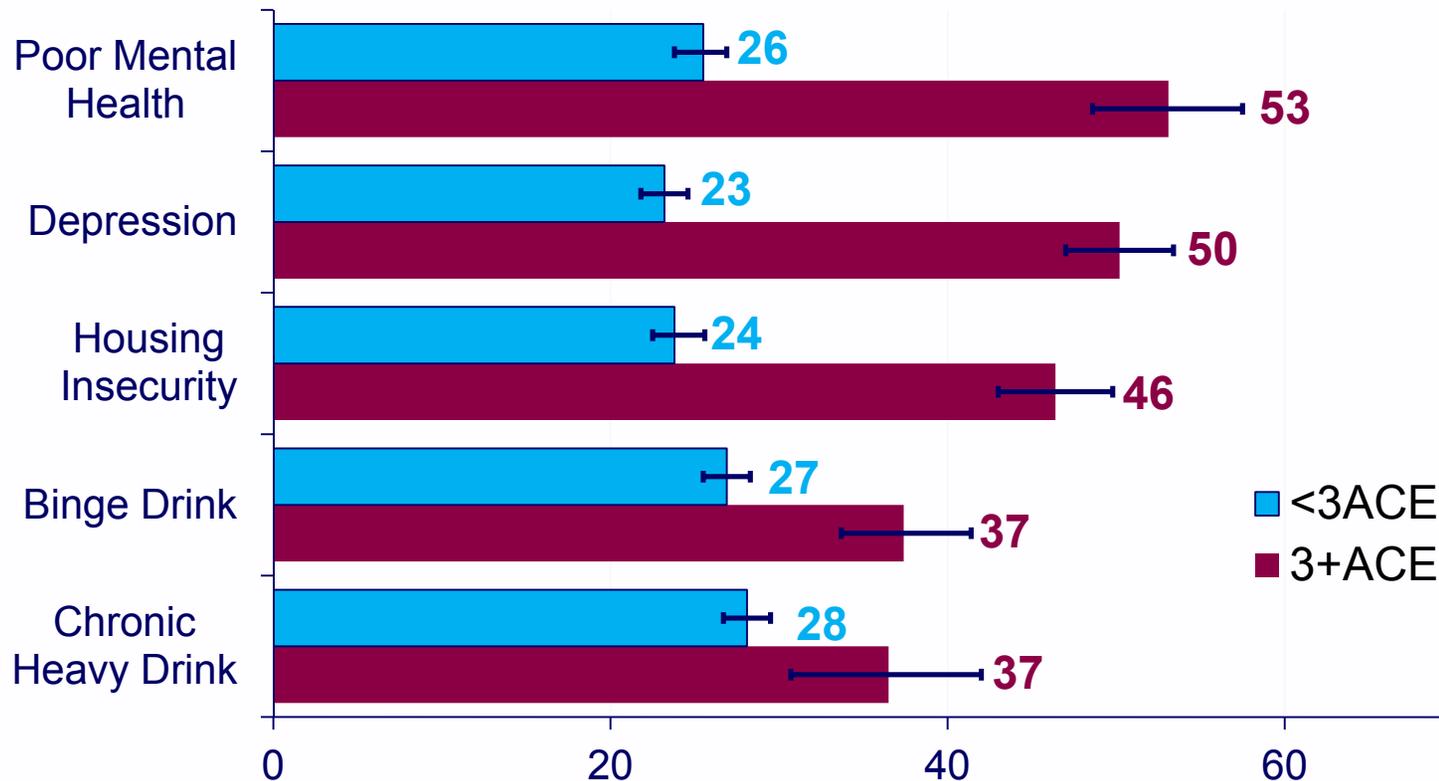
## Death rates vary by race, Hispanic ethnicity, and sex (2009–2011, age-adjusted rate per 100,000)



Data: Death certificate; DOH HWS  
 \* Race groups include single race only, non-Hispanic; AIAN: American Indian or Alaska Native; NHOPI: Native Hawaiian or Other Pacific Islander

# On 2011 WA-BRFSS, about 28% of adults reported 3 or more adverse childhood events (ACE)

## Percent Washington Adults with Selected Characteristics by ACE group



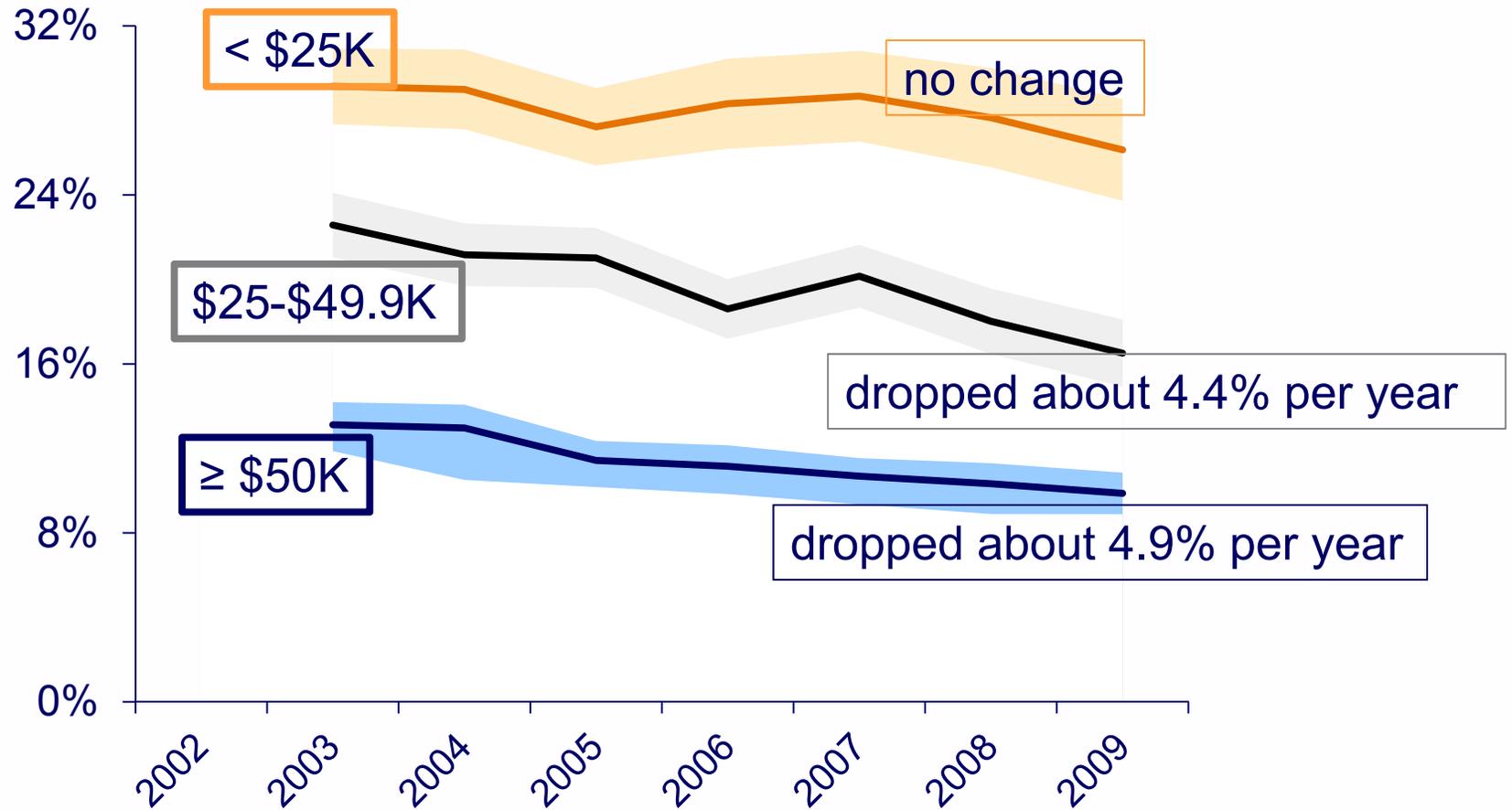
- Poor Mental Health:  $\geq 14$  days in the past 30 with mental health (stress, depression, and problems with emotions) not good
- Depression: Ever told by healthcare provider had depressive disorder (depression, major depression, dysthymia, or minor depression)
- Housing insecurity: In past year, always, usually or sometimes worried or stressed about enough money to pay rent/mortgage
- Binge drinking: In past 30 days, males  $\geq 5$  drinks on one occasion; females  $\geq 4$  drinks on one occasion
- Chronic drinking: : In past 30 days, males  $\geq 2$  drinks daily; females  $\geq 1$  drink daily

# **PUBLIC HEALTH**

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# Adult Current Smoking by Annual Household Income

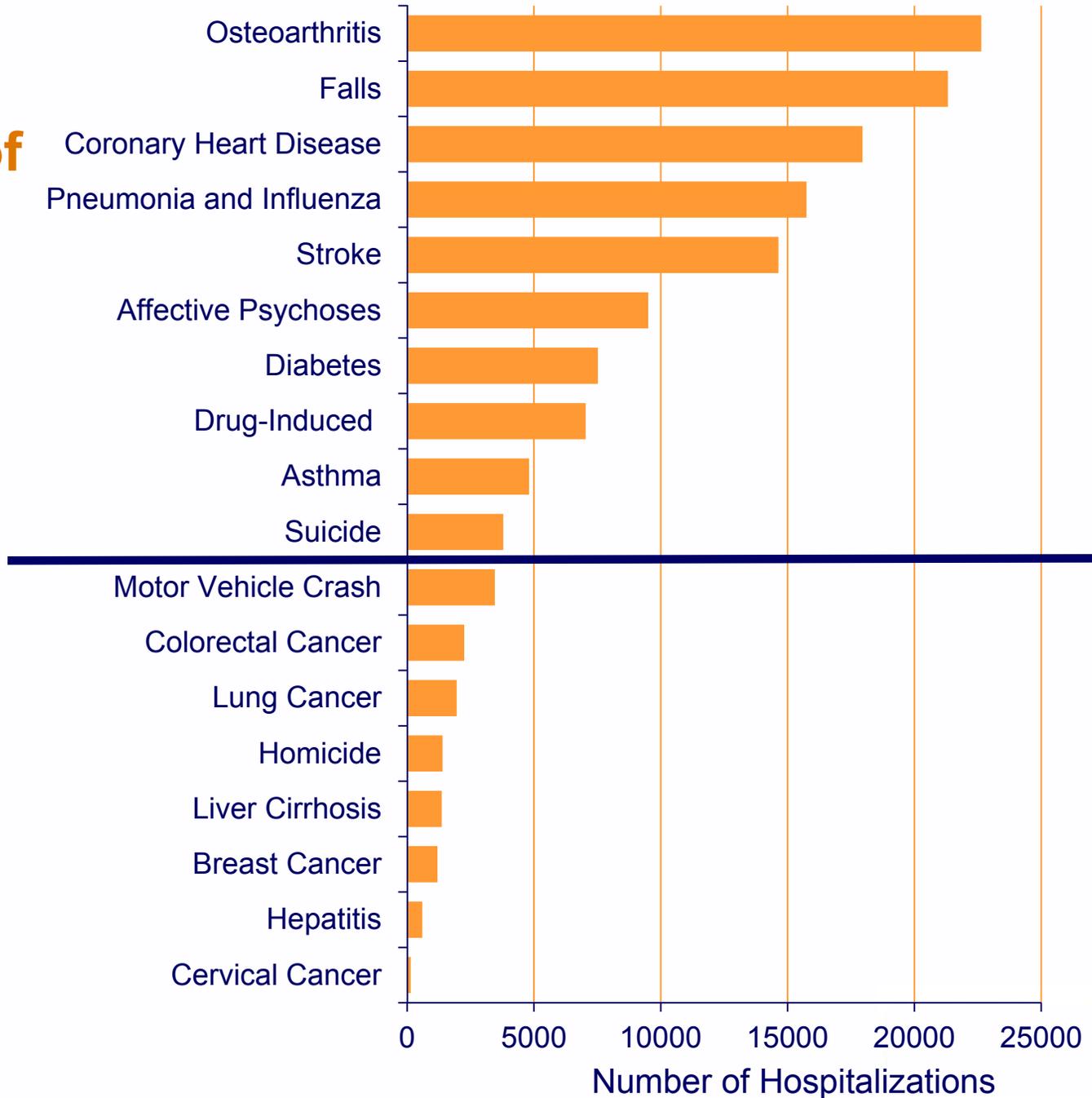
(State rate dropped from 19% ( $\pm 1\%$ ) in 2003 to 15% ( $\pm 1\%$ ) in 2009, about 4.6% per year)



Data: Washington BRFSS; compiled by DOH-Tobacco Program

# Leading Causes of Hospitalization\*: First Recorded Diagnosis

## All Ages Washington 2010

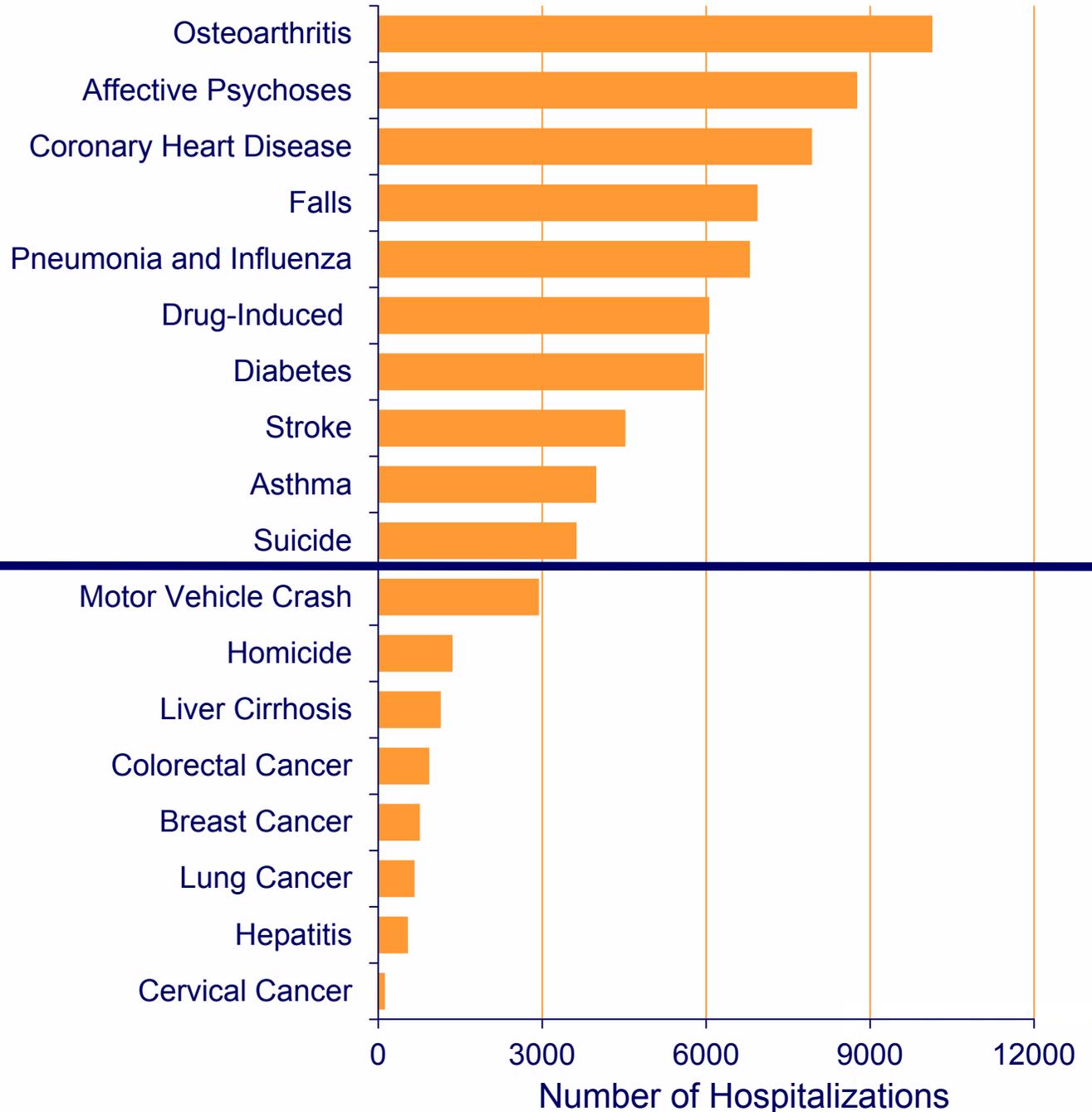


\* Washington acute care non-federal hospitals (CHARS); prepared by Center for Health Statistics



# Leading Causes of Hospitalization\*: First Recorded Diagnosis

**Ages 0–64  
Washington 2010**



\* Washington acute care non-federal hospitals (CHARS); prepared by Center for Health Statistics

