CHELAN-DOUGLAS
HEALTH DISTRICT

Community Health Assessment

CHRONIC DISEASE

2025

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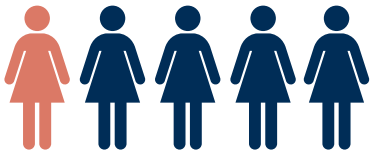
COMMUNITY PROFILE

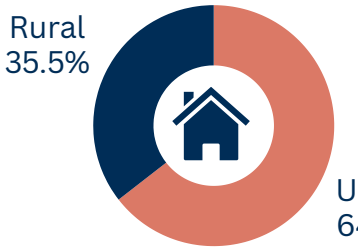
To put **chronic disease** findings into context, it's important to consider the residents in Chelan and Douglas counties.

Chelan and Douglas counties encompass **7.1%** of the land in the state yet only contain **1.6%** of the total population.[1d,2d]

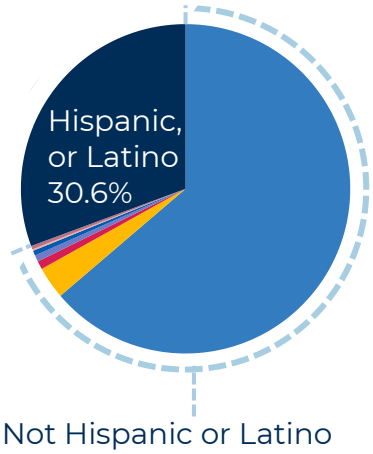
Indicators	Chelan	Douglas	WA State
Population[3d]	79,518	43,733	7,740,984
Median Age[6d,7d] White, not Hispanic Hispanic or Latino	49.1 25.0	47.9 25.1	43.3 25.8
Annual Household Income, Median[13d]	77K	72K	98K
Low-Income Population (<200% of Federal Poverty Level)[17d]	29%	27%	23%
No High School Diploma (Adults 25+)[23d]	15%	18%	8%



Nearly **one in five** people are disabled in our region[10d]



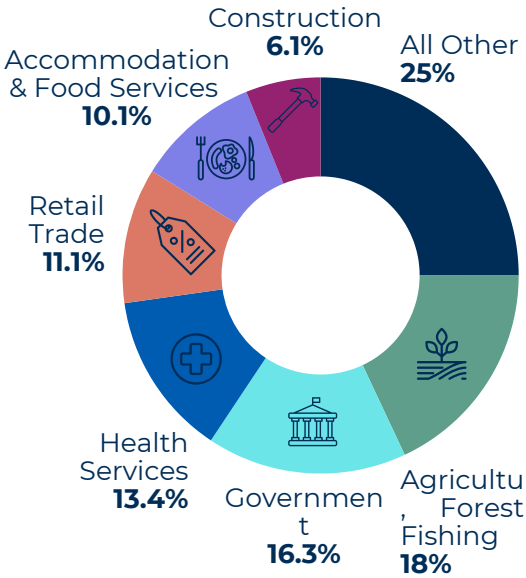
Spanish is spoken at home **2X** to **3X** more here compared to the state average.[9d]



Race for Non-Hispanic Population[3d]

- White, 63.7%
- Two+ Races, 3.2%
- Asian, 0.8%
- AIAN, 0.6% — American Indian & Alaska Native
- Black, 0.5%
- NHPI, 0.2% — Native Hawaiian & Pacific Islander
- Other Race, 0.3%

Top Industries[12d]



To see more community data, check out the demographics chapter.

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A CLOSER LOOK AT **CHRONIC DISEASE**

Chronic diseases are **long-lasting conditions** that usually develop slowly and require ongoing care. They include illnesses such as **heart disease, cancer, diabetes, and chronic respiratory disease**. Chronic disease is the leading causes of death and disability in our region, Washington State, and nationwide.

1080 residents **died** in Chelan and Douglas counties in 2024. Of all the causes, chronic diseases accounted for the majority of **total deaths**:[1a]

PERCENT OF TOTAL DEATHS IN 2024:	**25%**	**23%**	**9%**	**4%**
	Major cardiovascular diseases	Cancer	Alzheimer's disease	Chronic lower respiratory disease

Most chronic diseases share common risk factors—like **poor nutrition, physical inactivity, tobacco use, and excessive alcohol use**—but they are also largely preventable through healthy behaviors and community support including:

PHYSICAL ACTIVITY

HEALTHY EATING

SOCIAL TIME

REGULAR CHECKUPS

HEALTHY CHOICES

In this chapter, we will review data on the **most common chronic diseases** and identify several nutrition and lifestyle choices that can promote long and healthy lives for all residents.

MORTALITY

Chronic diseases such as heart disease, cancer, stroke, and diabetes cause most deaths in our region and statewide. Comparing mortality rates helps identify where prevention and early detection can make a difference.

Chelan and Douglas counties have mortality rates similar to Washington overall, with **higher rates for Alzheimer's disease** and **lower rates for diabetes**.

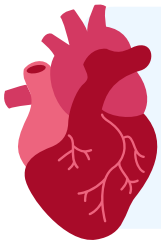
MOST COMMON CAUSES OF DEATH

RANKED BY AGE-ADJUSTED MORTALITY RATE PER 100,000 POPULATION, TOTAL DEATHS IN PARANTHESES, CHRONIC DISEASES HIGHLIGHTED, 2024[1a]

TOP CAUSES OF DEATH	#	CHELAN-DOUGLAS	#	WASHINGTON STATE
Major cardiovascular diseases	1	**147.6** (274)	1	**177.2** (17,514)
Cancer	2	**130.2** (248)	2	**134.4** (13,827)
Accidents	3	**66.3** (90)	3	**66.9** (5,823)
Alzheimer's disease	4	**54.0** (102)	4	**34.5** (3,310)
Chronic lower respiratory diseases	5	**22.7** (43)	5	**27.0** (2,810)
Intentional self-harm (suicide)	6	**12.4** (16)	7	**14.4** (1,216)
Chronic liver disease and cirrhosis	7	**12.4** (18)	8	**12.5** (1,182)
Diabetes	8	**9.6** (19)	6	**21.36** (2,178)
Parkinson's disease	9	**9.0** (18)	9	**9.6** (965)

HOSPITALIZATIONS

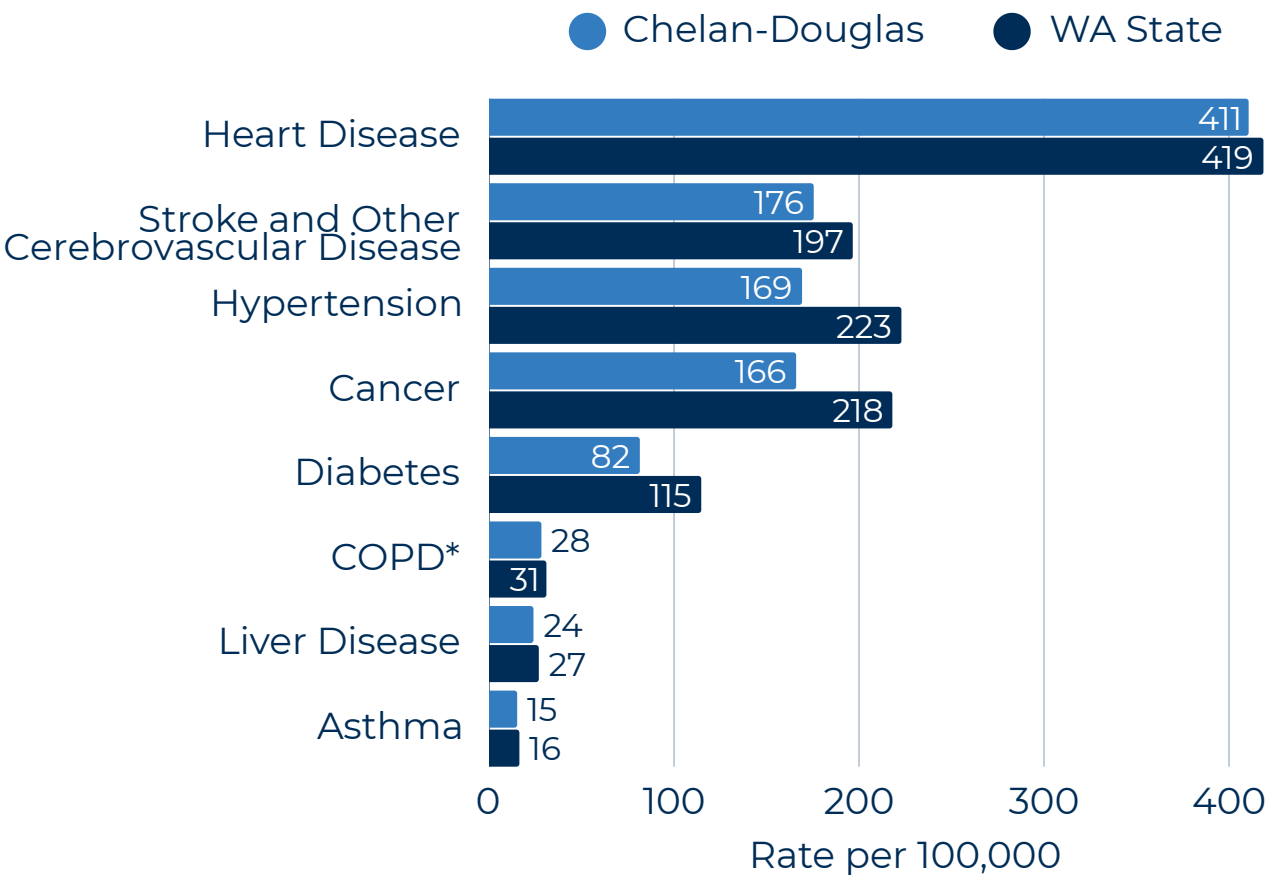
Heart disease is the **leading cause of chronic disease hospitalizations** in our region, followed by conditions like stroke and hypertension. Hospitalization data show the burden of these conditions and highlight opportunities for prevention and early care.



What is heart disease? Heart disease refers to a group of conditions that affect the heart, such as blocked blood vessels, heart attacks, heart failure or heart rhythm problems.

HOSPITALIZATIONS FOR CHRONIC DISEASE

AGE-ADJUSTED RATE PER 100,000 POPULATION, 2023[2a]

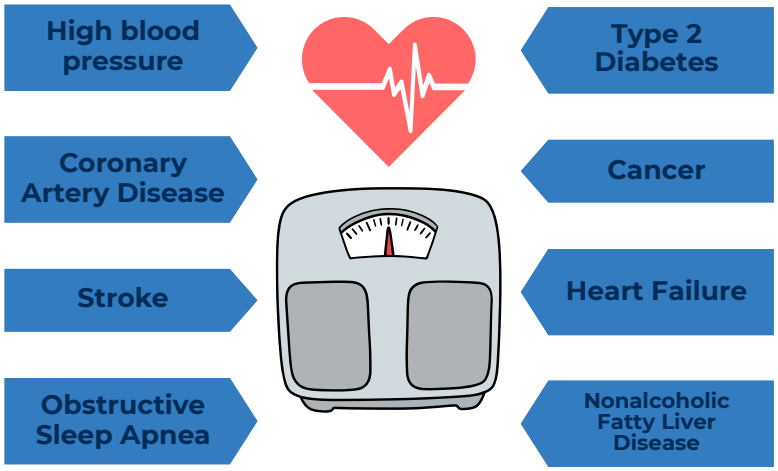


*COPD, also known as **chronic obstructive pulmonary disease**, refers to conditions that obstruct airflow and cause breathing difficulties. COPD is caused by breathing in harmful substances, such as air pollution and cigarette smoke.

COMORBIDITIES

Mortality and hospitalization rates only tell part of the story. In reality many people live with **more than one chronic disease** at the same time. This is called **comorbidity.** Conditions like heart disease, diabetes, and COPD often occur together because they share similar risk factors. For example, many conditions are associated with the obesity risk factor:

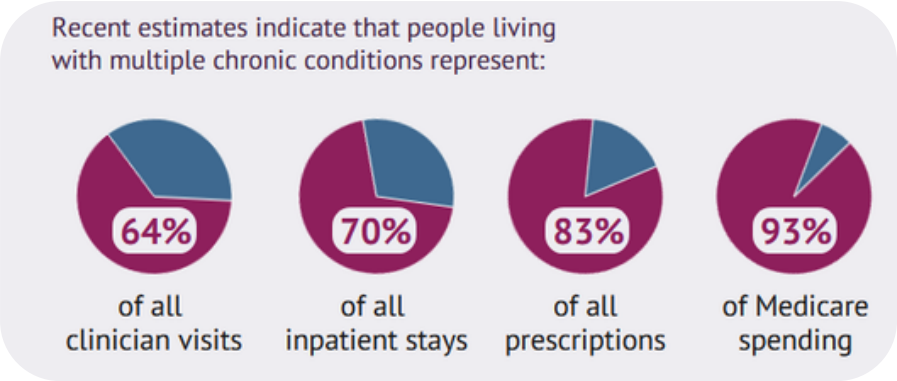
WHAT TYPES OF CHRONIC CONDITIONS ARE ASSOCIATED WITH THE OBESITY RISK FACTOR? [3]



Individuals who experience multiple chronic diseases can have more severe symptoms, more hospital stays and higher healthcare costs. **Their impact on the health care system is profound.**

HOW DOES COMORBIDITY IMPACT OUR HEALTHCARE SYSTEM? [4]

NIH, 2023



WHAT % OF ADULTS IN THE U.S. REPORT HAVING 2+ CHRONIC CONDITIONS? [5]

CDC, 2023

Age 18-34	Age 35-64	Age 65+
27.1%	52.7%	78.8%

SOCIETAL COSTS

There are many societal costs to chronic disease. Years of Potential Life Lost (YPLL) measures the number of years lost to chronic disease, assuming an 85-year lifespan. It highlights **premature deaths** and shows the significant loss to local families and our community.

YEARS OF POTENTIAL LIFE LOST TO CHRONIC DISEASE IN CHELAN AND DOUGLAS COUNTIES, 2020-2024

ASSUMING 85-YEAR LIFESPAN, INCLUDES TOTAL DEATH COUNTS AND AVERAGE YEARS OF LIFE LOST PER PERSON WHO DIED, 2020-2024 [6,1b]

In our region, **cancer** causes the most years of life lost. This is likely because there are many people impacted by cancer, it often affects people in midlife and can progress quickly without early detection.

Chronic Disease Type	Total Years of Potential Life Lost (85-year lifespan)	Total Deaths	Average Years Lost per Death
Cancer	**14,622**	**1,216**	**12.0**
Major cardiovascular diseases	**11,677**	**1,530**	**7.6**
Chronic lower respiratory diseases	**2,239**	**268**	**8.4**
Chronic liver disease and cirrhosis	**2,197**	**88**	**25.0**
Diabetes	**1,752**	**147**	**11.9**
Alzheimer's disease	**1,210**	**600**	**2.0**
Parkinson's disease	**507**	**100**	**5.1**

SOCIETAL COSTS

In 2016, the **total cost of chronic disease** in the U.S. was estimated to be **$3.7 trillion** dollars, or about one fifth of the U.S. economy. This estimate includes direct costs for care and indirect costs such as loss of economic productivity. Washington State estimates are below.[7]

CHRONIC DISEASE COSTS IN WASHINGTON STATE

2016 ESTIMATES INCLUDING TOTAL COSTS AND PER CAPITA COST PER RESIDENT, MILKEN INSTITUTE [7]

COST TYPE	TOTAL COST
Direct Costs ($B)	$23.3 Billion
Indirect Costs ($B)	$57.5 Billion
Total Cost ($B)	$80.8 Billion
Per Capita Direct Costs	$3,144
Per Capita Indirect Costs	$7,771
Per Capita Total Cost	$10,915 per person

For individuals and families struggling with chronic disease**, health and financial stability influence each other**: poor health can make it harder to stay financially secure, and financial strain can make it harder to stay healthy.

% OF INDIVIDUALS WITH CREDIT ISSUES BY NUMBER OF CHRONIC CONDITIONS

PERCENT OF ALL COMMERCIALLY INSURED ADULTS 21+ BY CREDIT ISSUE AND NUMBER OF CHRONIC CONDITIONS [8]

	# of Chronic Conditions		
Credit Issues	**0**	**2-3**	**7-13**
Medical Debt in Collections	8.2%	12.3%	19.0%
Nonmedical Debt in Collections	7.8%	9.4%	13.8%
Delinquent Debt	14.9%	19.0%	28.2%
Low Credit Score	18.6%	20.4%	28.4%
Recent Bankruptcy	0.5%	0.8%	0.8%

In a 2022 research study, individuals with **chronic conditions** were more likely to have **credit issues**, such as debt in collections or a low credit score.

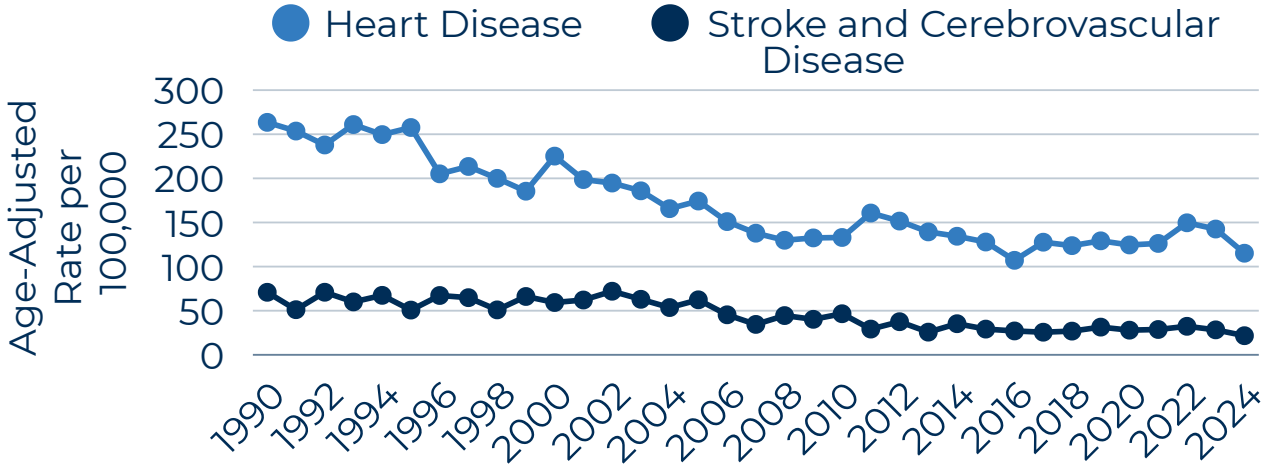
Becker NV, Scott JW, Moniz MH, Carlton EF, Ayanian JZ. Association of Chronic Disease With Patient Financial Outcomes Among Commercially Insured Adults. JAMA Intern Med. 2022;182(10):1044–1051. doi:10.1001/jamainternmed.2022.3687

HEART DISEASE AND STROKE

Heart disease and stroke are **leading causes of death** in our region and across the nation. Although mortality rates have improved over time, these conditions still affect many local families—claiming **255 lives** in Chelan and Douglas counties in 2024.[1a]

HEART DISEASE AND STROKE MORTALITY RATES IN CHELAN AND DOUGLAS COUNTIES

AGE-ADJUSTED RATE PER 100,000 POPULATION, 1990-2024 [1c]



These diseases are often linked to high blood pressure, high cholesterol, smoking, unhealthy diet, and low physical activity. About **one in four adults** in our region report having high blood pressure or high cholesterol.[9]

HAVE YOU EVER BEEN TOLD YOU HAVE...?

PERCENTAGE OF TOTAL SURVEY RESPONDENTS, 2021 [9]

HIGH BLOOD PRESSURE

25.5%	24.1%	27.6%
Chelan County	Douglas County	WA State

HIGH CHOLESTEROL

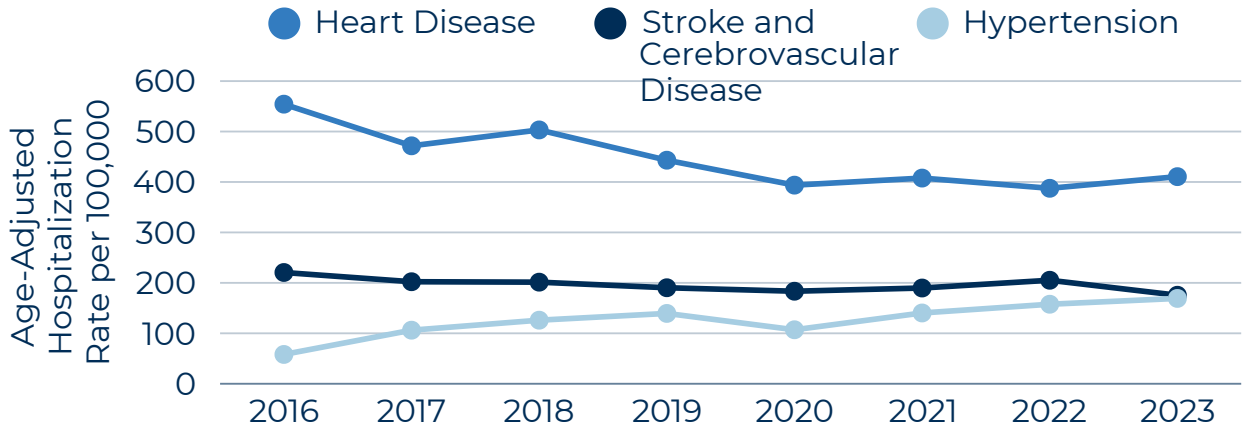
23.4%	22.9%	29.2%
Chelan County	Douglas County	WA State

HEART DISEASE AND STROKE (CONTINUED)

Tracking hospitalizations for heart disease and stroke helps show how well prevention and early care are working in the community.

HEART DISEASE, STROKE AND RELATED HOSPITALIZATION RATES IN CHELAN AND DOUGLAS COUNTIES

AGE-ADJUSTED HOSPITALIZATION RATE PER 100,000 POPULATION, 2016-2023 [2b]



In Chelan and Douglas counties, **heart disease hospitalizations have declined** similar to statewide rates. However, **hypertension-related hospitalizations have increased sharply** in recent years, though local rates are still lower than the Washington State average. [2b]

WHO IS MOST IMPACTED BY HEART DISEASE, STROKE AND OTHER CIRCULATORY DISEASES?

AGE AND SEX-SPECIFIC HOSPITALIZATION RATES PER 100,000 POPULATION FOR ALL CIRCULATORY DISEASES COMBINED, WASHINGTON STATE, 2016-2023 [2c,d,e]

✓ 55+ YEARS OLD

above-average hospitalization rates start around 55 years old (1.7x average), with the highest rates at **85+ years old (12x average)**

✓ MALE

hospitalization rates for males are **44% higher** on average, compared to females

CANCER

Cancer occurs when abnormal cells grow uncontrollably in the body. It is a leading cause of death, and caused **248 deaths** in Chelan and Douglas counties in 2024.[1a]

Many cancers can be prevented or detected early through healthy behaviors and regular screening. Some of the most common forms of cancer in our area and state include **breast cancer, prostate cancer, skin cancer** and **lung cancer**.[10a]

MOST COMMON CANCER DIAGNOSES

RANKED BY AGE-ADJUSTED DIAGNOSIS RATE PER 100,000 POPULATION *(TOTAL DIAGNOSES IN PARENTHESES)*, RATES ALSO SEX-ADJUSTED WHEN MALE OR FEMALE DENOTED, 2018-2022[10a]

	#	CHELAN-DOUGLAS	#	WASHINGTON STATE
TOP DIAGNOSIS GROUPS	**Rate** (# Diagnoses)			
Breast (female)	1	**158.3** (645)	1	**166.1** (38,860)
Male Genital System Prostate Cancer	2	**129.1** (559) 119.3 (530)	2	**113.2** (26,656) 104.7 (24,975)
Digestive System Colon Cancer Pancreatic Cancer	3	**77.1** (633) 24.5 (199) 14.5 (123)	3	**77.5** (35,612) 22.9 (10,204) 13.6 (6,404)
Skin Melanomas	4	**72.4** (604) 70.3 (587)	5	**55.7** (25,413) 53.2 (24,274)
Respiratory System Lung Cancer	5	**49.6** (441) 46.5 (414)	6	**49.9** (24,007) 47.0 (22,661)
Female Reproductive System Uterine Cancer (not cervix)	6	**48.6** (193) 23.6 (100)	4	**57.3** (13,498) 28.9 (7,076)
Urinary System Bladder Cancer	7	**36.9** (320) 20.6 (183)	7	**36.4** (16,942) 19.3 (9,076)

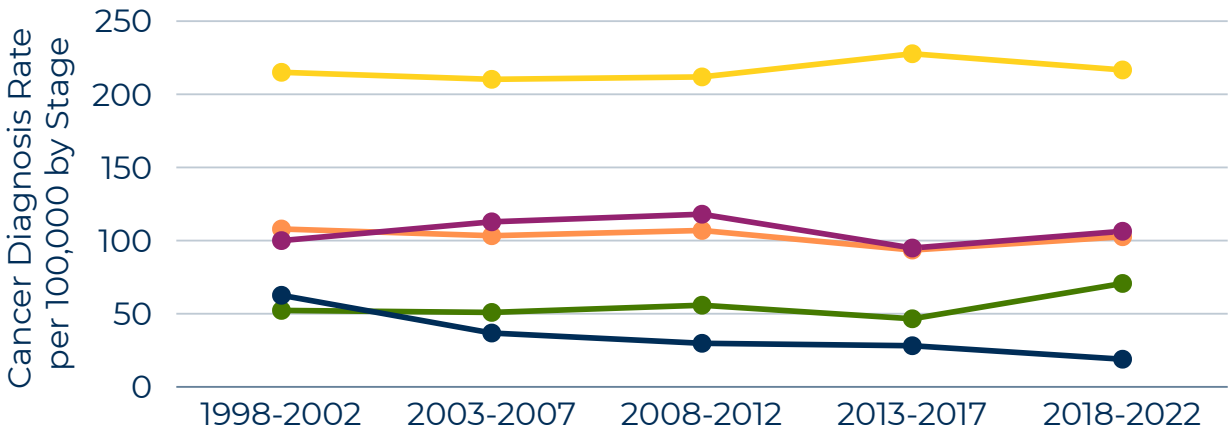
CANCER (CONTINUED)

Cancer is described in stages that identify how far the disease has spread when it is first found. *In situ* cancers are detected very early, before they invade nearby tissue, while later stages indicate more advanced disease that may have spread to other parts of the body. **Early detection** through regular screening can greatly improve treatment outcomes.

CANCER DIAGNOSIS RATES IN CHELAN AND DOUGLAS COUNTIES

AGE-ADJUSTED RATE PER 100,000 POPULATION, 1998-2022[10b]

The cancer diagnosis rate in our area for all stages has **stayed steady over time**. However, the number of ***in situ* cases have increased**, which may mean cancers are being found earlier. Unstaged cancer diagnoses have dropped by about 70%, likely due to better screening, greater awareness, and more precise diagnostic tools.



- In Situ - Abnormal cells are present but have not spread to nearby tissue.
- Localized - Cancer is limited to where it started, with no sign that it has spread.
- Regional - Cancer has spread to nearby lymph nodes, tissues, or organs.
- Distant - Cancer has spread to distant parts of the body.
- Unstaged - There is not enough information to figure out the stage. [11]

CANCER (CONTINUED)

Regular screenings for colon, cervical, and breast cancer help find disease early, when treatment works best. **Staying up-to-date on screenings is one of the most effective ways to prevent cancer deaths**. In Chelan and Douglas counties, screening rates are similar to state averages, though cervical screening may be slightly higher based on limited data.

BREAST CANCER SCREENING

PERCENTAGE OF ALL FEMALE SURVEY RESPONDENTS WHO HAD A MAMMOGRAM IN THE PAST YEAR, 2018-2022 [9]

71.1%	71.3%	74.9%
Chelan County	Douglas County	WA State

CERVICAL CANCER SCREENING

PERCENTAGE OF ALL FEMALE SURVEY RESPONDENTS WHO HAD A CERVICAL SCREENING IN THE PAST YEAR, 2018-2020 [9]

87.0%	84.3%	75.1%
Chelan County	Douglas County	WA State

COLON CANCER SCREENING

PERCENTAGE OF ALL SURVEY RESPONDENTS WHO HAD A COLON CANCER SCREENING IN THE PAST YEAR, 2022 [9]

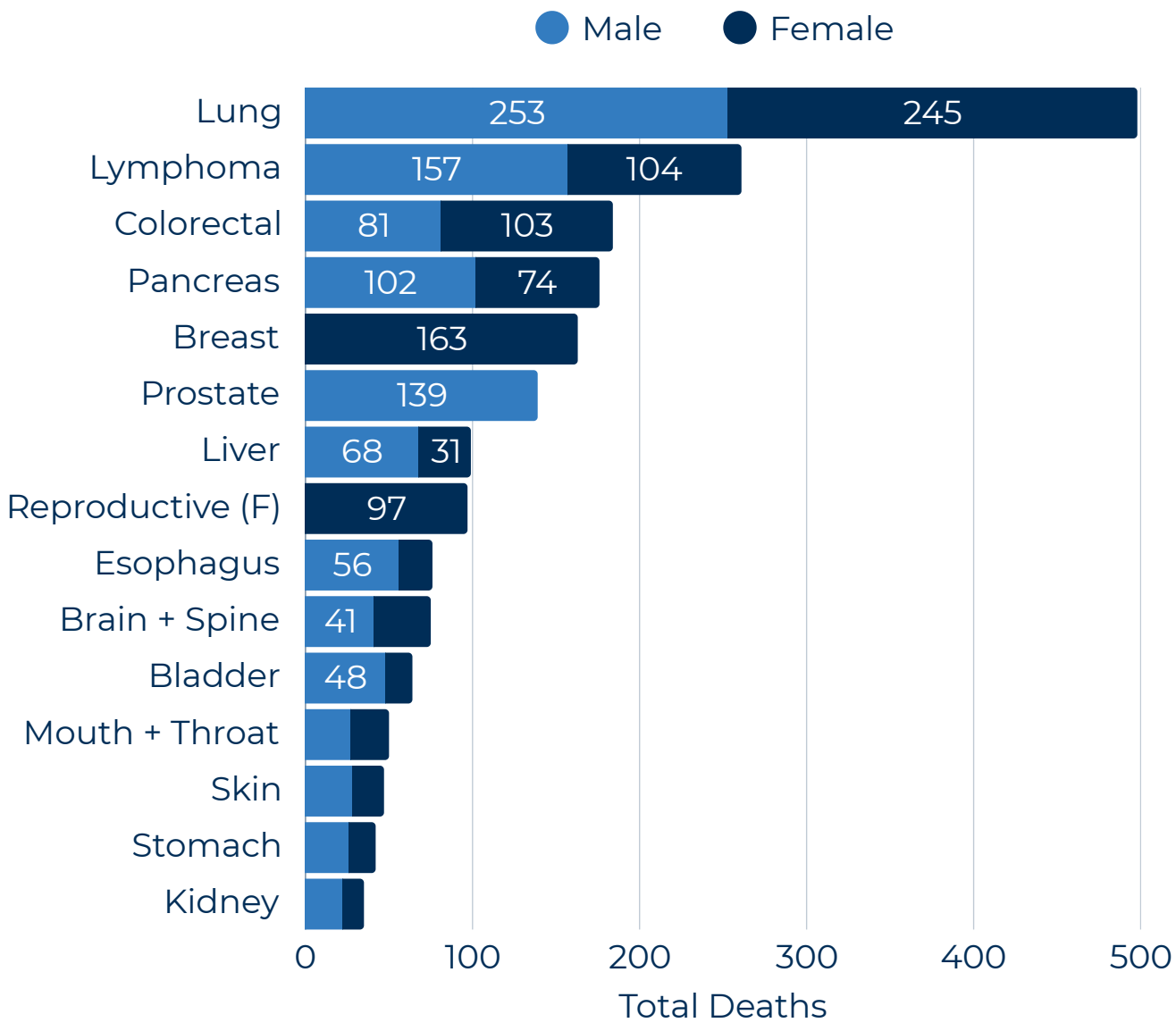
59.5%	61.2%	58.3%
Chelan County	Douglas County	WA State

CANCER (CONTINUED)

Some cancer types are more common or only occur in one group, such as prostate cancer in males or ovarian, cervical and uterine cancer in females. By reviewing patterns in our local data, we can identify **who is most impacted** and tailor prevention and screening efforts towards those at higher risk.[2]

CANCER DEATHS IN CHELAN AND DOUGLAS COUNTIES BY SEX, 2015-2024

DEATH COUNTS BY CANCER TYPE AND SEX, 2015-2024[1d]

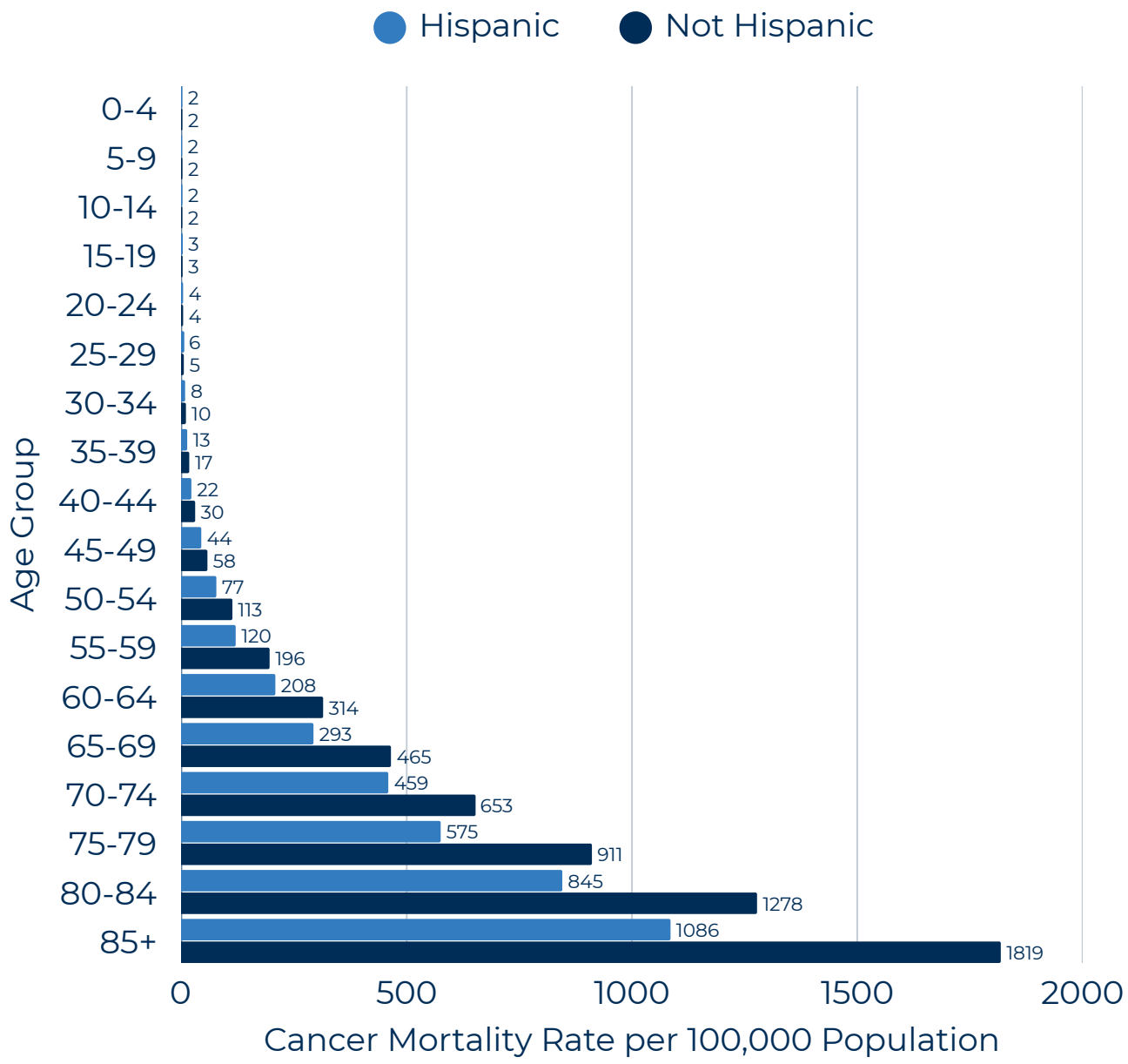


CANCER (CONTINUED)

Cancer mortality rates **increase with age.** In Washington State, cancer mortality rates are **highest** in those **85+ years of age** as well as those in the **non-Hispanic population**.

CANCER MORTALITY RATES IN WASHINGTON STATE BY ETHNICITY AND AGE, 2010-2024

AGE-SPECIFIC RATES PER 100,000 POPULATION, 2010-2024 [1e]

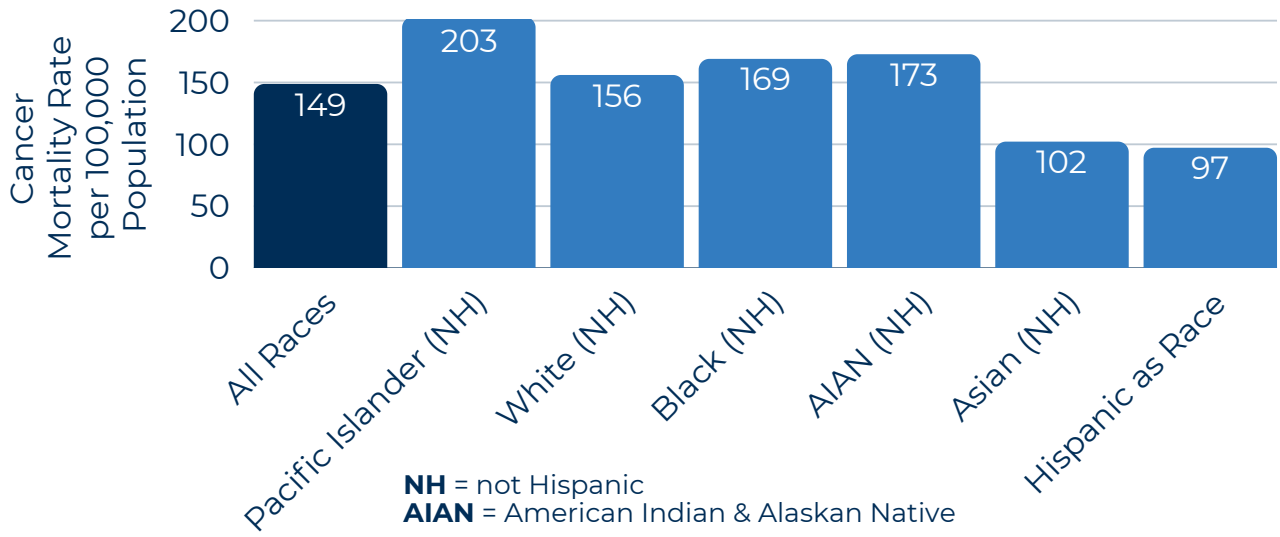


CANCER (CONTINUED)

Certain races are more impacted by certain cancers than others. Overall, **Pacific Islanders** have the **highest cancer mortality** rates in Washington State.[1f]

CANCER MORTALITY RATES BY RACE AND ETHNICITY IN WASHINGTON STATE

AGE-ADJUSTED MORTALITY RATES PER 100,000 POPULATION (AND SEX-SPECIFIC RATES FOR MALE AND FEMALE CANCERS IN TABLE), 2010-2024 [1f]



NH = not Hispanic
AIAN = American Indian & Alaskan Native

BY TYPE CANCER

CANCER TYPE	HIGHEST MORTALITY RATE	LOWEST MORTALITY RATE
Breast	Pacific Islander (NH)	Asian (NH) & Hispanic
Prostate	Black (NH)	Asian (NH)
Colon, rectum & anus	AIAN (NH)	Asian (NH) & Hispanic
Skin	White (NH)	Black & Asian & Pacific Islander (NH)
Lung, trachea & broncus	Pacific Islander & AIAN (NH)	Hispanic
Ovary, cervix & uterus	Pacific Islander (NH)	Asian (NH) & Hispanic
Bladder	White (NH)	Asian (NH) & Hispanic

DIABETES

Diabetes is the **most expensive chronic condition** in the U.S., accounting for **$412.9 billion** in costs in 2022. Diabetes affects how the body uses insulin to turn food into energy. When the body does not make enough insulin or cannot use it well, blood sugar levels rise and can lead to serious health problems. Cases are rising across the U.S., especially among youth. While type 1 diabetes is not preventable, type 2 can be delayed or prevented through healthy habits. [12,14]

1 IN 5 U.S. adolescents from 12 to 18 have prediabetes, or blood sugar levels that are higher than normal.[13]

29% of U.S. adults 65+ years old had diabetes in 2017-2020, including 4.7% undiagnosed cases.[14]

MEDICAL COSTS ARE 2.6X higher for people diagnosed with diabetes. On average, those with diabetes spend $20K per year on medical expenses, including $12K on diabetes-attributable costs.[12]

WHAT ARE TYPE 1 AND TYPE 2 DIABETES? [15]

	TYPE 1 DIABETES	TYPE 2 DIABETES
What is it?	Body does not make insulin	Body does not use insulin well
Cause	Autoimmune reaction	Genetics, weight, and/or lifestyle
Onset	Usually childhood	Usually in adults, rising in youth
Symptoms	Sudden and severe	Often slow and hard to notice
Management	Insulin daily	Lifestyle changes, meds, insulin
Prevention	Not preventable / unknown	Often preventable or delayed with healthy habits

Note: a third type of diabetes is gestational diabetes, which occurs during and after pregnancy and is not reflected in this table.

DIABETES (CONTINUED)

11% of adults in Chelan and Douglas counties reported having diabetes in 2022 compared to 9% in Washington State.[9]

WHICH GROUPS ARE MOST IMPACTED?

BY PERCENT REPORTING A DIABETES DIAGNOSIS IN WASHINGTON STATE, 2022[9]

Pacific Islander	American Indian & Alaskan Native	Black	Hispanic
21%	15%	15%	13%

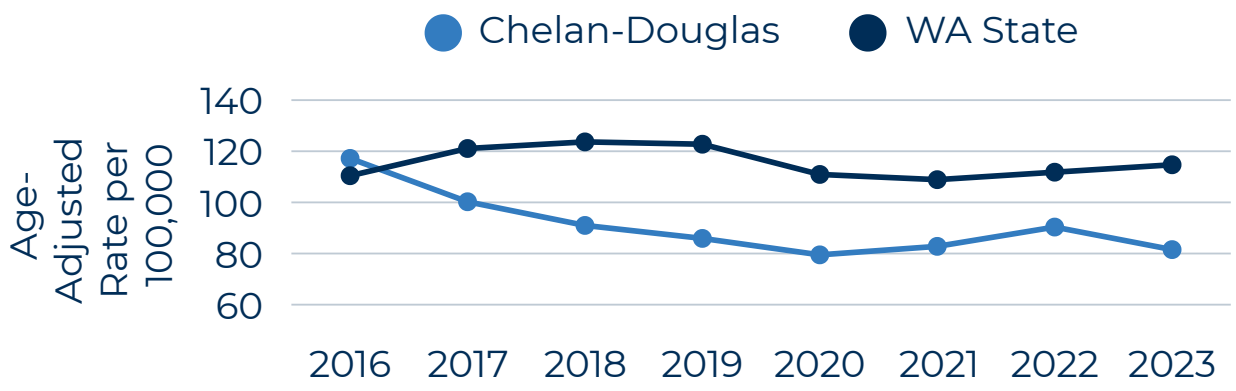
NEW DIABETES DIAGNOSIS RATE

ADULTS AGED 20+ YEARS, AGE-ADJUSTED RATE PER 1,000 POPULATION, 2023[9]

4.5	5.4	7.8
PER 1,000	PER 1,000	PER 1,000
Chelan County	Douglas County	WA State

DIABETES HOSPITALIZATION RATES

AGE-ADJUSTED RATE PER 100,000 POPULATION, 2016-2023[2f]



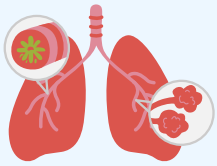
CHRONIC RESPIRATORY DISEASE

Chronic lower respiratory diseases, such as chronic obstructive pulmonary disease (COPD), make it hard to breathe and often develop over time. The main cause is **long-term exposure** to harmful substances like **cigarette smoke, air pollution, or workplace dust**. Some of the key chronic respiratory diseases include: [16]

ASTHMA

INFLAMMATION AROUND AIRWAY, TIGHTENING, HARD TO BREATHE

COPD



LUNG DISEASES THAT OBSTRUCT AIRFLOW, OFTEN CAUSED BY SMOKING

BRONCHIECTASIS

ABNORMAL WIDENING OF THE BRONCHI, INCREASED INFECTION RISK

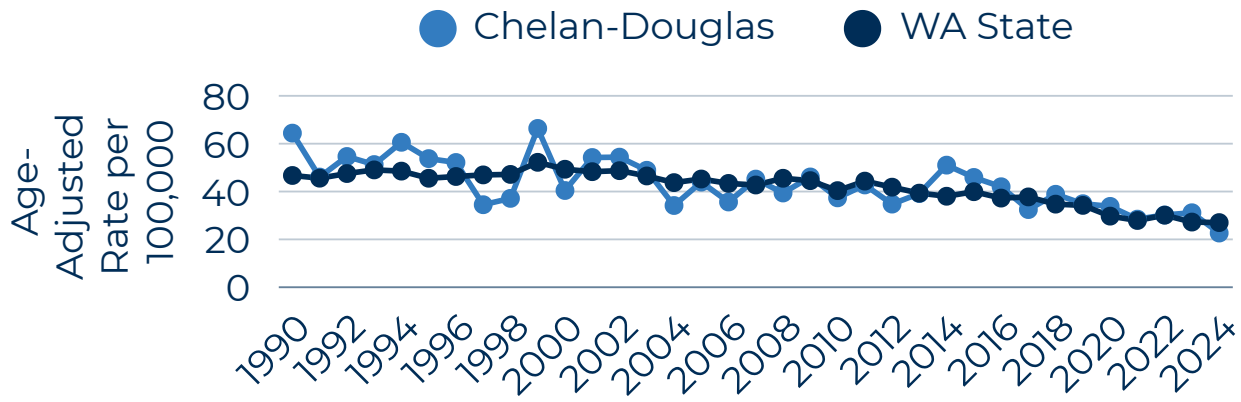
EMPHYSEMA

CHRONIC BRONCHITIS

CHRONIC LOWER RESPIRATORY DISEASE MORTALITY RATES

AGE-ADJUSTED RATE PER 100,000 POPULATION, 1990-2024 [1h]

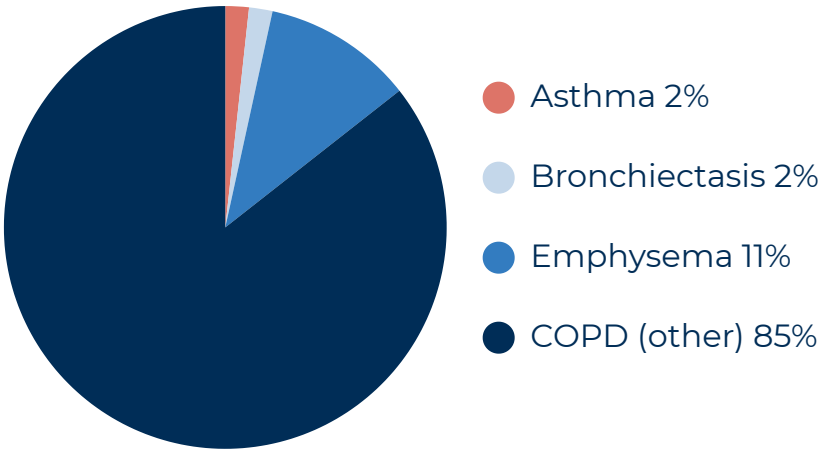
Mortality rates in Chelan-Douglas have decreased over time and follow the trend seen in Washington State.



CHRONIC RESPIRATORY DISEASE (CONTINUED)

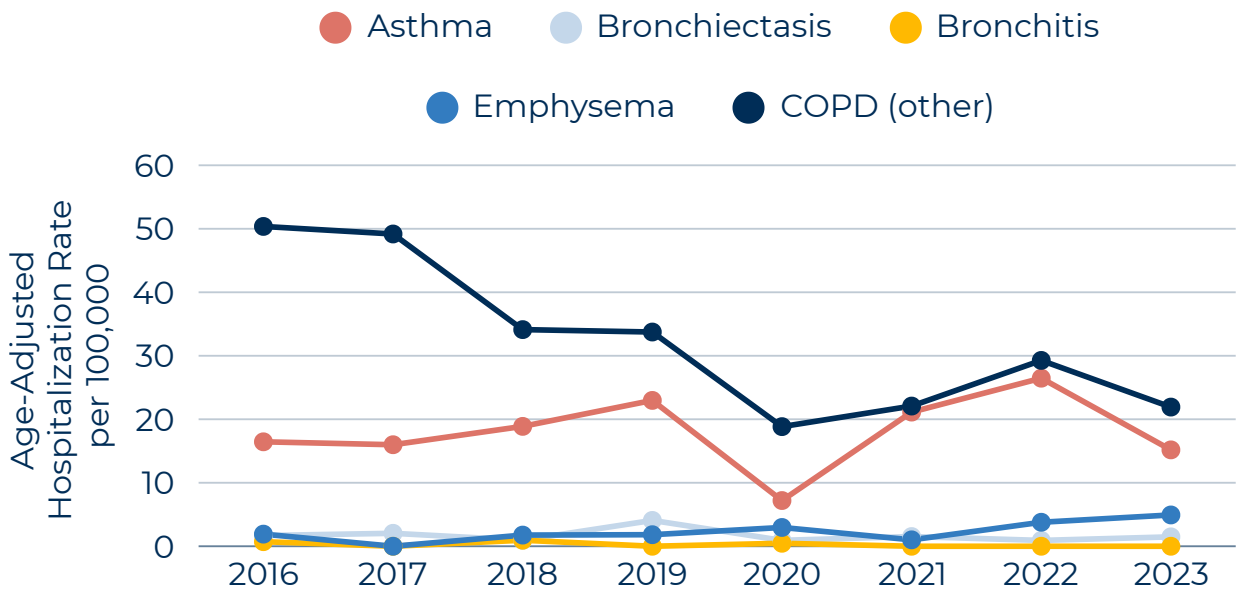
KEY CAUSES OF DEATH BY RESPIRATORY DISEASE TYPE IN CHELAN AND DOUGLAS COUNTIES

AGE-ADJUSTED RATE PER 100,000 POPULATION, 2015-2024[1i]



CHRONIC RESPIRATORY DISEASE HOSPITALIZATION RATES IN CHELAN AND DOUGLAS COUNTIES

AGE-ADJUSTED HOSPITALIZATION RATE PER 100,000 POPULATION, 2016-2023[2g]

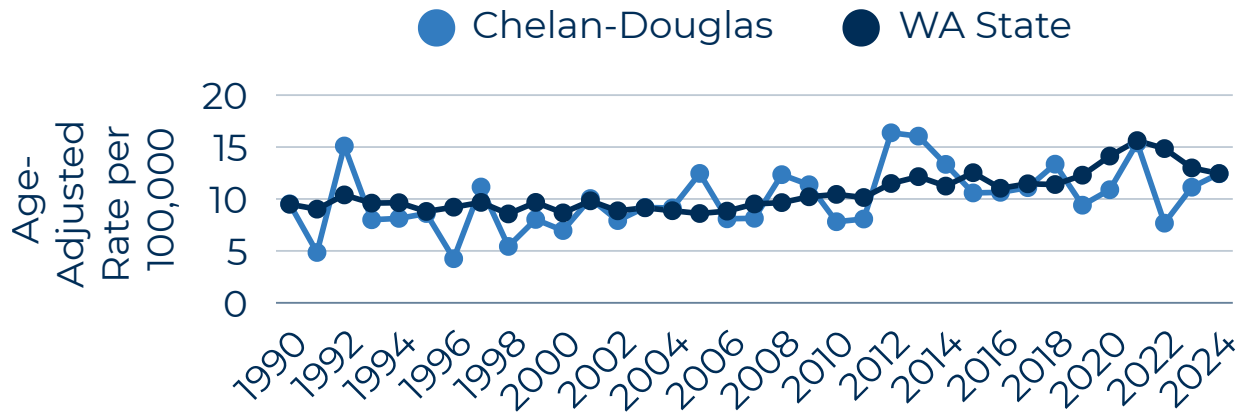


CHRONIC LIVER DISEASE AND CIRRHOSIS

Liver disease and cirrhosis, or permanent scarring of the liver, occur when long-term damage prevents the liver from working properly. Common causes include **heavy alcohol use**, **hepatitis infection, and nonalcoholic fatty liver disease**. These conditions can lead to serious complications but are often preventable through reduced alcohol use, vaccination against hepatitis, and healthy lifestyle choices.

CHRONIC LIVER DISEASE AND CIRRHOSIS MORTALITY RATES IN CHELAN AND DOUGLAS COUNTIES

AGE-ADJUSTED RATE PER 100,000 POPULATION, 1990-2024 [1j]

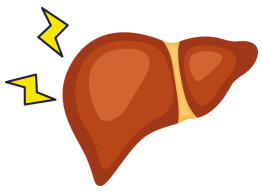


ON AVERAGE

18 residents **die each year** from chronic liver disease and cirrhosis in Chelan and Douglas counties (2020-2024). About **88%** of these deaths are due to **alcoholic liver disease**, which is preventable.[1j]

ON AVERAGE

36 residents are **hospitalized each year** due to chronic liver disease and cirrhosis in Chelan and Douglas counties (2016-2023).[2h]



NEUROLOGICAL DISORDERS

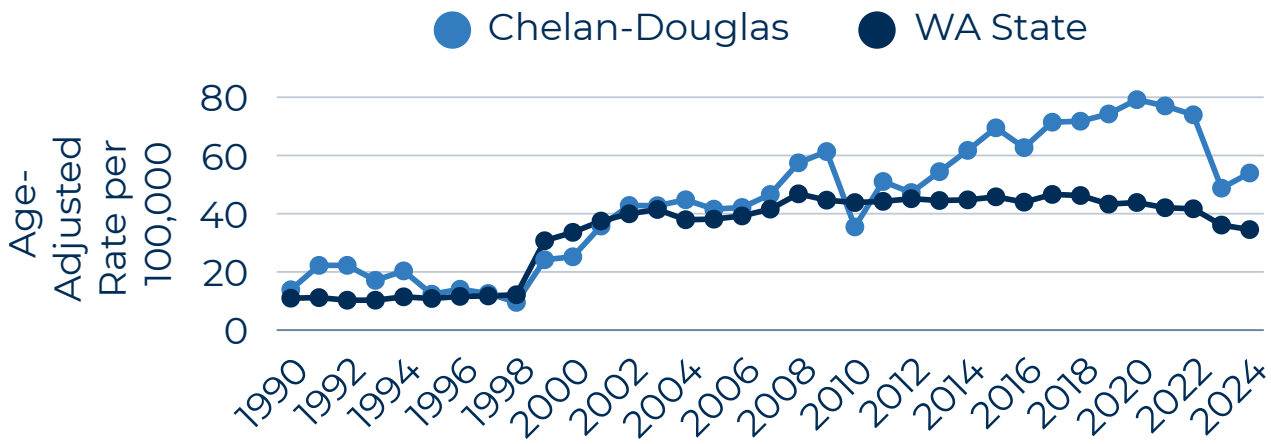
Neurological disorders such as **Alzheimer's disease**, a type of dementia, and **Parkinson's disease** affect the brain and nervous system, leading to changes in memory, movement, and thinking. These conditions become more common with age. While there is no known cure, regular physical activity, healthy eating, staying socially engaged, and managing other chronic conditions like high blood pressure and diabetes may help reduce risk and support brain health.

DEMENTIA AND ALZHEIMER'S DISEASE

Dementia is a general term for memory loss and other cognitive decline that interferes with daily life. Alzheimer's disease is the most common cause of dementia. It is a progressive brain disease that slowly damages memory, thinking, and behavior. While Alzheimer's mainly affects older adults, it is not a normal part of aging. Because it is the leading form of dementia, Alzheimer's disease accounts for most dementia-related deaths tracked in public health.[15,16]

ALZHEIMER'S MORTALITY RATES IN CHELAN AND DOUGLAS COUNTIES

AGE-ADJUSTED RATE PER 100,000 POPULATION, 1990-2024[1k]



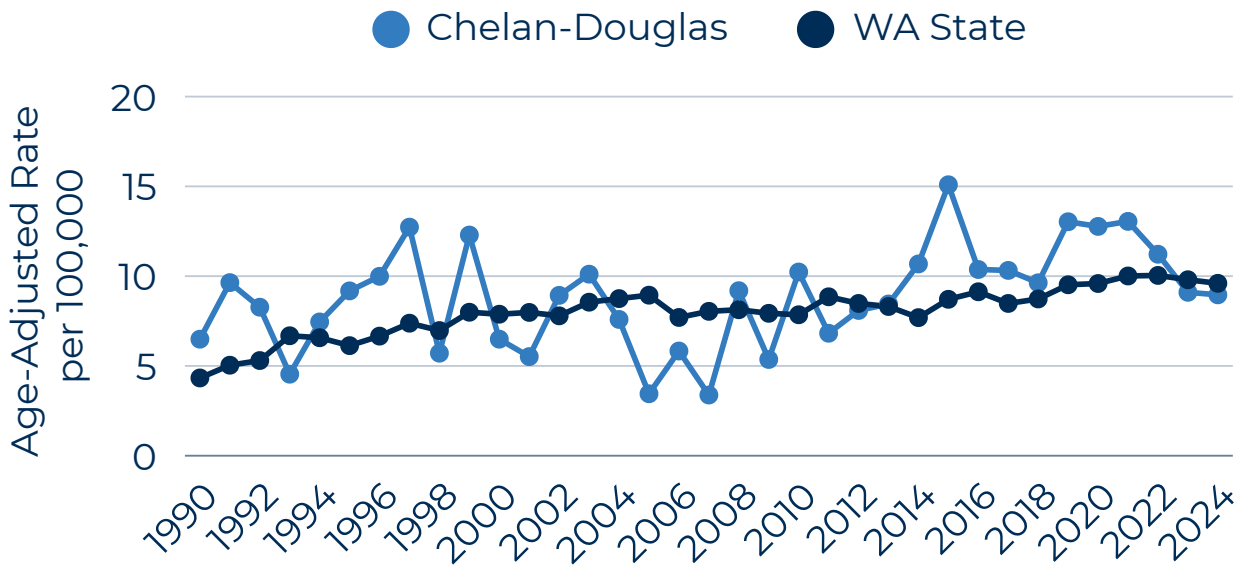
The number of people with Alzheimer's disease has increased over time. By 2060, the number of people with Alzheimer's in the U.S. is expected to **double**.[1k,17,18]

NEUROLOGICAL DISORDERS (CONTINUED)

Parkinson's disease is a long-lasting brain disorder that affects movement, balance, and coordination. It develops when the brain slowly loses cells that make dopamine, a chemical that helps control movement. Some people with Parkinson's may later develop dementia, but not everyone does. Tracking local cases helps us understand community needs and support early care and treatment.

PARKINSON'S MORTALITY RATES IN CHELAN AND DOUGLAS COUNTIES

AGE-ADJUSTED RATE PER 100,000 POPULATION, 1990-2024[1k]



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