

# » Injury in Oregon: data report



Oregon  
**Health**  
Authority

PUBLIC HEALTH DIVISION  
Injury and Violence Prevention

Data for this report originated from the National Center for Health Statistics Population Estimates published data and unpublished Oregon Center for Health Statistics Death certificate and Oregon hospital discharge data. The report was supported by the Centers for Disease Control and Prevention cooperative agreement 1U17CE001994-0. The content is solely the responsibility of the Oregon Injury and Violence Prevention Program and does not necessarily represent the official views of the Centers for Disease Control and Prevention.

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October, 2015



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## 0.1 Executive summary

Injury is damage or harm to the body that results in impairment or destruction of health. Intentional injuries include all forms of violence, such as suicide, homicide, and assault. Unintentional injuries are due to unplanned events such as falls, motor vehicle crashes, falling from a bicycle, drowning, consuming an overdose of medication (poisoning), or a house fire. Historically, injury has not been viewed as a public health problem because injuries were thought of as accidents or random events. However, injuries are preventable. A rich body of published research documents the effectiveness of public health approaches to prevent injury-related morbidity and mortality. Injuries are the leading killer of children and adults aged 1-44 years in Oregon and the nation. Injuries disproportionately affect the young and more years of life are lost due to injuries than from other preventable causes of death such as heart disease and cancer. In Oregon in 2014:

- Injuries caused 2,578 deaths and 18,331 hospitalizations.
- Unintentional injuries alone caused 1,796 deaths and 14,570 hospitalizations.
- Intentional and undetermined injuries caused 1,670 deaths and 5,814 hospitalization.
- Suicide was the leading cause of injury death, followed by unintentional falls, poisoning, motor vehicles, and homicide.
- 740 Oregonians died by suicide; 2,187 hospitalizations were due to self-harm or suicide attempts.
- Unintentional falls caused 591 deaths and 8,737 hospitalizations.
- Unintentional and undetermined poisoning caused 421 deaths and 1,494 hospitalizations.
- Motor vehicles caused 325 unintentional deaths and 1,707 hospitalization.
- 92 deaths were due to homicide; 447 people were hospitalized due to assault.
- Firearms were the most frequent mechanism of death for homicides and suicides— 442 of these deaths involved firearms.
- 873 injury deaths and 2,610 hospitalizations involved TBI. Firearms, falls and motor vehicles were the most frequent causes of TBI.

Injuries are costly not only in terms of lives lost and disability suffered, but also for the health care system and lost work productivity. The estimated costs of injury-related deaths in Oregon in 2014 was about \$2.8 billion (according to CDC's Cost of Injury Reports: [www.cdc.gov/injury/wisqars/cost/cost-learn-more.html](http://www.cdc.gov/injury/wisqars/cost/cost-learn-more.html)).

Injury and violence are significant public health problems that limit the ability of people to live to their full potential. Public health strategies for injury and violence prevention focus primarily on environmental design, human behavior, education, legislative policy and regulatory requirements that reduce risk and support change. Oregon can take steps to minimize the risk of injury by implementing evidence-based public health practices.

*If a disease were killing our children at the rate unintentional injuries are, the public would be outraged and demand that this killer be stopped.* -Former US Surgeon General, C. Everett Koop

## 0.2 Background and introduction

Injuries killed 2,578 Oregonians in 2014; 67 percent were due to unintentional injuries. Injuries caused 18,331 hospitalizations in 2014; 71 percent were due to unintentional injuries. Injury and violence are significant public health problems that limit the ability of people to live to their full potential. Public health injury prevention is a population-based approach aimed at reducing harm and increasing health and safety. Rather than medical treatment, prevention is the primary goal of the public health approach. Public health addresses issues at a community level. Public health approaches to reducing injury include injury morbidity and mortality surveillance, environmental changes, safety requirements, policy changes, legislation, regulatory requirements, legal intervention, and information sharing.

The Injury and Violence Prevention Program (IVPP) in the Public Health Division of the Oregon Health Authority leads the state's injury prevention efforts. IVPP receives grants from the Centers for Disease Control and Prevention (CDC) and state funds to implement statewide injury surveillance and prevention activities. IVPP partners with multiple internal and external stakeholders to prevent injuries. Key internal stakeholders include the Center for Health Statistics, Health Analytics, Medical Assistance Program (Medicaid), and Maternal & Child Health. Key external stakeholders include Oregon medical examiners, law enforcement, Oregon Health & Science University, Oregon Department of Transportation, local health departments, and the Oregon Hospital Association, among others.

The state injury prevention plan, developed in partnership with stakeholders, identified four injury prevention priority areas for 2016-2020:

- Poisoning (which includes chemicals, drugs and medicines);
- Motor vehicle traffic injuries;
- Violence prevention (especially child maltreatment);
- Traumatic brain injury.

The priorities were selected because 1) they were the leading causes of mortality, hospitalizations, emergency department visits, and years of potential life lost related to injuries; 2) because trends were stable or increased over

the last decade; and 3) due to the availability of effective evidence-based interventions. The plan was developed to guide strategies and fulfill the vision that Oregon is a safe and injury-free place to live and work.

The state injury prevention plan, youth suicide plan, annual injury reports, reports about falls, prescription drug monitoring and drug overdose reports, and links to trauma reports are located at: <http://public.health.oregon.gov/diseasesconditions/injuryfatalitydata/pages/reports.aspx> Oregon's injury surveillance and prevention efforts are multifaceted. Oregon participates with 20 other states in the Centers for Disease Control and Prevention's (CDC) core violence and injury prevention program; with 16 other states in the National Violent Death Reporting System; and collects hospital, emergency department, trauma, and prescription drug data.

This report provides descriptive data and rates for 2014 injury morbidity and mortality, including variation by age, gender, race, and ethnicity and selected trends since 2000 for hospitalizations and 1999 for deaths. Injury morbidity and mortality data for the report are based on death certificate and hospital discharge data.

The first section describes injury concepts, definitions and statistics to provide a framework for understanding public health injury prevention. The second section details data limitations and technical issues. The third section describes the leading causes of death in Oregon compared to the nation and the years of potential life lost from injuries. The fourth section provides an overview of the burden of injury in Oregon including morbidity, mortality, and cost. The remaining sections provide injury mortality and morbidity for suicides, falls, poisoning, motor vehicle traffic, homicides, and traumatic brain injuries.

### 0.2.1 Definitions and concepts

Injury is damage or harm to the body that results in impairment or destruction of health. Injury results from harmful contact with people, objects, substances or the environment. Examples of injury include broken bones, cuts, brain and organ damage, poisoning, and burns. Injuries are tracked through a process of surveillance that incorporates multiple data sources such as death certificate, hospital discharge, emergency visit data, trauma registries, violent death registries, and prescription drug monitoring systems data. Injury is described by intent, and mechanism and is measured with statistics including crude, age-specific, and standard rates (defined below). Injuries vary by social factors like age, gender, race, and ethnicity. Injury is not static and varies over time with new and emerging trends.

#### 0.2.1.1 Definition of intentional and unintentional injury

Injuries are categorized as either intentional or unintentional. The intent of injury is a useful category for defining target audiences, employing effective interventions, and conducting program planning, and evaluation.

Intentional injuries include all forms of violence, such as suicide, homicide, and assault. There are effective strategies for preventing intentional injuries. Injuries are categorized as intentional even if causing injury was not the primary motivation. For example, if a caregiver is trying to quiet a child and inflicts an injury, the injury is considered intentional.

Unintentional injuries are due to unplanned events such as falls, motor vehicle crashes, falling from a bicycle, drowning, consuming an overdose of medication, or a house fire. Unintentional injuries were historically called “accidents.” Contrary to historical thought and practice, unintentional injuries are predictable and preventable. Unintentional injuries cause the majority of injury-related deaths, hospitalizations, and emergency department visits.

Mechanism of injury refers to the objects, actions, or substances that cause injury such as motor vehicles, firearms, knives, fire, and drugs, or the actions that cause injury such as falls, drowning, overexertion, and sporting activities. Mechanisms cause injury either intentionally or unintentionally.

External causes of injury codes from the International Classification of Diseases (ICD) are used to identify the mechanism of injury causing death (ICD10) and hospitalization (ICD9).



### 0.2.1.2 Common ways of measuring injury

Injuries are measured in standard ways so that year-to-year, and group-to-group (e.g. sex, age, race, etc.) comparisons can be made.

#### **Incidence**

Incidence is the number of people injured or who die from injuries during a period of time, usually a particular one year period. Rates of injury usually measure incidence.

#### **Morbidity**

Morbidity is a term for illness or injury that does not necessarily result in death. Injury morbidity can be measured by hospitalizations, emergency room visits, visits to outpatient clinics, or surveys. Injury hospitalizations are only the “tip of the iceberg” of injury morbidity, since most injuries do not result in hospitalization (or death). Therefore, hospitalizations measure only the most severe outcomes, not total injury morbidity.

#### **Mortality**

Mortality is a term for death.

#### **Crude rate**

A crude rate is calculated by dividing the total number of people with an injury by the total number of people in the population within a given time period—usually a year. A crude rate is an overall average rate of disease.

#### **Age-specific rate**

An age-specific rate is calculated by dividing the total number of people with an injury in a specified age group by the population of people in the specified age group.

#### **Average annual rate**

Sometimes there are so few outcomes (e.g. deaths) in certain age, ethnic, or race groups, that rates are not reliable. In this case, an average rate,

taken over several years by combining the number of events and dividing by the number of years involved, makes a rate more reliable. An average annual rate uses a midpoint population as the denominator (such as the year between a three-year period). Average annual rates are shown in this report where numerators (the number of events) may be too small for some groups (e.g. race or ethnic categories) to present a reliable rate.

### **Age-adjusted rate (or standardized rate)**

The “standardized” or age-adjusted rate is a statistical method to make fair comparisons between two different populations, such as between a state and the nation as a whole. A state with a high percent of elderly people may have a higher rate of death or hospitalization than a state with a younger population, because the elderly are more likely to die or be hospitalized. Adjusting rates by age and the “standard” distribution of age in the population is a statistical method to control for the effect that population characteristics such as age can have on the distribution of outcomes such as death. The Centers for Disease Control and Prevention, National Center for Health Statistics recommends the U.S. 2000 standard population for calculating standardized age-adjusted rates. A “standardized” rate is calculated by multiplying the state age-specific rates by the 2000 standard population distribution or weight.

### 0.2.2 Data limitations and technical issues

The primary sources of data used for this report are mortality data from the Public Health Division’s Health Statistics Unit of the state Vital Records office. Unless otherwise noted, the data source for all mortality data (for text, tables, and graphs) in this report is annual mortality data from Vital Records. Unless otherwise noted, the data source for all hospitalization data (for text, tables, and graphs) in this report is the Oregon Hospital Discharge Database. Each data source used in this report has limitations that warrant caution about interpretation and comparison.

Oregon Hospital Discharge data include all non-federal Oregon acute-care inpatient facilities. Hospitalizations include inpatient visits (overnight hospital stays), but not visits that resulted solely in emergency room visits. Hospitalization data are subset using the first (primary) diagnosis code to determine the injury, although any hospitalization may result in multiple diagnosis codes.

External cause of injury codes (“E-codes”) are used to determine the manner and intent of injuries. Not all hospital discharge visits with injury diagnosis codes included an E-code, although E-codes are required to determine the intent and mechanism causing injury. E-codes were available for 86% of the 2014 Oregon injury-related hospital discharge data. The cause of injury was categorized as unknown when there was no external cause of injury code. The lack of external cause of injury codes likely results in an underestimate of cause-specific injury morbidity counts and rates.

Hospitalization data do not contain personal identifiers that would facilitate identification of multiple admissions, and may include readmissions, transfers, and deaths. Rates are based on counts of hospitalizations or visits and not necessarily unique persons; a person may count more than once in hospitalization estimates.

For hospitalization data, race is not always known, is inconsistently reported, and a sizable proportion of injury hospitalizations report race as “other” or “unknown”. As a result, the injury rates for some race groups may not represent the true burden of injury hospitalization. Race specified as “unknown” or “unspecified” is not shown in this report.

As of October, 2015, the mortality data used in this report do not include

deaths that occurred to Oregon residents while out of state. As a result, the data shown in this report are preliminary, and include only deaths among Oregon residents while residing or present in Oregon.

Race and ethnicity are combined in this report, so that “Hispanic” is a race category. This is so that race and ethnicity can be shown in the same graphs and tables.

### 0.3 Injury: a leading cause of death and years of potential life lost

While cancer and heart disease are the leading causes of death, injury does not rank far behind. Overall, injury was the third-leading cause of death in Oregon in 2014 and every year since 2000. For males, unintentional injury was the third-leading cause of death, while suicide was the 6th (Table 1). For females, unintentional injury was the 6th-leading cause of death (Table 2).

Table 1: Ten leading causes of death for males by rank order, number, and rate (per100,000), Oregon, 2014

Cause of Death	Rank	No.	Rate
Malignant neoplasms	1	4,117	210.4
Diseases of the heart	2	3,522	180.0
Unintentional injury	3	1,063	54.3
Chronic lower respiratory disease	4	970	49.6
Cerebrovascular disease	5	818	41.8
Suicide	6	614	31.4
Diabetes	7	612	31.3
Alcohol-induced	8	536	27.4
Alzheimer's disease	9	449	22.9
Parkinson's disease	10	229	11.7

Table 2: Ten leading causes of death for females by rank order, number, and rate (per 100,000), Oregon, 2014

Cause of Death	Rank	No.	Rate
Malignant neoplasms	1	3,745	186.7
Diseases of the heart	2	3,001	149.6
Cerebrovascular disease	3	1,003	50.0
Chronic lower respiratory disease	4	988	49.2
Alzheimer's disease	5	963	48.0
Unintentional injury	6	733	36.5
Diabetes	7	471	23.5
Hypertension and renal disease	8	286	14.3
Influenza and pneumonia	9	243	12.1
Alcohol-induced	10	224	11.2

Injury was the third-leading of cause of death nationally from 2008 through

2013 (the most recent year of available national data) and was the third or fourth-leading cause of death from 2000 through 2007. Note: data in Tables 1 and 2 include all deaths among Oregon residents in 2014 (both in-state and out of state).

#### **0.3.1 Leading causes of death by age**

Injury was the leading cause of death among Oregonians 1 to 44 years of age in 2014 and each year since 2000. The leading cause of death after age 44 was cancer (malignant neoplasm). Injury was the leading cause of death among all Americans 1 to 44 years of age from 2000 to 2011.

#### **0.3.2 Years of potential life lost from injury**

Years of potential life lost (YPLL) is an estimate of the average number of years a person would have lived if he or she had not died prematurely (before age 75). YPLL is a common alternative measure for estimating the burden of injury in a population. YPLL gives more weight to deaths that occur among younger persons, and so quantifies social and economic loss in one summary measure. The three leading categories of YPLL in Oregon in 2014 were injuries (60,633 years of life lost), cancer (55,761 years of life lost), and heart disease (24,665 years of life lost). These estimates include deaths to Oregon residents that occurred both in Oregon and out of state.

## 0.4 The burden of injury in Oregon: mortality, hospitalizations, and costs

### 0.4.1 Mortality

This section focuses on all injuries combined (all mechanisms and intents combined as one category— “injury”). The number of deaths caused by injuries (all injuries) is shown in Table 3. Crude rates by year are shown in Figure 1. The crude rate of injury mortality has increased since 1999, from 53.6 deaths per 100,000 in 1999 to 64.9 deaths per 100,000 in 2014.

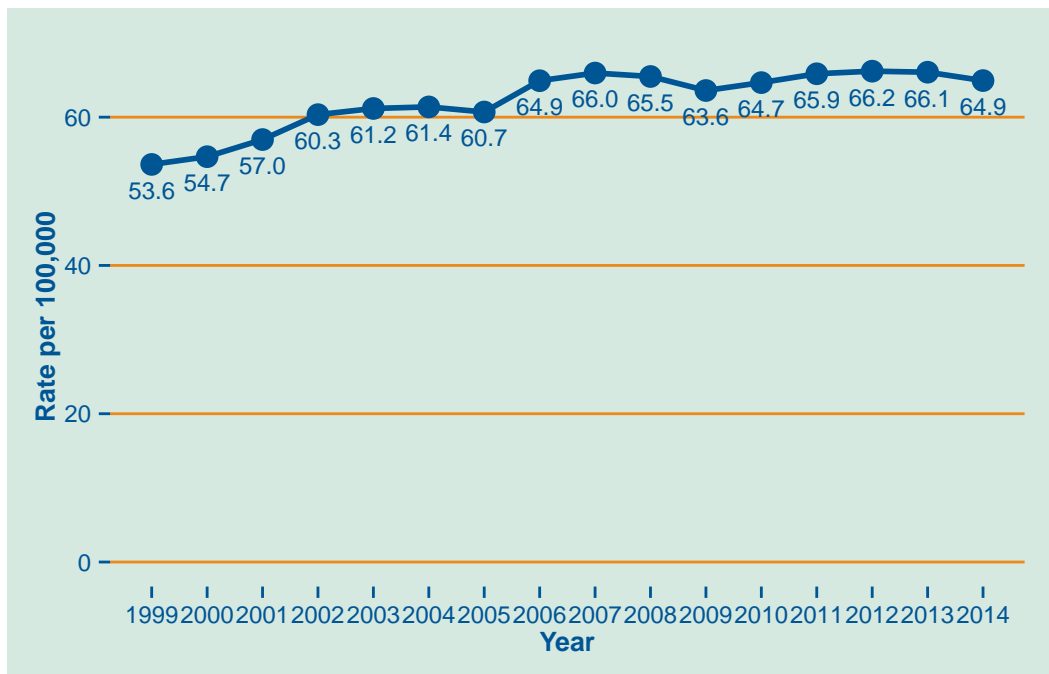


Figure 1: Injury mortality rate by year, Oregon, 1999–2014

As Table 3 shows, the absolute number of injuries increased in Oregon between 1999-2014, from 1,820 in 1999 to 2578 in 2014.

Table 3: The number of injury deaths by year, Oregon, 1999–2014

Year	No.
1999	1,820
2000	1,875
2001	1,976
2002	2,120
2003	2,170
2004	2,191
2005	2,193
2006	2,383
2007	2,455
2008	2,468
2009	2,422
2010	2,481
2011	2,547
2012	2,581
2013	2,595
2014	2,578



#### 0.4.1.1 Injury mortality by age

Injury mortality rates by age are displayed in Figure 2. Injury mortality rates generally increase with age. Figure 2 shows the average annual rate of “all injury” between 2012-2014. The highest rate of injury mortality occurred among persons 85 years of age and older. The lowest rates of injury mortality occurred among children 1 to 14 years of age.

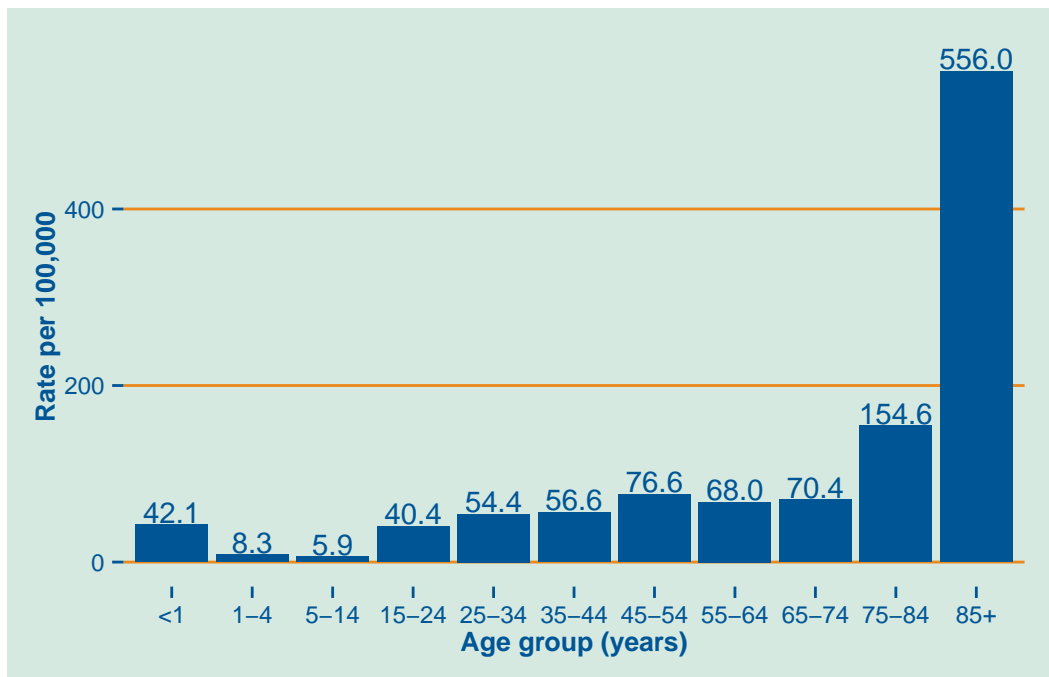


Figure 2: Average annual injury mortality by age, Oregon, 2012–2014

#### 0.4.1.2 Injury mortality by sex

In general, the rate of injury mortality between males and females in Oregon is notably divergent, as can be seen with several causes of injury death. Overall, the injury mortality rate among males is nearly twice that of females. The 2012–2014 average annual injury mortality rate was 84.7 per 100,000 for males and 47.3 per 100,000 for females.

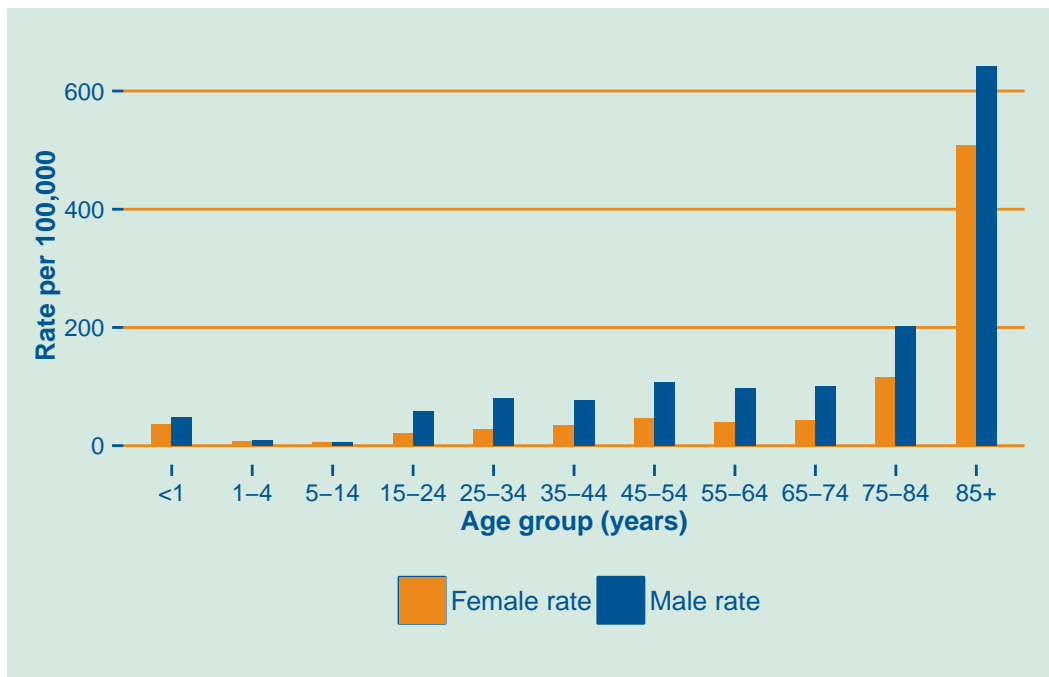


Figure 3: Average annual injury mortality by age and sex, Oregon, 2012–2014

#### 0.4.1.3 Injury mortality by age and sex

Rates of injury mortality vary considerably between age groups by sex. Figure 3 and Table 4 show the 3-year (2012–2014) average annual rates of injury mortality for both males and females, across 11 age groups. For both males and females, injury mortality rates increase considerably by age, with the highest rates of injury mortality in the oldest age groups. Males had the higher rate of injury mortality for all age groups. For some age groups, the male rates were at least twice the rate for females. This is especially true between the ages of 15–74, with the gap between males and females decreasing among the oldest age groups (75 and older).

Table 4: Average annual rate (per 100,000) of injury mortality by age and sex, Oregon, 2012–2014

Age group (years)	Male rate	Female rate
<1	47.6	36.4
1-4	9.2	7.4
5-14	6.7	5.1
15-24	58.5	21.5
25-34	81.0	27.5
35-44	77.3	35.3
45-54	106.9	46.7
55-64	97.8	40.1
65-74	99.8	43.3
75-84	201.7	116.7
85+	642.3	508.8

#### 0.4.1.4 Injury mortality by race

Injury mortality rates can vary substantially by race. Figure 4 shows the overall rates of injury mortality by race, based on a 3-year average annual rate (2012–2014). The highest injury mortality rate by race occurred among American Indians/Alaska Natives. The next highest rate was among white Oregonians. The next highest rates were among Black or African Americans, and Hispanics. Asian/Pacific Islanders had the lowest rate of injury mortality. In general, higher rates of injury mortality occur among Native Americans and Alaska Natives across several injury categories, including motor vehicle traffic-related deaths, poisoning, and traumatic brain injury.

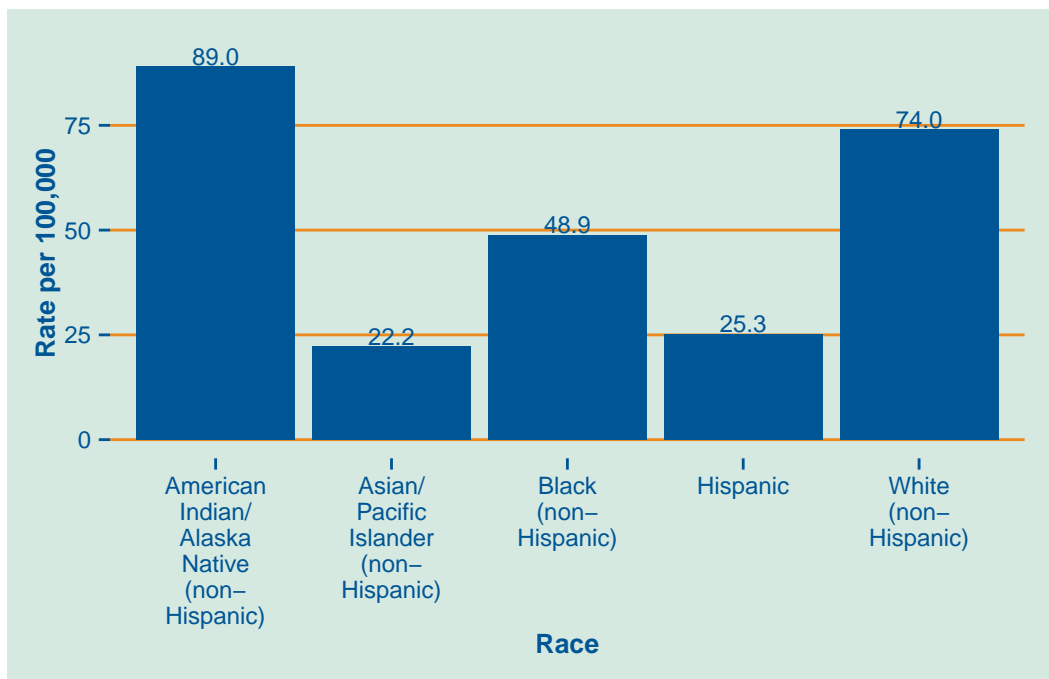


Figure 4: Average annual injury mortality by race, Oregon, 2012–2014

0.4.1.5 Injury mortality by race and sex

Injury mortality rates by race and sex are shown in Figure 5. There is considerable variation in rates between males and females by race. The highest rate of injury mortality was among Native American and Alaska Native males (125.9 per 100,000). The lowest rates of injury mortality were among Asian/Pacific Islander females and Hispanic females (15.7 and 12.6 per 100,000 respectively). Injury mortality rates were higher for males than females across races.

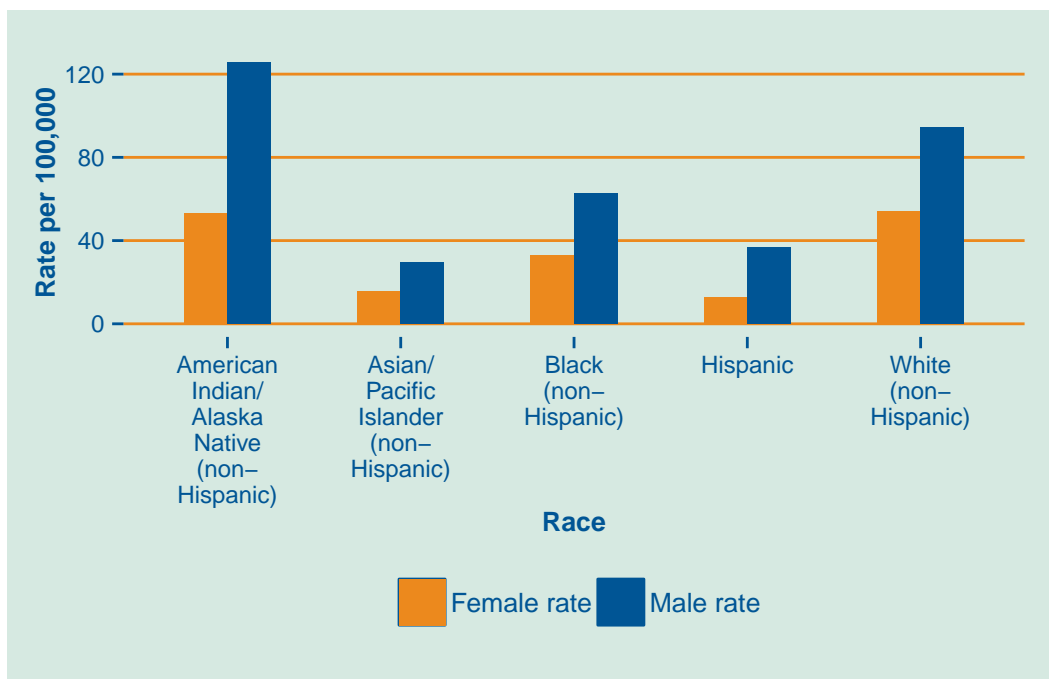


Figure 5: Average annual rate of injury mortality by race and sex, Oregon, 2012–2014

Table 5: Average annual rate (per 100,000) of injury mortality by race and sex, Oregon, 2012–2014

Race	Male rate	Female rate
American Indian/Alaska Native (non-Hispanic)	125.9	53.2
Asian/Pacific Islander (non-Hispanic)	29.7	15.7
Black (non-Hispanic)	62.6	33.1
Hispanic	37.0	12.6
White (non-Hispanic)	94.6	54.1

#### 0.4.1.6 Leading causes of injury-related death in Oregon

The four leading causes of Oregon injury-related death in 2014 were suicide, unintentional falls, unintentional poisoning and motor vehicle traffic (MVT). The four leading causes accounted for 79 percent of all injury-related deaths in 2014. The crude mortality rate of 18.6 per 100,000 for suicide was more than twice the MVT rate.

Table 6: The leading causes of injury deaths in Oregon, 2014

Cause of Death	Number	Crude rate
Suicide	740	18.6
Unintentional Falls	591	14.9
Poisoning	421	10.6
Motor vehicle traffic	325	8.2

**0.4.1.7 The cost associated with injury mortality**

Injuries impose a significant financial burden on families and communities. The cost of injury-related death was estimated using the Centers for Disease Control and Prevention's Web-based Injury Statistics Query and Reporting System (CDC WISQARS). The Cost of Injury module in CDC WISQARS was used to calculate this cost in 2010 dollars, adjusted for inflation. Cost estimates included average medical-related costs and average work loss cost. Estimates include costs regardless of who paid for them. Injury-related deaths in Oregon resulted in an estimated total cost of more than \$2.8 billion in 2014.

### 0.4.2 Injury hospitalization

Crude injury hospitalization rates are based on Oregon hospital discharge data from 2000–2014 and are shown in Figure 6. There were 18,331 Oregon hospitalizations for injuries in 2014. The hospitalization rate ranged from a high of 566.1 per 100,000 in 2002 to a low of 461.7 per 100,000 in 2014. The data suggest a trend toward decreasing injury hospitalizations since 2007, and an overall net decrease since 2000.

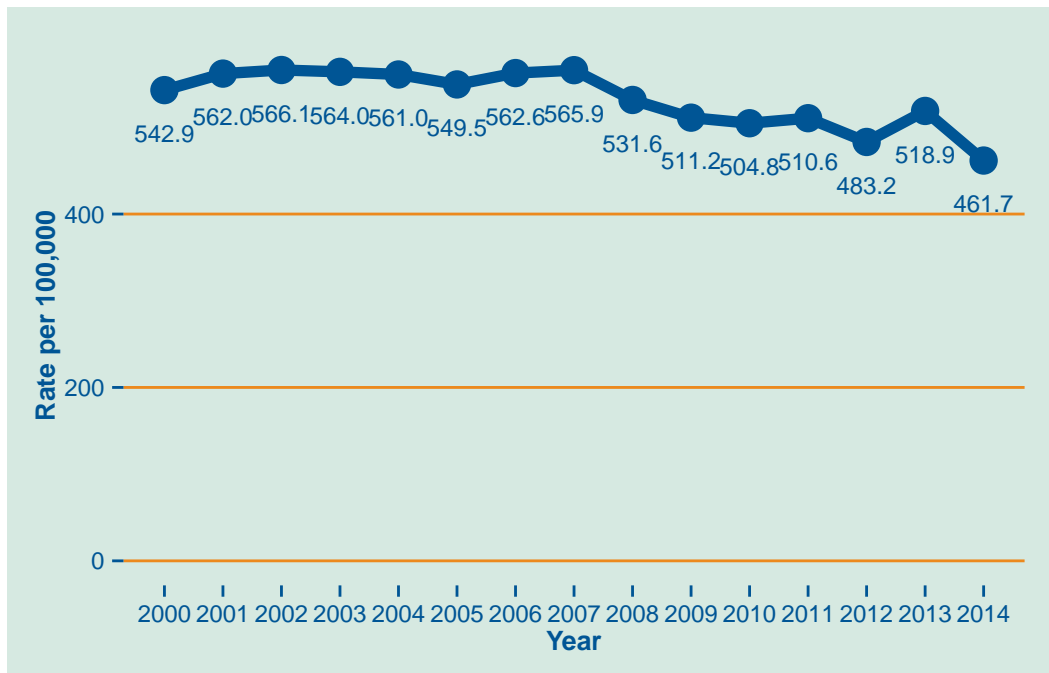


Figure 6: Injury hospitalization rate by year, Oregon, 2000–2014



Table 7: The number of injury hospitalizations by year, Oregon, 2012–2014

Year	No.
2000	18,621
2001	19,489
2002	19,891
2003	20,008
2004	20,024
2005	19,854
2006	20,652
2007	21,067
2008	20,034
2009	19,469
2010	19,368
2011	19,747
2012	18,837
2013	20,384
2014	18,331

### 0.4.2.1 Injury hospitalizations by age

Oregon injury hospitalization rates varied by age between 2012–2014. Rates generally increased with age, with the highest rate among persons 85 years of age and older (3,794.3 per 100,000). Rates doubled at ages 75–84 and more than doubled again at age 85 years and older. The high rate of hospitalization among older persons is largely the result of high rates of hospitalization for fall injuries, which is the leading cause of injury among people ages 85 years and older. Children four years old or younger had higher rates than children 5 to 14 years old.

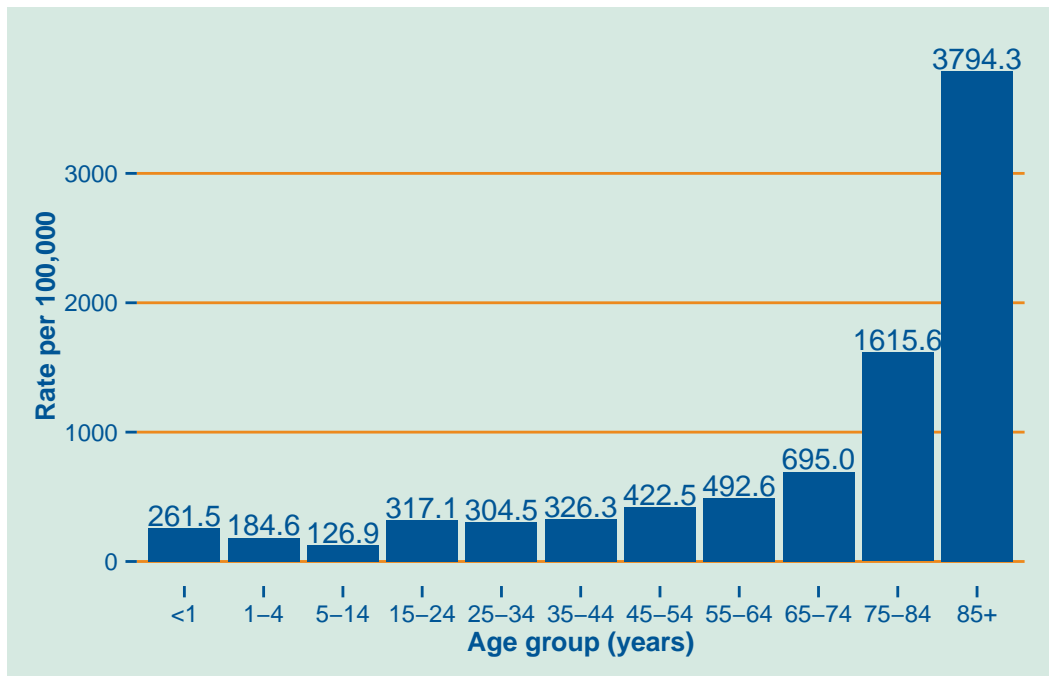


Figure 7: Average annual rate of injury hospitalizations by age, Oregon, 2012–2014

### 0.4.2.2 Injury hospitalizations by sex

Oregon injury hospitalization rates varied by sex between 2012–2014. The 2012–2014 average annual female rate of 512.7 per 100,000 was higher than the male rate 463.5 per 100,000.

### 0.4.2.3 Hospitalizations by age and sex

Oregon injury hospitalization rates varied by age and sex between 2012–2014. Male injury rates were higher than females from birth through age 64 years. Female injury rates were higher than males for those 65 years of age and older. Figure 8 shows the distribution by age and Table 8 shows the corresponding rates.



Figure 8: Injury hospitalizations by age and sex, Oregon, 2012–2014

Table 8: Average annual rate (per 100,000) of injury hospitalization by age and sex, Oregon, 2012–2014

Age group (years)	Male rate	Female rate
<1	309.8	210.6
1-4	207.8	160.3
5-14	142.7	110.4
15-24	378.5	253.5
25-34	382.2	225.7
35-44	365.5	286.0
45-54	472.4	373.5
55-64	513.2	473.2
65-74	627.9	757.0
75-84	1,252.9	1,907.3
85+	2,934.8	4,265.3

#### 0.4.2.4 Injury hospitalizations by race

Injury hospitalization rates, like mortality rates, can vary substantially by race. Figure 9 shows the overall rates of injury hospitalization by race, based on a 3-year average annual rate (2012–2014). The highest injury hospitalization rate by race occurred among American Indians/Alaska Natives (653.8 per 100,000). The next highest rate was among white Oregonians (500.3 per 100,000). The next highest rates were among Black or African Americans, and Hispanics. Asian/Pacific Islanders had the lowest rate of injury hospitalization (160.7 per 100,000). In general, injury hospitalization rates by race largely reflect the patterns seen in mortality rates. Higher rates of injury hospitalization occur among Native Americans and Alaska Natives across several injury categories, including motor vehicle traffic-related hospitalization, falls, and traumatic brain injury.

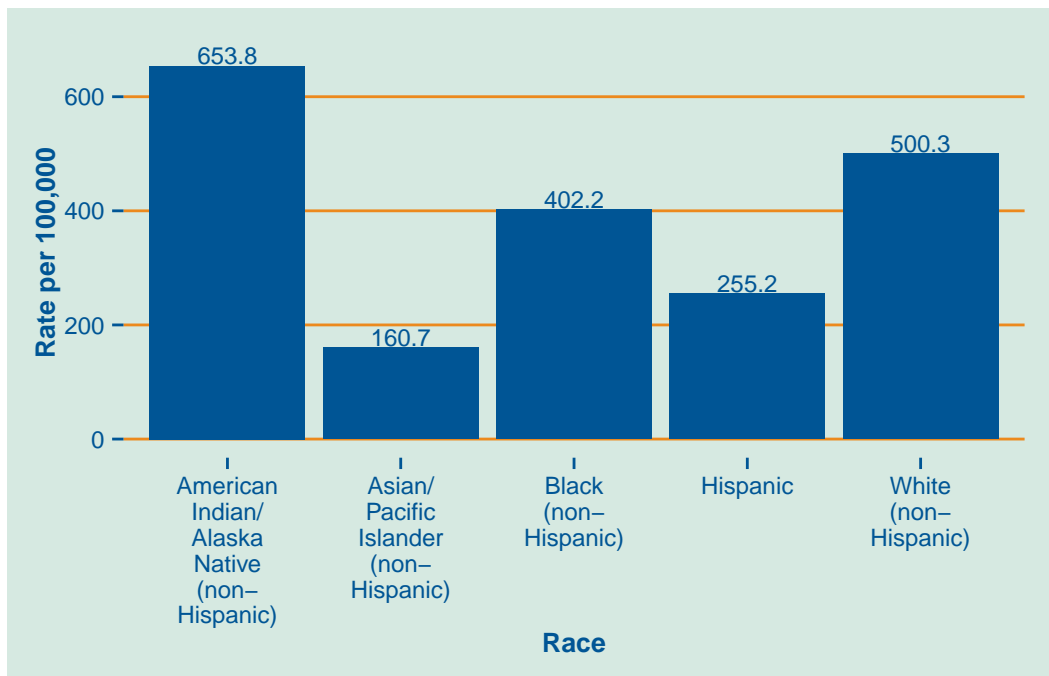


Figure 9: Average annual injury hospitalization rate by race, Oregon, 2012–2014

0.4.2.5 Injury hospitalizations by sex and race

Injury hospitalization rates by race and sex are shown in Figure 10. There is considerable variation in rates between males and females by race. The highest rate of injury hospitalization was among Native American and Alaska Native females (751.3 per 100,000). The lowest rates of injury hospitalization were among Asian/Pacific Islander females and Hispanic females. Injury hospitalization rates were higher for males than females across races, with the exception of Blacks/African Americans, where males had the higher rate.

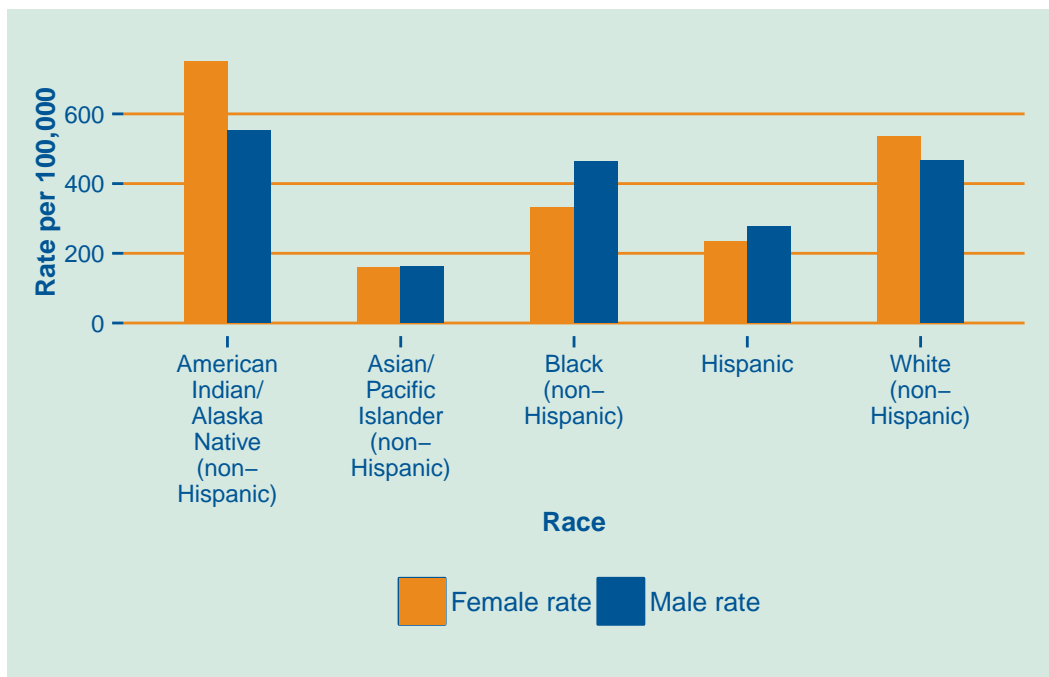


Figure 10: Average annual injury hospitalization rates by race and sex, Oregon, 2012–2014

Table 9: Average annual rate (per 100,000) of injury hospitalization by race and sex, Oregon, 2012–2014

Race	Male rate	Female rate
American Indian/Alaska Native (non-Hispanic)	553.3	751.3
Asian/Pacific Islander (non-Hispanic)	162.8	159
Black (non-Hispanic)	463.2	332.1
Hispanic	275.8	232.9
White (non-Hispanic)	464.9	534.4

#### 0.4.2.6 Leading causes of injury hospitalization in Oregon

Like mortality, the four leading causes of Oregon injury-related hospitalizations in 2014 were suicide, unintentional falls, unintentional poisoning and motor vehicle traffic (MVT). Unlike mortality, the leading cause of injury hospitalization was falls, not suicide attempts. The four leading causes accounted for 80 percent of the total injury-related hospitalizations in 2014. The crude rate of 220.5 per 100,000 for falls was more than four times the suicide attempt hospitalization rate.

Table 10: The leading causes of injury hospitalization in Oregon, 2014

Cause of death	Number	Crude rate (per 100,000)
UnintentionalfFalls	8737	220.1
Suicide attempt	2187	55.1
Motor vehicle traffic	1709	43
Poisoning	1499	37.8

#### 0.4.2.7 The cost associated with injury hospitalization

Injuries impose a significant financial burden on families and communities. Medical treatment and costs may persist for years or even decades after the initial injury. Injuries result in both temporary and permanent disability. Injury victims may lose their ability to work or face work restrictions. Reduced or restricted ability to work due to injury can result in lost wages and fringe benefits. In addition, injury-related disability can impair activities of daily living and household responsibilities.

The cost of injury-related hospitalization was estimated from the WISQARS Cost of Injury module in 2010 dollars, adjusted for inflation. Costs were not estimated for injuries treated only in clinics or outpatient departments because WISQARS does not include data for injuries treated in these settings. Estimates include costs regardless of who paid for them. Injury-related hospitalization resulted in an estimated total medical cost of more than \$600 million in Oregon in 2014. Unintentional injuries accounted for 90 percent of the total cost.





## 0.5 Suicide mortality and hospitalization

Suicide is among the leading causes of Oregon deaths. Death by suicide is the result of an intentional violent act of self-harm. In 2014 in Oregon, there were 740 suicide deaths and 2,187 hospitalizations for suicide attempt.

### **Between 2012–2014:**

- Oregonians over the age of 74 years had the highest rates of suicide.
- Males were more than three times as likely to die by suicide than females.
- White males had the highest rate of suicide.
- Hospitalization for self-harm or suicide attempts is lower among older age groups.
- Rates of hospitalization for self-harm and suicide attempts were higher for men from birth through age 64 years.
- American Indians and Alaska Natives had the highest hospitalization rates by sex.

### 0.5.1 Suicide mortality

The number of suicides by year in Oregon is shown in Table 11 and Oregon suicide rates are shown in Figure 11. There were 740 deaths by suicide in Oregon in 2014. The crude rate of suicide has increased steadily since 1999.

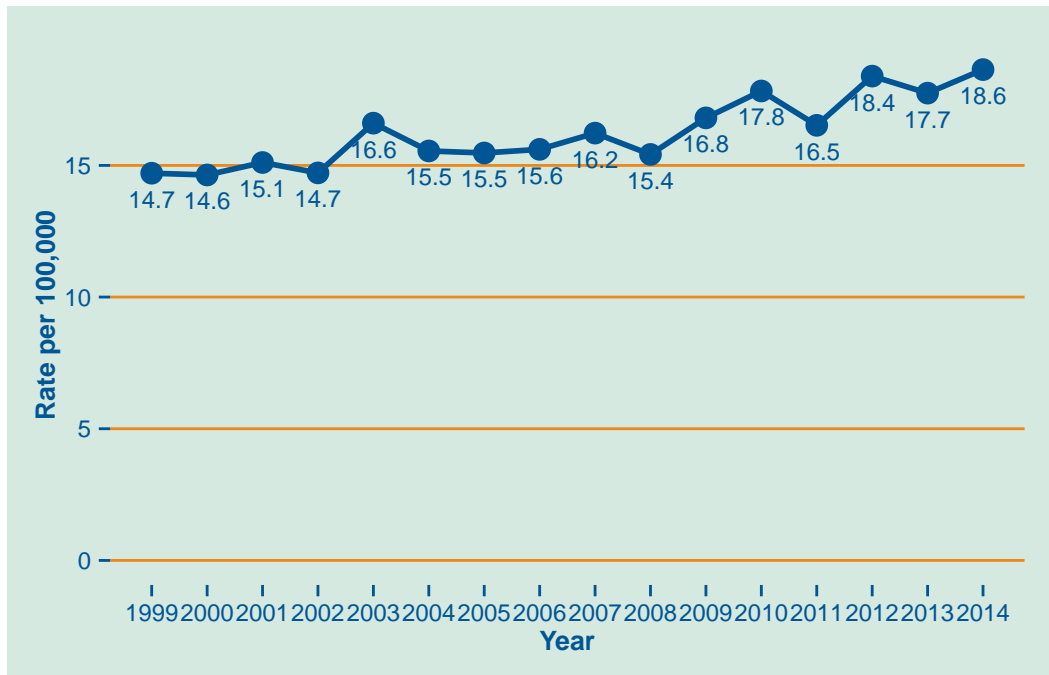


Figure 11: Suicide mortality rate by year, Oregon, 1999–2014

As Table 11 shows, the absolute number of suicides has increased from 499 in 1999 to 740 in 2014.

Table 11: The number of suicides by year, Oregon, 1999–2014

Year	No.
1999	499
2000	502
2001	524
2002	517
2003	589
2004	555
2005	559
2006	573
2007	604
2008	581
2009	640
2010	684
2011	639
2012	717
2013	697
2014	740

### 0.5.1.1 Suicide mortality by age

Oregon suicide rates varied by age between 2012–2014. Suicide mortality rates increased from birth through age 54 years. They declined among those 55–74 years of age, then increased for those 75 years and older. The highest suicide mortality rate was for people 85 years of age and older.

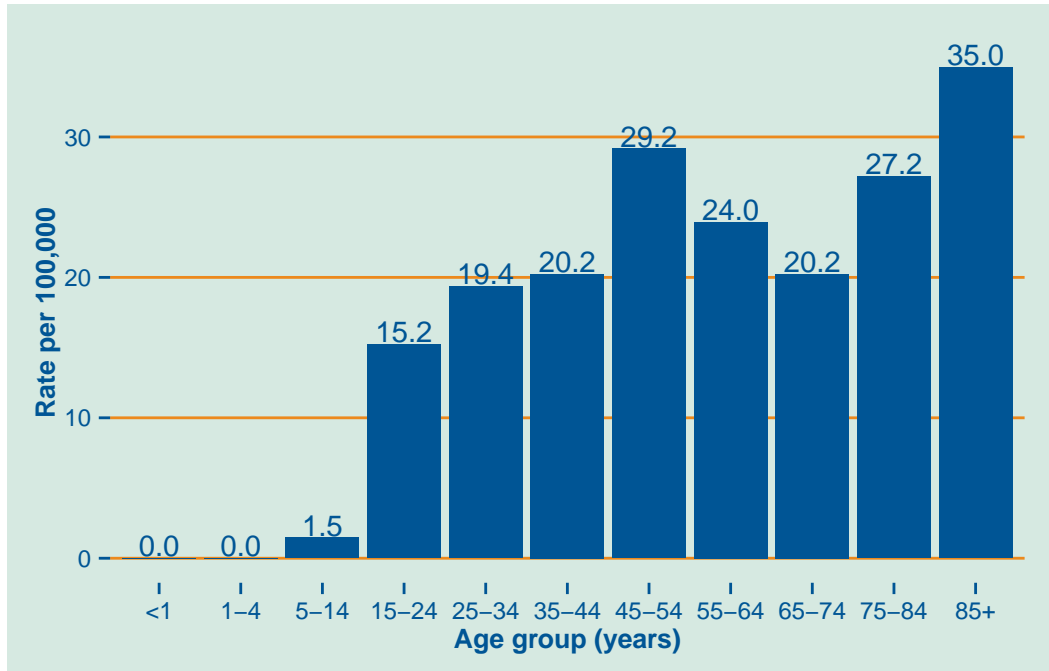


Figure 12: Average annual rate of suicide mortality by age, Oregon, 2012–2014

### 0.5.1.2 Suicide mortality by sex

Oregon suicide rates between 2012–2014 varied by sex. The male 2012–2014 average annual suicide mortality rate of 28.6 per 100,000 was more than three times greater than the female rate of 8.2 per 100,000.

0.5.1.3 Suicide mortality by age and sex

Male suicide rates were higher than female rates across age groups. The rate of male suicide mortality increased from birth through age 54 years. The rate declined among those aged 55 to 74 years, then increased for those 75 years and older. Males 85 years or older had the highest suicide mortality rate, which was 14 times greater than females 85 years or older. The rate of suicide among females followed a different pattern than males — the suicide rate for females increased with age 45 to 54 years and then declined with age through age 85 years or older.

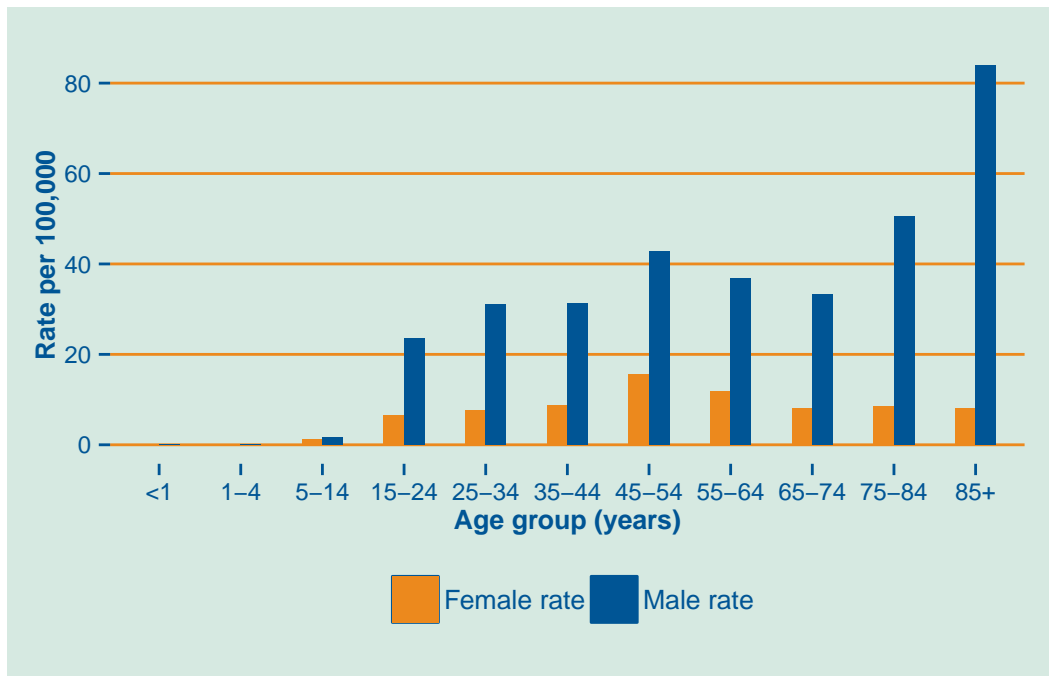


Figure 13: Average annual rate of suicide mortality by age and sex, Oregon, 2012–2014

Table 12: Average annual rate (per 100,000) of suicide mortality by age and sex, Oregon

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Age group (years)	Male rate	Female rate
<1	0.0	0.0
1-4	0.0	0.0
5-14	1.6	1.3
15-24	23.6	6.5
25-34	31.0	7.5
35-44	31.3	8.8
45-54	42.9	15.7
55-64	36.8	11.9
65-74	33.3	8.2
75-84	50.5	8.4
85+	84.0	8.1

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**0.5.1.4 Suicide mortality by race**

Oregon suicide rates varied by race between 2012–2014. White Oregonians had the highest suicide rate of 20.9 per 100,000, followed by American Indians and Alaska Native, and Asians and Pacific Islanders. Hispanics had the lowest rate at 6.1 per 100,000.

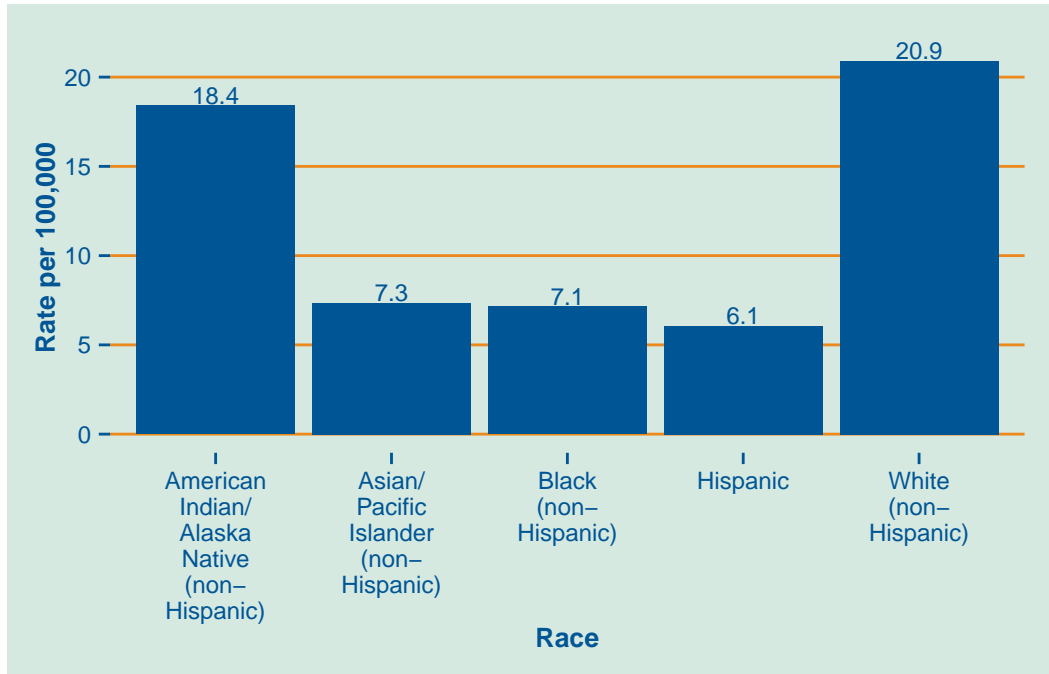


Figure 14: Average annual rate of suicide mortality by race, Oregon, 2012–2014

0.5.1.5 Suicide mortality by sex and race

Male suicide rates were higher for all race groups. White males had the highest suicide rate and female Asian and Pacific Islander had the lowest rate.

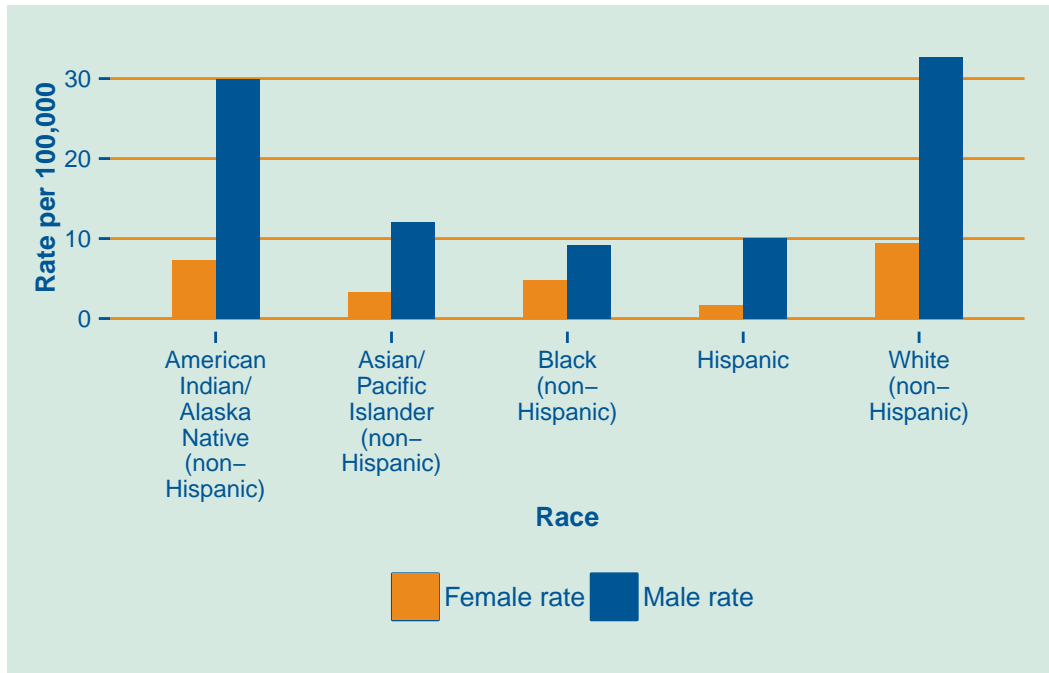


Figure 15: Average annual rate of suicide mortality by race and sex, Oregon, 2012–2014

Table 13: Average annual rate (per 100,000) of suicide mortality by race and sex, Oregon, 2012–2014

Race	Male rate	Female rate
American Indian/Alaska Native (non-Hispanic)	29.9	7.3
Asian/Pacific Islander (non-Hispanic)	12.0	3.3
Black (non-Hispanic)	9.1	4.8
Hispanic	10.1	1.7
White (non-Hispanic)	32.7	9.5



#### 0.5.1.6 Suicide by mechanism

The most frequent suicide mechanism in 2014 was a firearm, followed by suffocation, poisoning, falls, drowning and all others. Firearms were used in more than half of all suicides. Firearms were used more than twice as often as the frequency of the second-leading suicide mechanism.

Table 14: The leading causes of suicide by mechanism, Oregon, 2014

Manner of suicide	Number of suicides	Percent of suicides
Firearms	409	55.3%
Suffocation	171	23.1%
Poisoning	113	15.3%
Fall	16	2.1%
Drowning	7	1%
All other	24	3.2%

### 0.5.2 Suicide attempt hospitalization

The number of hospitalizations for self-harm or suicide attempts is shown in Table 15. Crude rates of self-harm or suicide attempts that resulted in hospitalization from 2000–2014 are shown in Figure 16. Hospitalization rates varied from a low of 45.0 per 100,000 in 2000 to a high of 57.2 in 2008. There were 2,187 hospitalizations for self-harm or suicide attempt injuries in 2014.

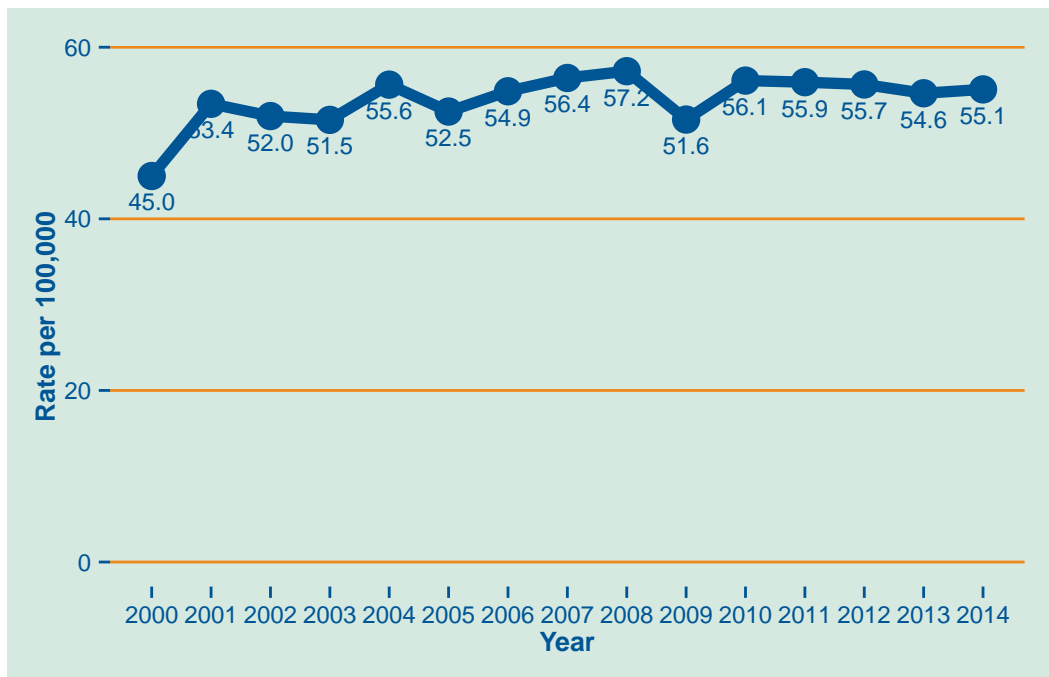


Figure 16: Suicide attempt hospitalizations, Oregon, 2000–2014

Table 15 shows the absolute number of suicide attempt hospitalizations increased in Oregon during the same time period.

Table 15: The number of suicide attempt hospitalizations by year, 2000–2014, Oregon

Year	No.
2000	1,543
2001	1,852
2002	1,826
2003	1,828
2004	1,986
2005	1,897
2006	2,014
2007	2,100
2008	2,156
2009	1,964
2010	2,153
2011	2,163
2012	2,170
2013	2,146
2014	2,187

### 0.5.2.1 Suicide hospitalizations by age

Self-harm and suicide attempt hospitalization rates varied by age between 2012–2014. The highest rate was for people 15 to 24 years old followed by a decline at age 25 and a second peak at age 35–44 before steadily declining with age through age 85 years and older. In contrast with suicide mortality rates, hospitalization rates for self-harm or suicide attempts declined with age.

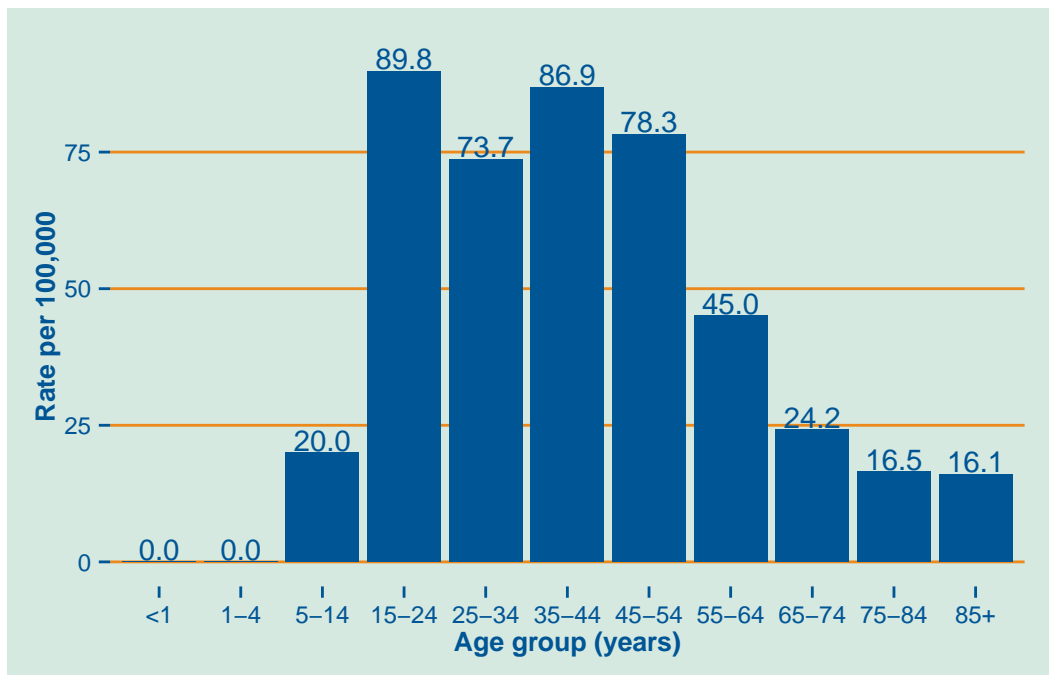


Figure 17: Average annual rate of suicide attempt hospitalizations by age, Oregon, 2012–2014

### 0.5.2.2 Suicide hospitalizations by sex

Oregon self-harm and suicide attempt hospitalization rates varied by sex between 2012–2014. The 2012–2014 average annual female rate of 68.7 per 100,000 was higher than the male rate of 41.4 per 100,000. In contrast to suicide mortality rates, females had higher rates of hospitalization for self-harm.

### 0.5.2.3 Suicide hospitalizations by age and sex

Oregon self-harm and suicide attempt hospitalization rates varied by age and sex between 2012–2014. Female rates were higher than male rates for all age groups except for those aged 85 years and older. The highest rate is among females 15–24.

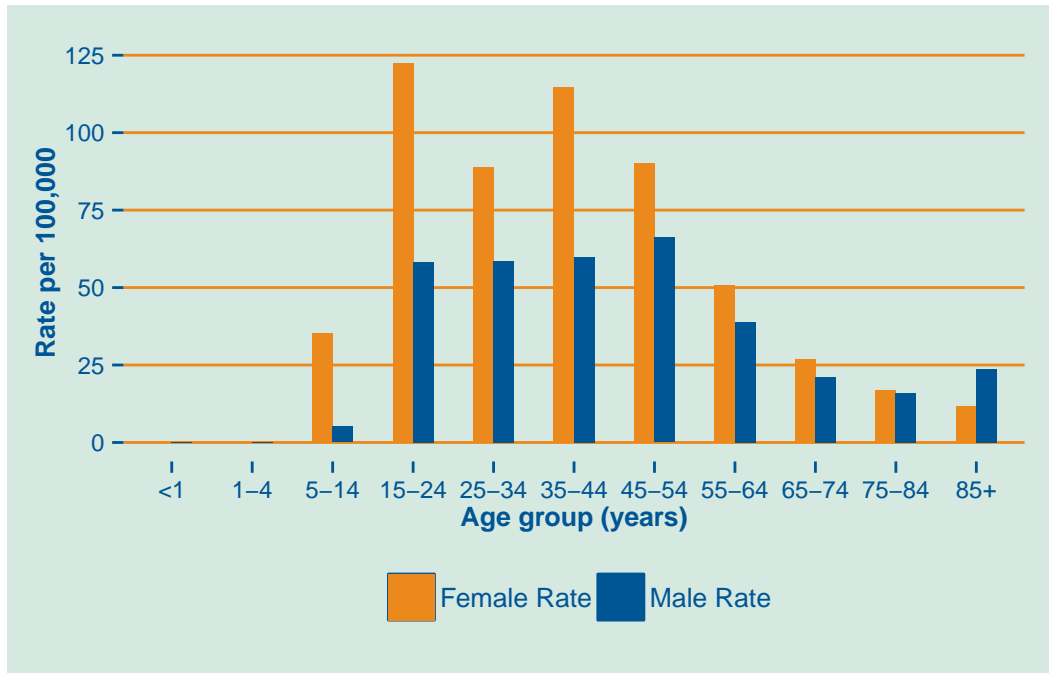


Figure 18: Average annual rates of suicide attempt hospitalization by age and sex, Oregon, 2012–2014

Table 16: Average annual rates (per 100,000) of suicide attempt hospitalization by age and sex, Oregon, 2012–2014

Age group (years)	Male rate	Female rate
<1	0.0	0.0
1-4	0.0	0.0
5-14	5.2	35.5
15-24	58.3	122.6
25-34	58.6	89.1
35-44	59.9	114.7
45-54	66.2	90.3
55-64	39.0	50.7
65-74	21.3	26.9
75-84	16.1	16.8
85+	23.8	11.8

The highest rate of suicide attempt hospitalization by age occurs among females 15–24, followed by females 35–44.

#### 0.5.2.4 Suicide hospitalizations by race

American Indians and Alaska Natives had the highest rate of suicide-attempt hospitalization, followed by Black or African Americans, and Whites.

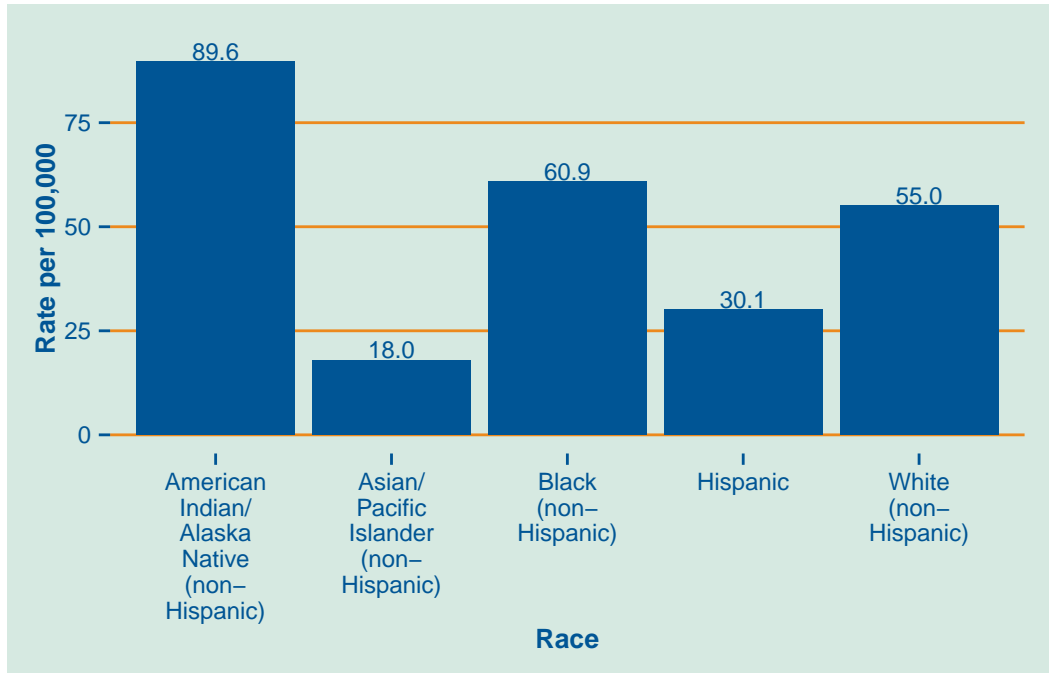


Figure 19: Average annual rate of suicide attempt hospitalization by race, Oregon, 2012–2014

0.5.2.5 Suicide hospitalizations by sex and race

American Indian and Alaska Native females had the highest suicide attempt hospitalization rates in 2014, followed by white females and Black or African-American females. Among males, Black or African American males had the highest rate of suicide attempt hospitalization.

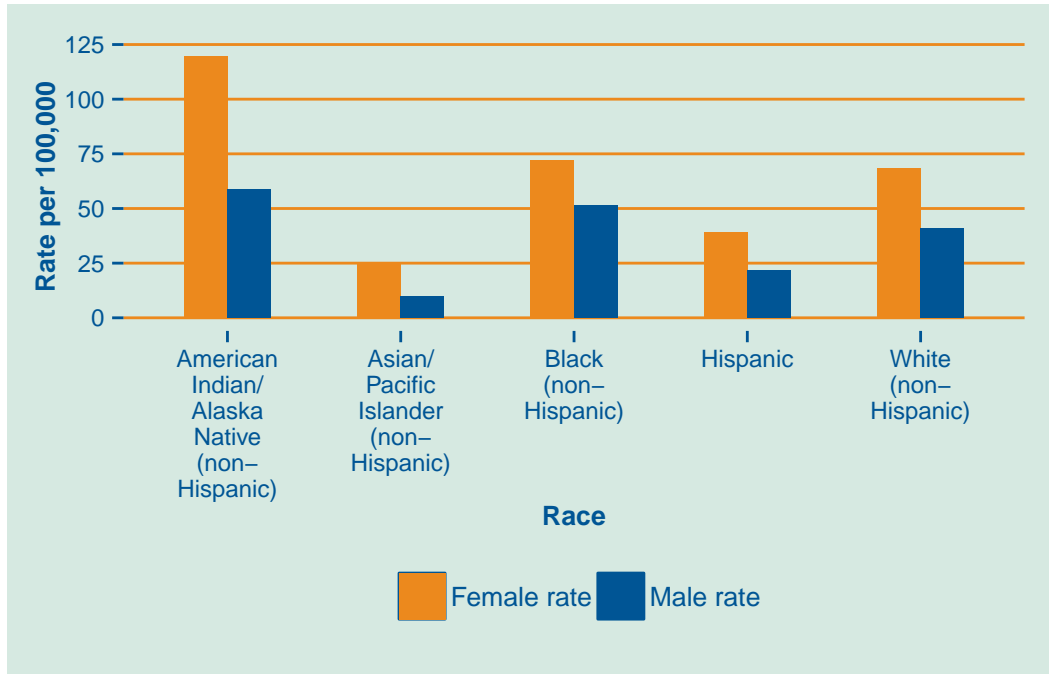


Figure 20: Average annual rate of suicide attempt hospitalization by race and sex, Oregon, 2012–2014

Table 17: Average annual rate (per 100,000) of suicide attempt hospitalization by race and sex, Oregon, 2012–2014

Race	Male rate	Female rate
American Indian/Alaska Native (non-Hispanic)	58.6	119.8
Asian/Pacific Islander (non-Hispanic)	9.8	25.2
Black (non-Hispanic)	51.3	71.9
Hispanic	21.9	39.0
White (non-Hispanic)	41.1	68.4





## 0.6 Unintentional falls mortality and hospitalization

An unintentional fall occurs when a person descends abruptly and strikes a surface at the same or lower level. Falls may cause an injury or death. Falls are among the leading causes of injury deaths and hospitalizations in Oregon and the U.S. Most fall deaths and hospitalizations occur among older adults.

### **Summary information:**

- Unintentional falls caused 591 deaths and 8,737 hospitalizations in 2014.
- Unintentional falls mortality rates increased steadily in Oregon between 2000 and 2014.
- Hospitalization for unintentional falls increased with age between 2012–2014.
- Between 2012–2014, males were hospitalized for unintentional falls more than females from birth through age 54 years.

### 0.6.1 Unintentional falls mortality

The number of deaths caused by unintentional falls by year is shown in Table 18 and crude rates by year are shown in Figure 21. There were 591 Oregon deaths caused by falls in 2014.

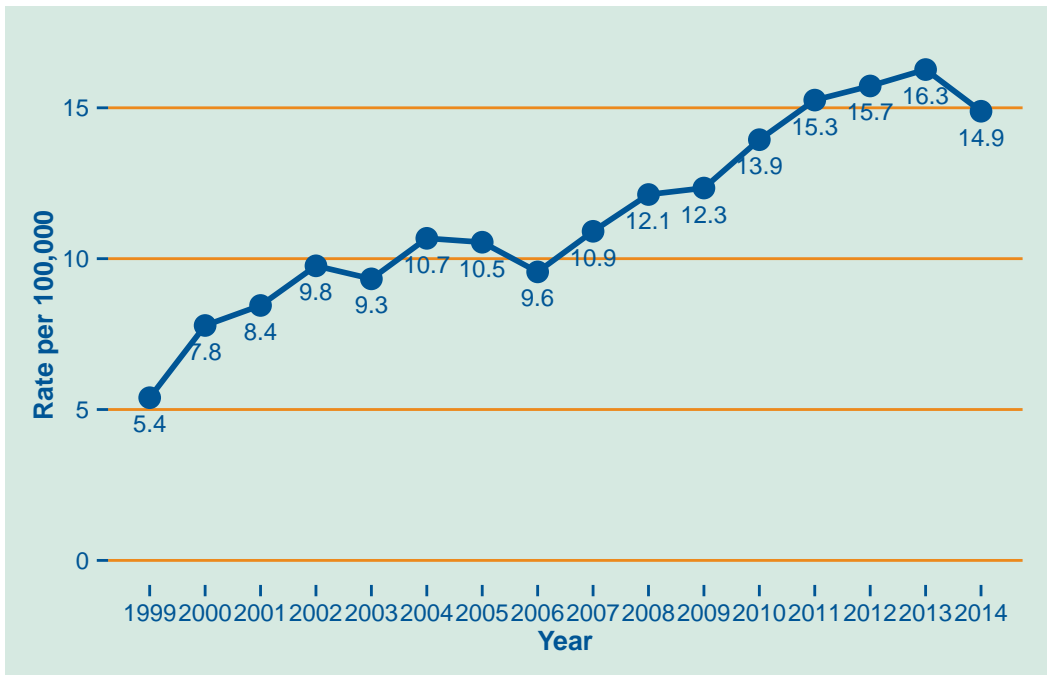


Figure 21: Rate of unintentional fall mortality by year, Oregon, 1999–2014

As Table 18 shows, the absolute number of fall deaths increased by a factor of 3 since 1999.

Table 18: The number of unintentional fall deaths by year, 1999–2014, Oregon

Year	No.
1999	183
2000	267
2001	293
2002	343
2003	331
2004	381
2005	381
2006	351
2007	406
2008	457
2009	470
2010	535
2011	590
2012	613
2013	639
2014	591

### 0.6.1.1 Unintentional falls mortality by age

Oregon fall mortality rates varied by age between 2012–2014. Fall mortality rates increased with age for those aged 35 years and older. Compared to the next youngest age group, the fall mortality rate doubled for those aged 55–64 years, quadrupled for the 75–84 year age group, and quintupled for those aged 85 years and older.

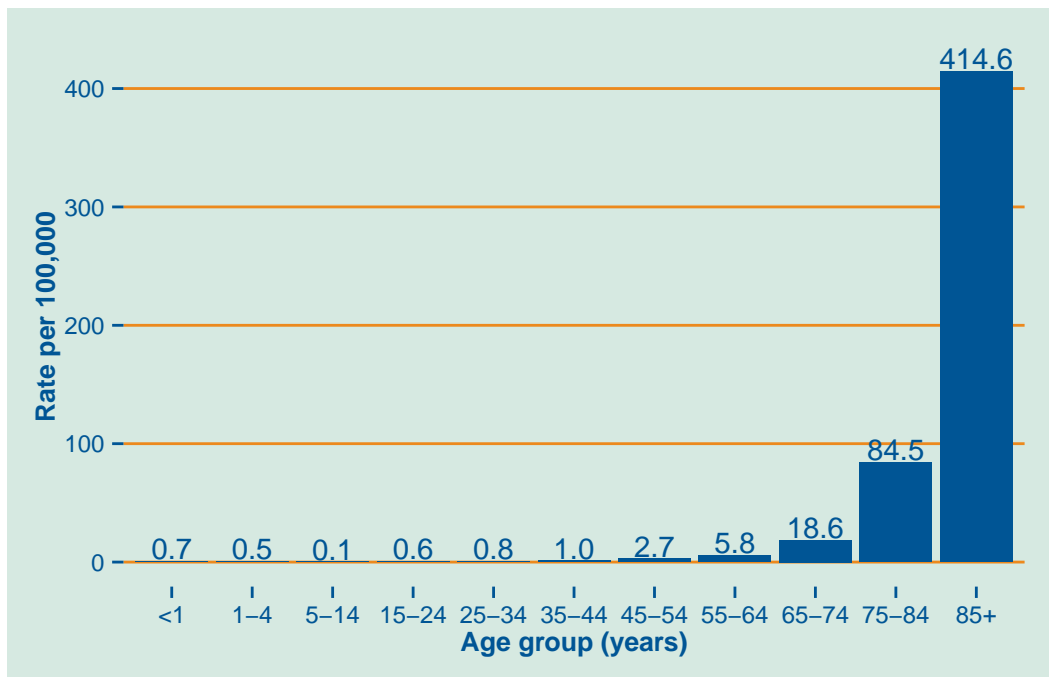


Figure 22: Average annual rate of unintentional fall mortality by age, Oregon, 2012–2014

### 0.6.1.2 Unintentional falls mortality by sex

Oregon fall mortality rates varied by sex between 2012–2014. The overall female fall mortality rate (average annual) of 17.1 per 100,000 was higher than the male 2012–2014 average annual rate of 14.1 per 100,000.

### 0.6.1.3 Unintentional falls mortality by age and sex

Oregon fall mortality rates varied by age and sex between 2012–2014. Figure 23 shows the distribution of fall deaths by age, table 19 shows the age-specific rates. Fall mortality rates were higher for males than females across the age groups. Fall mortality rates increased with age for both sexes among those aged 35 years and older.

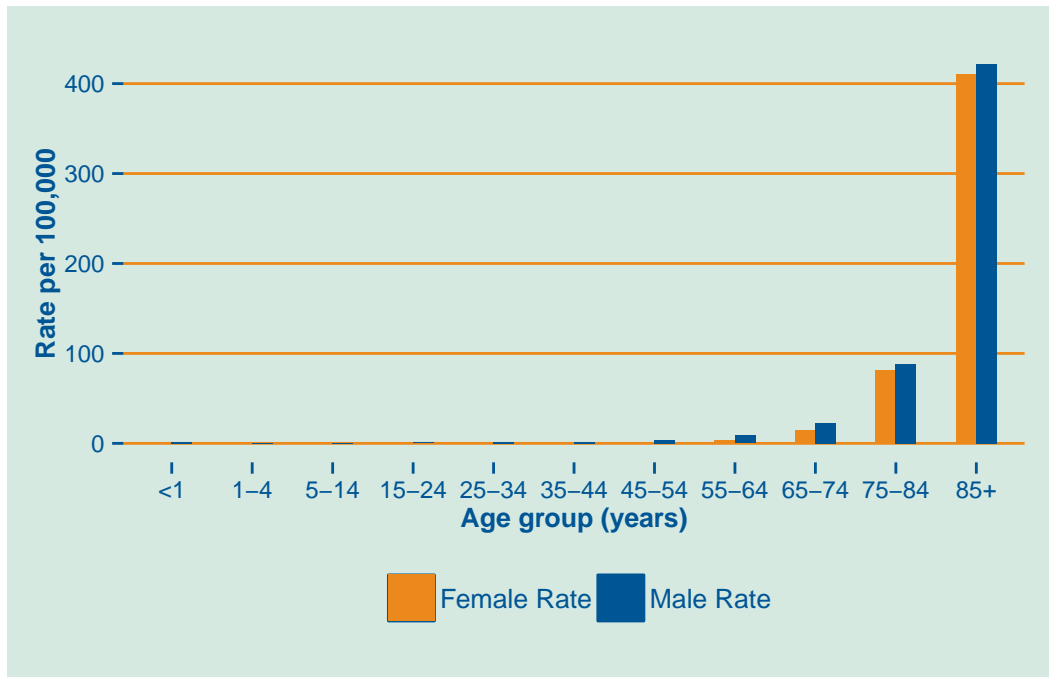


Figure 23: Average annual rate of unintentional fall mortality by age and sex, Oregon, 2012–2014

Table 19: Average annual rate (per 100,000) of unintentional fall hospitalization by age and sex, Oregon, 2012–2014

Age group (years)	Male rate	Female rate
<1	1.4	0.0
1-4	0.7	0.4
5-14	0.1	0.1
15-24	1.0	0.1
25-34	1.4	0.3
35-44	1.8	0.3
45-54	3.8	1.7
55-64	8.6	3.1
65-74	22.6	14.9
75-84	88.0	81.6
85+	422.2	410.5

**0.6.1.4 Unintentional falls mortality by race**

Oregon fall mortality rates varied by race between 2012–2014. White Oregonians had the highest fall mortality rate of 18.6 per 100,000, followed by American Indians and Alaska Native, Asians and Pacific Islanders, and Black or African Americans.

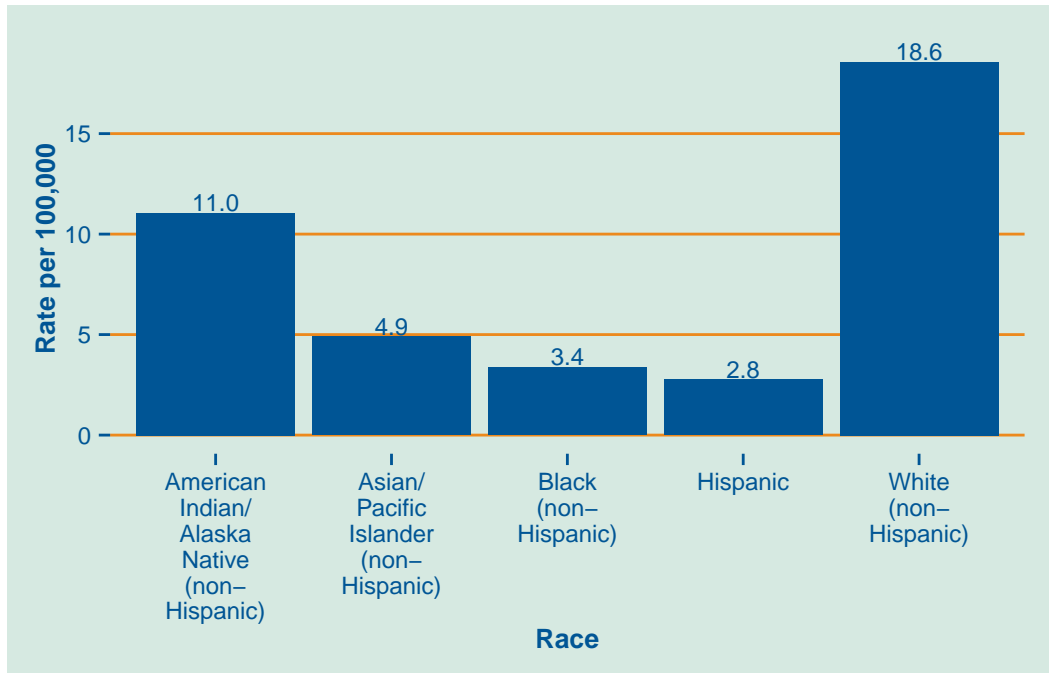


Figure 24: Average annual rate of unintentional fall mortality by race, Oregon, 2012–2014



0.6.1.5 Unintentional falls mortality by sex and race

White females had the highest fall mortality rate, followed by White males.

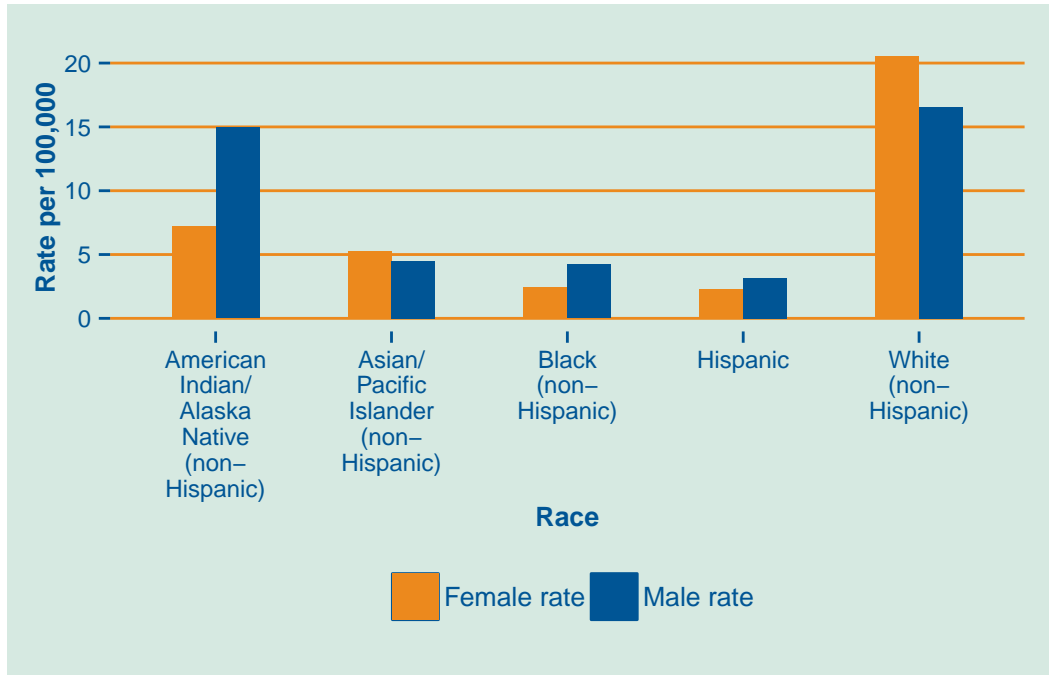


Figure 25: Average annual unintentional fall mortality by race and sex, Oregon, 2012–2014

Table 20: Average annual rate (per 100,000) of unintentional fall mortality by race and sex, Oregon, 2012–2014

Race	Male rate	Female rate
American Indian/Alaska Native (non-Hispanic)	15.0	7.3
Asian/Pacific Islander (non-Hispanic)	4.5	5.2
Black (non-Hispanic)	4.2	2.4
Hispanic	3.2	2.3
White (non-Hispanic)	16.5	20.5

### 0.6.2 Unintentional fall hospitalizations

Figure 26 shows the rate of fall hospitalization by year. The number of Oregon hospitalizations due to unintentional falls by year is shown in Table 21. There were 8,737 hospitalizations for falls in 2014. Hospitalization rates varied from a low of 216.9 per 100,000 in 2012 to a high of 235 in 2006 and 2011.

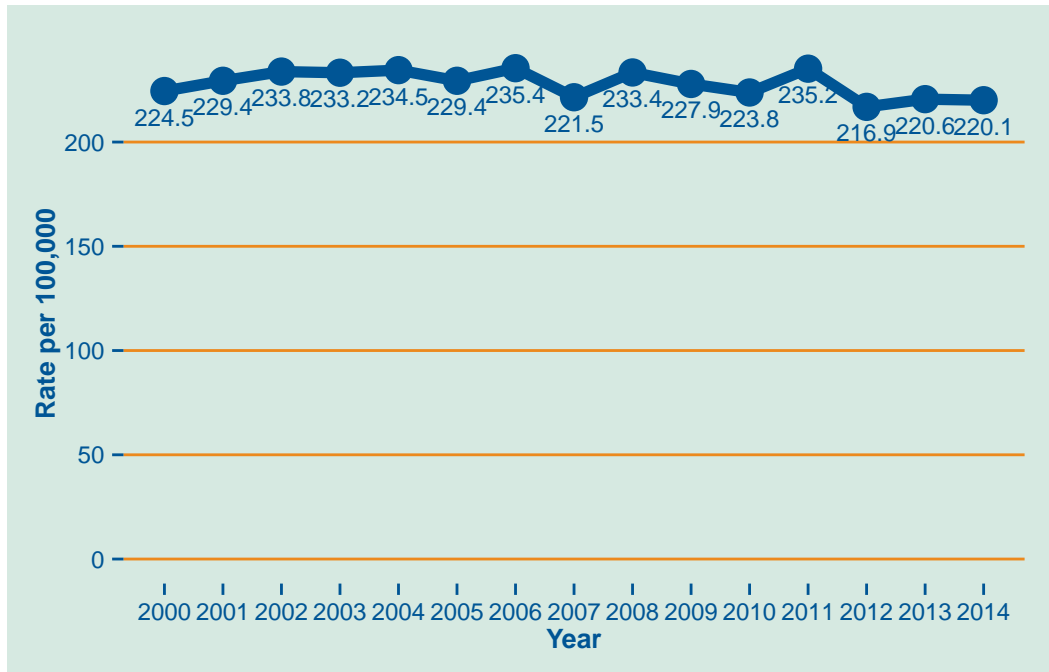


Figure 26: Unintentional fall hospitalization rate, Oregon, 2000–2014

As Table 21 shows, the absolute number of fall hospitalizations increased in Oregon between 2000 and 2014, although the data suggest a peak in 2011.

Table 21: The number of unintentional fall hospitalizations by year, 2000–2014, Oregon

Year	No.
2000	7,698
2001	7,955
2002	8,214
2003	8,274
2004	8,370
2005	8,288
2006	8,642
2007	8,245
2008	8,795
2009	8,678
2010	8,586
2011	9,096
2012	8,455
2013	8,664
2014	8,737

### 0.6.2.1 Unintentional fall hospitalizations by age

Oregon fall hospitalization rates increased with age among those aged 15 years and older between 2012–2014. The rate for people 85 and older was more than double the rate of 75 to 84 year olds.

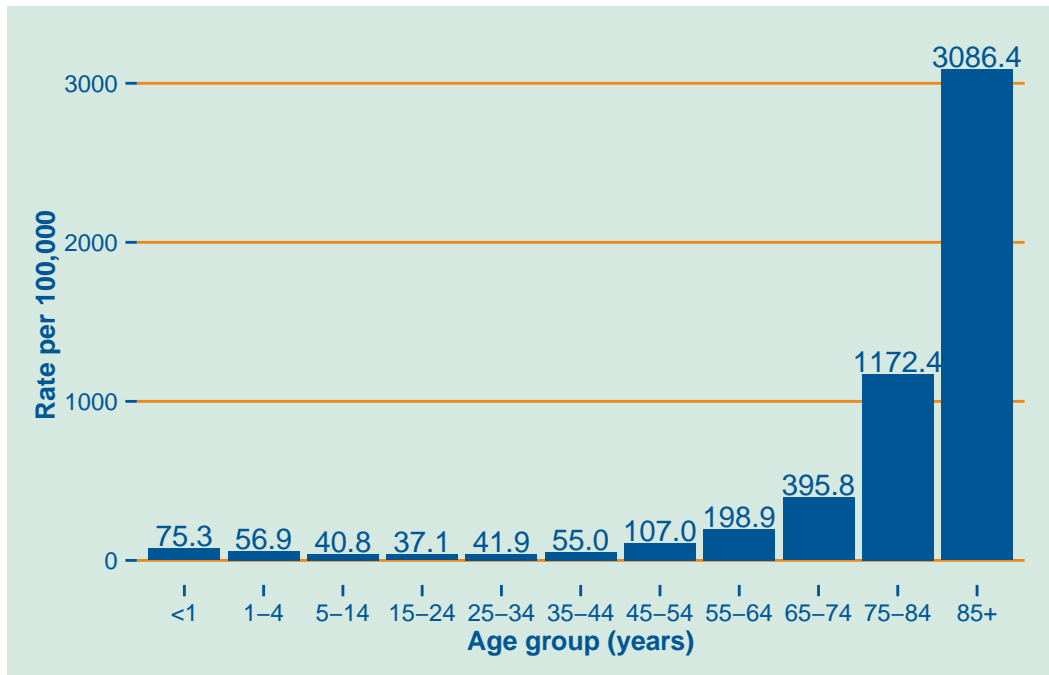


Figure 27: Average annual rate of unintentional fall hospitalization by age, Oregon, 2012–2014

### 0.6.2.2 Unintentional fall hospitalizations by sex

Oregon fall hospitalization rates varied by sex between 2012–2014. The female rate (average annual) of 266.5 per 100,000 was higher than the male average annual rate of 171.3.

### 0.6.2.3 Unintentional fall hospitalizations by age and sex

Oregon unintentional falls hospitalization rates varied by age and sex between 2012–2014. Male rates were higher than females from <1 year of age through age 54 years. Female rates were higher than males from age 55 years and older.

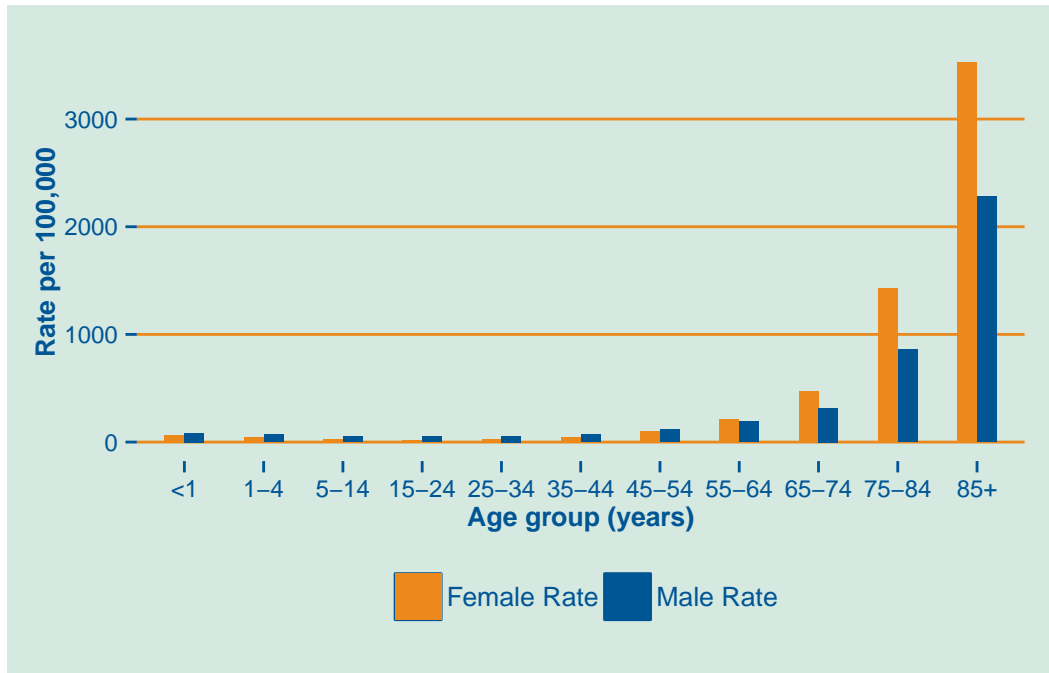


Figure 28: Average annual rate of unintentional fall hospitalization by age and sex, Oregon, 2012–2014

Table 22: Average annual rate (per 100,000) of unintentional fall hospitalization by age and sex, Oregon, 2012–2014

Age group (years)	Male rate	Female rate
<1	85.0	65.2
1-4	67.6	45.5
5-14	52.9	28.2
15-24	55.5	18.0
25-34	56.3	27.3
35-44	67.1	42.7
45-54	114.9	99.3
55-64	188.1	208.9
65-74	316.8	468.8
75-84	856.0	1,426.9
85+	2,283.4	3,526.4

#### 0.6.2.4 Unintentional fall hospitalizations by race

Oregon falls hospitalization rates varied by race between 2012–2014. American Indians and Alaska Natives had the highest hospitalization rate of 283.6 per 100,000 followed by Whites, and Black or African Americans.

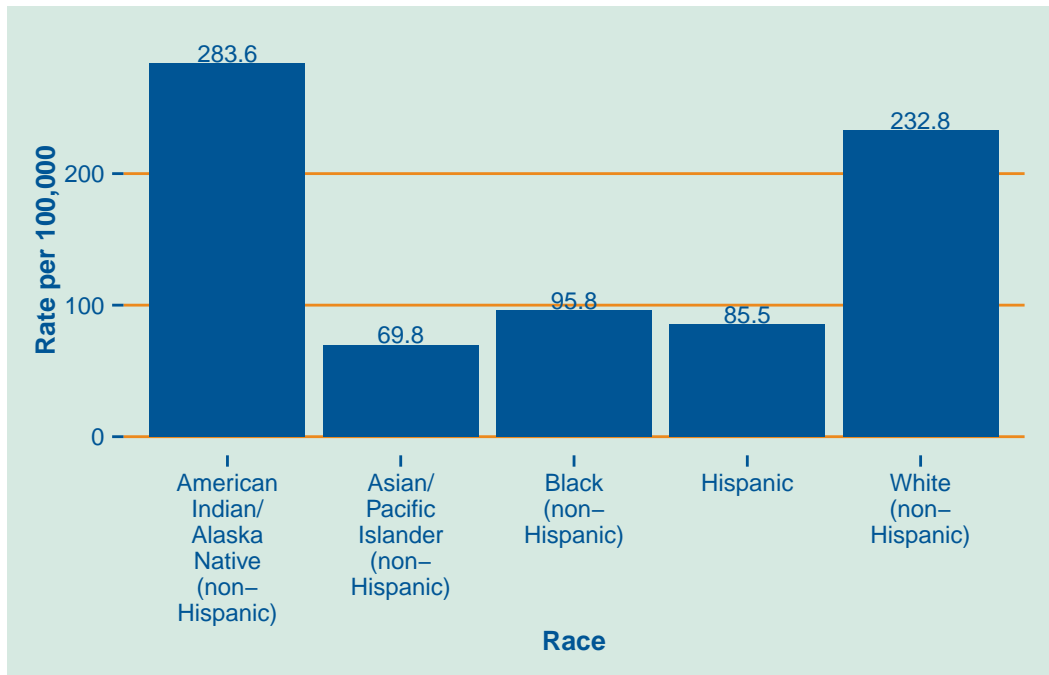


Figure 29: Average annual rate of unintentional fall hospitalization by race, Oregon, 2012–2014

0.6.2.5 Unintentional falls hospitalizations by sex and race

The highest rates of fall hospitalizations occurred among American Indian and Alaska Native females, followed by White females.

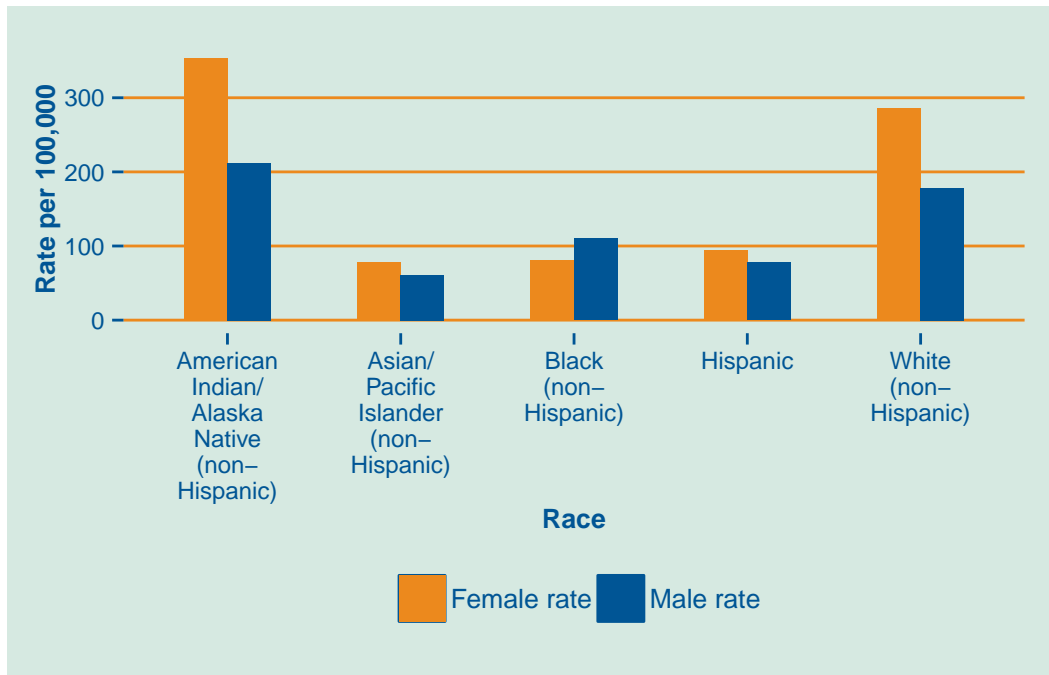


Figure 30: Average annual rate of unintentional fall hospitalization by race and sex, Oregon, 2012–2014

Table 23: Average annual rate of unintentional fall hospitalization by race and sex, Oregon, 2012–2014

Race	Male rate	Female rate
American Indian/Alaska Native (non-Hispanic)	211.8	353.3
Asian/Pacific Islander (non-Hispanic)	60.9	77.5
Black (non-Hispanic)	109.6	80.0
Hispanic	78.1	93.5
White (non-Hispanic)	178.3	285.5





## 0.7 Unintentional and undetermined poisoning mortality and hospitalization

Unintentional poisoning is defined as over-consumption of alcohol, opioids, narcotics, analgesics, psychotherapeutics, hallucinogens, organic solvents, carbon monoxide, pesticides and other chemicals or drugs that result in death or harm to the body. Poisoning that results in harm to the body or death where the intent was undetermined was included in the definition of poisoning for this report. Unintentional and undetermined poisoning is labeled “poisoning” in the remainder of the report for brevity. The most frequent cause of poisoning deaths in Oregon and nationally was legal or illegal drugs.

### Summary information:

- Poisoning caused 421 deaths and 1,499 hospitalizations in 2014.
- Poisoning mortality rates had increased steadily in Oregon since 1999, but have begun to decline since 2011.
- Poisoning mortality rates were highest for those aged 45 to 54 years between 2012–2014. Rates decreased with age for those aged 55 years and older.
- Between 2012–2014, males were twice as likely to die from poisoning, and hospitalization rates were consistently higher than females across the age span.
- American Indians and Alaska Natives had the highest poisoning mortality rate or any race, between 2012–2014. Black or African Americans had the highest hospitalization rate for poisoning.
- Between 2012–2014, hospitalization for poisoning generally increased with age for people 5 years of age and older.
- In 2012–2014, hospitalization rates for poisoning were higher for females from birth through 4 years of age and from 34 years of age through 84 years of age, compared to males.

### 0.7.1 Poisoning mortality

Oregon poisoning deaths by year are shown in Table 24 and rates by year are shown in Figure 31. Poisoning caused the death of 421 Oregonians in 2014. Poisoning mortality rates increased annually in Oregon between 1999 and 2007; rates have decreased between 2007 and 2014, with the exception of 2011.

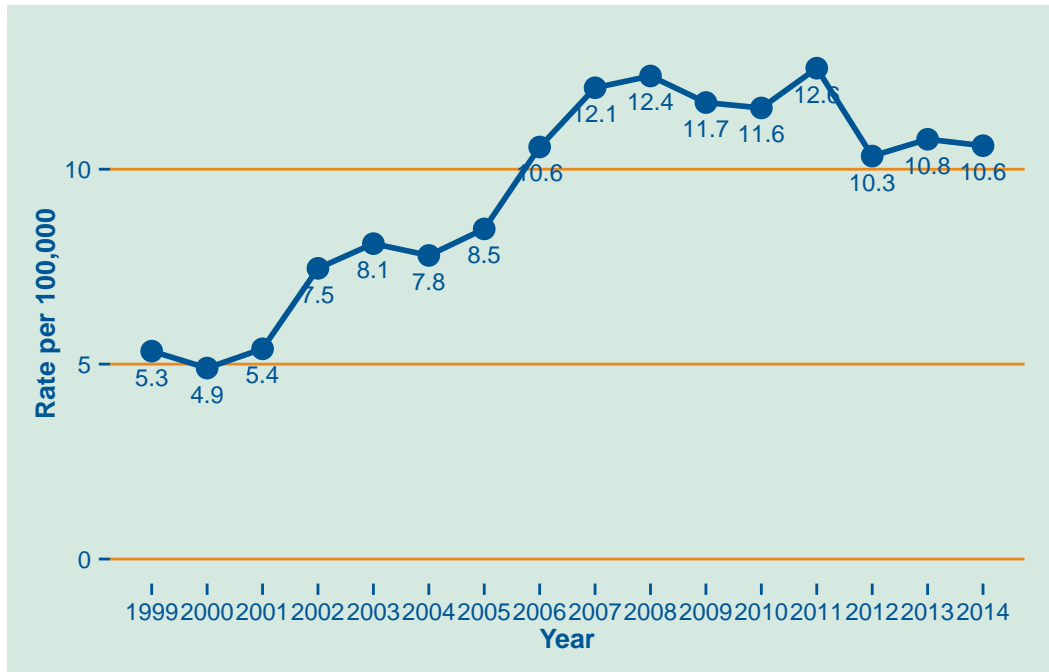


Figure 31: Unintentional and undetermined poisoning mortality by year, Oregon, 1999–2014

As Table 24 shows, the absolute number of poisoning deaths in Oregon may have peaked in 2011, following a general trend of increase since 1999.

Table 24: The number of unintentional and undetermined poisoning deaths by Year, 1999–2014, Oregon

Year	No.
1999	181
2000	168
2001	187
2002	262
2003	287
2004	278
2005	306
2006	388
2007	450
2008	467
2009	446
2010	444
2011	487
2012	403
2013	423
2014	421

### 0.7.1.1 Poisoning mortality by age

Oregon’s poisoning mortality rates between 2012–2014 varied with age. Poisoning mortality rates generally increased with age for those aged 15–54 years, with the highest rates among those aged 35–54 years; rates generally declined with age for those aged 55 years and older.

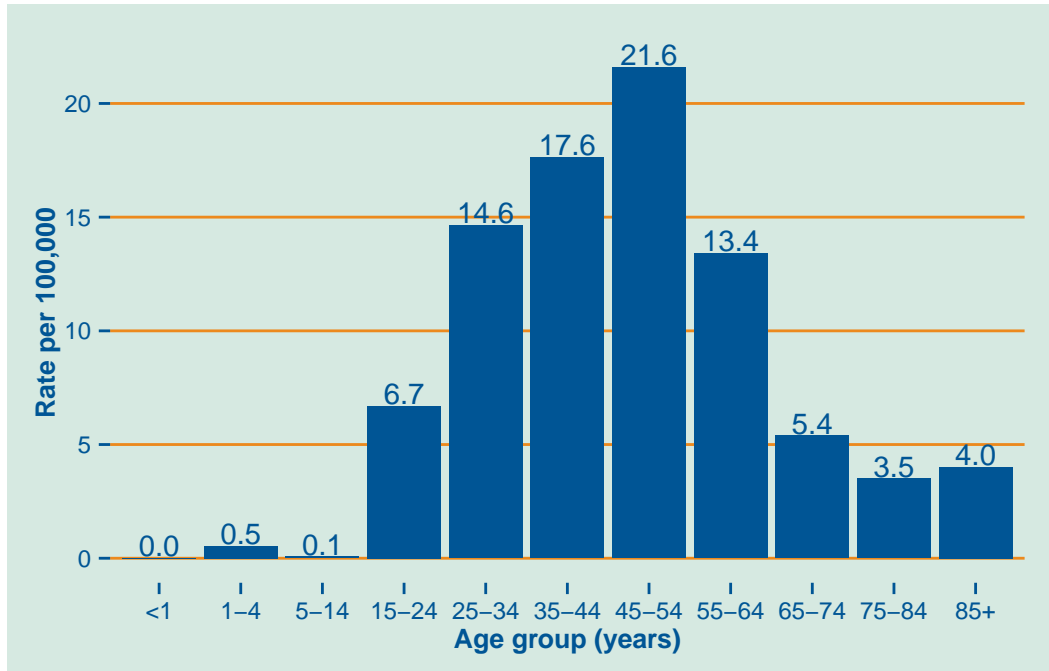


Figure 32: Average annual rate of unintentional and undetermined poisoning mortality by Age, Oregon, 2012–2014

### 0.7.1.2 Poisoning mortality by sex

Oregon poisoning mortality rates varied by sex between 2012–2014. The male poisoning mortality rate (average annual) of 11.9 per 100,000 was higher than the female rate of 7.2 per 100,000.

### 0.7.1.3 Poisoning mortality by age and sex

Oregon poisoning mortality rates varied by age and sex. Poisoning mortality rates were consistently higher for males than females across age groups. Average poisoning mortality rates increased with age for males and females aged 15 to 54 years; among those aged 85 and older, rates continued to decline for women, but not for men.

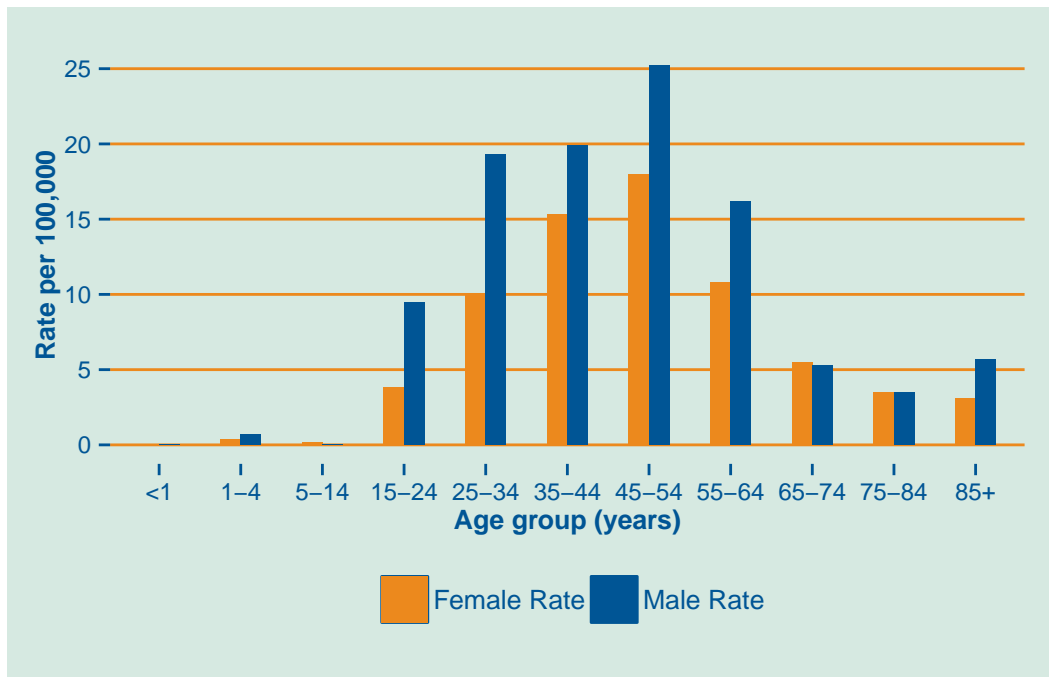


Figure 33: Average annual rate of unintentional and undetermined poisoning mortality by age and sex, Oregon, 2012–2014

Table 25: Average annual rate (per 100,000) of unintentional and undetermined poisoning mortality by age and sex, Oregon, 2012–2014

Age group (years)	Male rate	Female rate
<1	0.0	0.0
1-4	0.7	0.4
5-14	0.0	0.1
15-24	9.5	3.8
25-34	19.3	9.9
35-44	19.9	15.3
45-54	25.2	18.0
55-64	16.2	10.8
65-74	5.3	5.5
75-84	3.5	3.5
85+	5.7	3.1

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**0.7.1.4 Poisoning mortality by race**

Oregon poisoning mortality rates vary considerably by race. The highest average rate (2012–2014) was among American Indians and Alaska Natives.

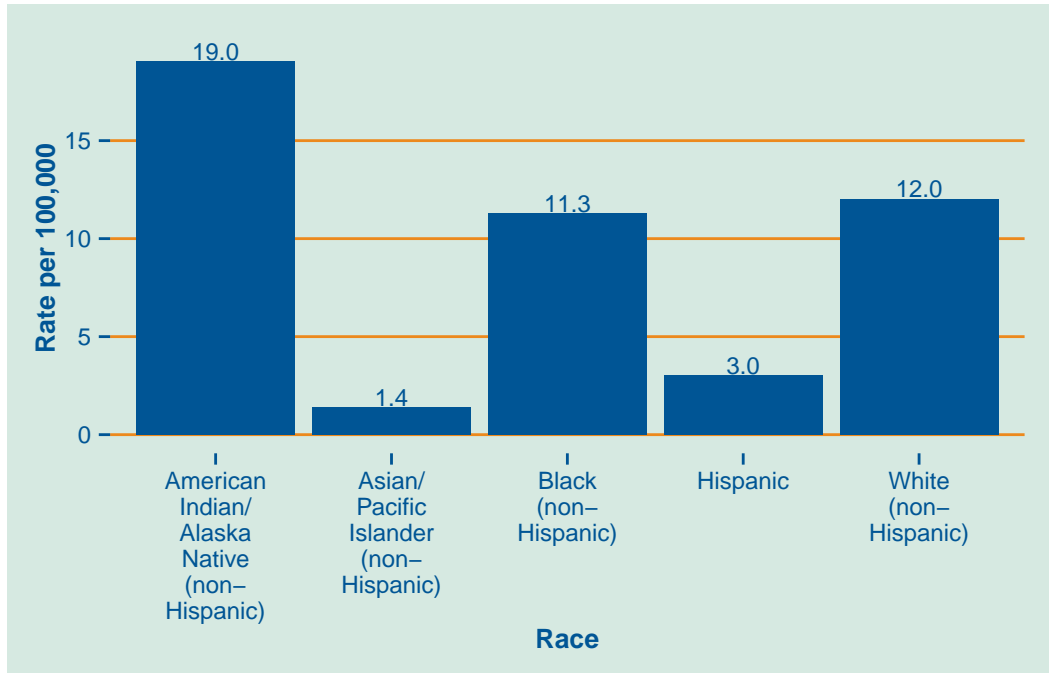


Figure 34: Average annual unintentional and undetermined poisoning mortality by race, Oregon, 2012–2014



0.7.1.5 Poisoning mortality by sex and race

American Indian and Alaska Native males had the highest poisoning mortality rate, followed by White males.

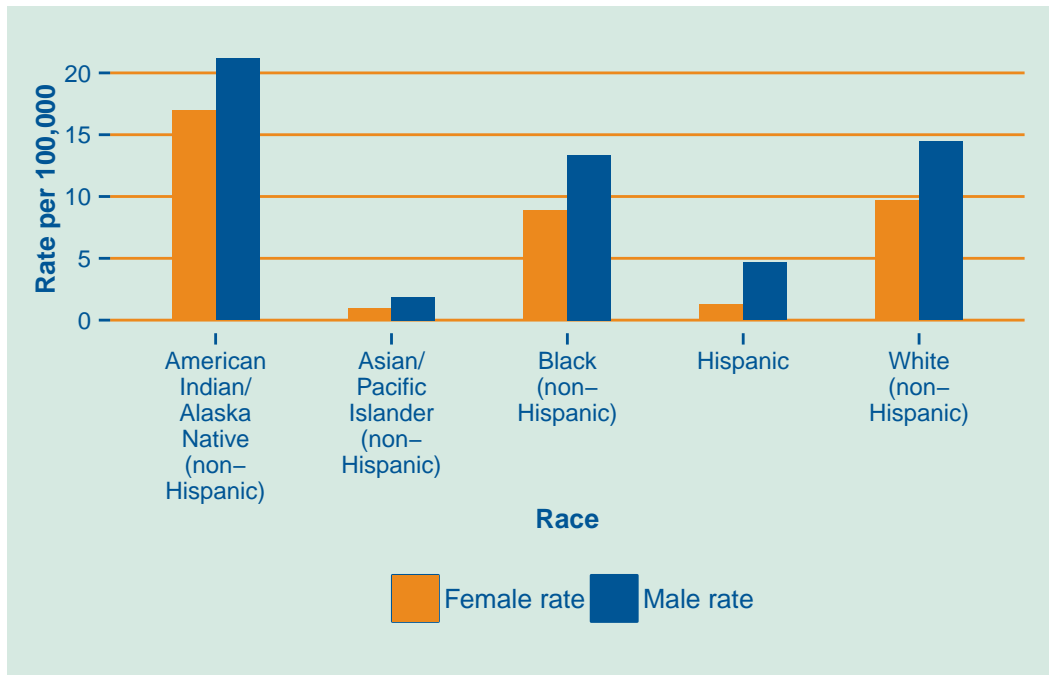


Figure 35: Average annual rate of unintentional and undetermined poisoning mortality by race and sex, Oregon, 2012–2014

Table 26: Average annual rate (per 100,000) of unintentional and undetermined poisoning mortality by race and sex, Oregon, 2012–2014

Race	Male rate	Female rate
American Indian/Alaska Native (non-Hispanic)	21.2	16.9
Asian/Pacific Islander (non-Hispanic)	1.9	1.0
Black (non-Hispanic)	13.4	8.9
Hispanic	4.6	1.3
White (non-Hispanic)	14.4	9.7

**0.7.1.6 Poisoning mortality by drug type**

The number of poisoning deaths by drug type is shown in Table 27. Pharmaceutical opioids, alone or in combination with other drugs were the most frequent type of drug associated with poisoning death.

Table 27: Poisoning deaths by drug type, Oregon, 2014

Drug Type	Number of deaths
Pharmaceutical opioids	169
Heroin	113
Antiepileptic, sedative-hypnotics, anti-Parkinsonism, antidepressants, and other psychotropic drugs	160
Methadone	52
Benzodiazapines	40
Methamphetamines and other psychostimulants with abuse potential	105
Other, unspecified narcotics	17
Alcohol	95

### 0.7.2 Poisoning hospitalization

Oregon poisoning hospitalizations by year are shown in Table 28 and rates by year are shown in Figure 36. Poisoning caused the death of 421 Oregonians in 2014. Poisoning mortality rates increased steadily in Oregon between 2000 and 2011; rates decreased between 2011 and 2014, corresponding to the similar trend in mortality.

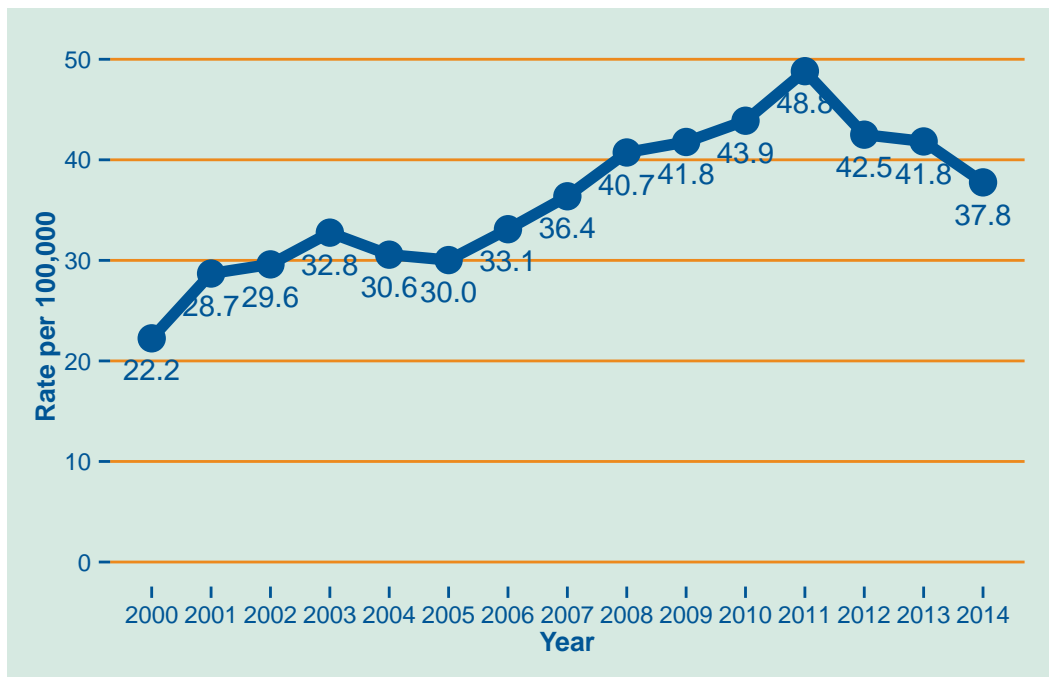


Figure 36: Average annual rate of unintentional and undetermined poisoning hospitalization, Oregon, 2000–2014

Table 28 shows that the absolute number of poisoning hospitalizations decreased in Oregon since 2011, following an 11 year trend of increase.

Table 28: The number of unintentional and undetermined poisoning hospitalizations by Year, 2000–2014, Oregon

Year	No.
2000	763
2001	995
2002	1,040
2003	1,162
2004	1,091
2005	1,085
2006	1,215
2007	1,354
2008	1,535
2009	1,591
2010	1,684
2011	1,888
2012	1,657
2013	1,643
2014	1,499

### 0.7.2.1 Poisoning hospitalization by age

Oregon's poisoning hospitalization rates between 2012–2014 varied by age. Poisoning hospitalization rates generally increased with age, with the highest rates in the oldest age groups.

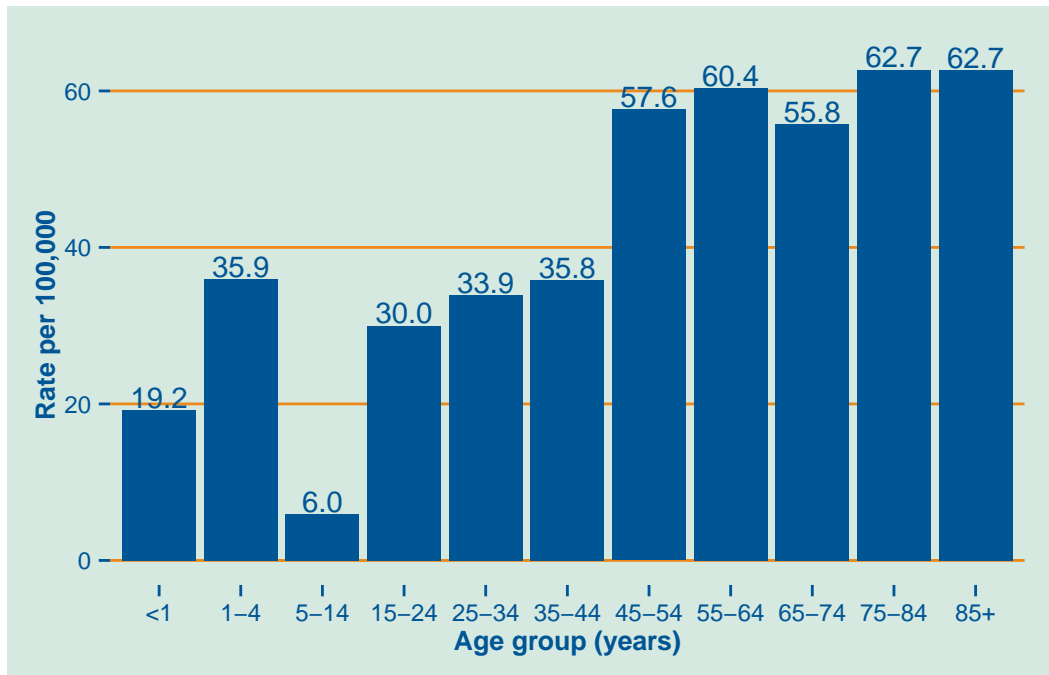


Figure 37: Average annual rate of unintentional and undetermined poisoning hospitalization by Age, Oregon, 2012–2014

### 0.7.2.2 Poisoning hospitalization by sex

Oregon poisoning hospitalization rates varied by sex between 2012–2014. The 2012–2014 average annual male poisoning mortality rate of 32.8 per 100,000 was lower than the female rate of 37.6 per 100,000.

0.7.2.3 Poisoning hospitalization by age and sex

Poisoning hospitalization rates varied by age and sex between 2012–2014. In general, rates increased with age, which is different than the trend in mortality. In general, rates for females were higher across older age groups, compared to males, and male rates are higher up until age 34 years.

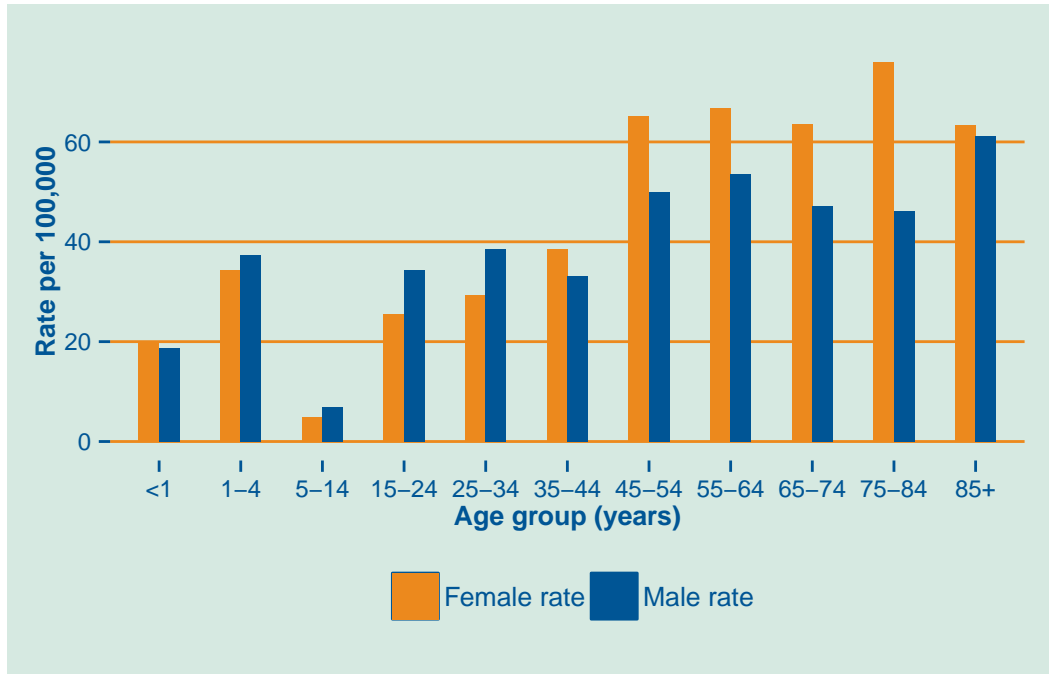


Figure 38: Average annual rate of unintentional and undetermined poisoning hospitalization by age and sex, Oregon, 2012–2014

Table 29: Average annual rate (per 100,000) of unintentional and undetermined poisoning hospitalization by age and sex, Oregon, 2012–2014

Age group (years)	Male rate	Female rate
<1	18.7	19.7
1-4	37.3	34.4
5-14	6.9	5.0
15-24	34.4	25.5
25-34	38.5	29.4
35-44	33.1	38.6
45-54	49.9	65.2
55-64	53.5	66.8
65-74	47.3	63.6
75-84	46.2	76.0
85+	61.3	63.4

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#### 0.7.2.4 Poisoning hospitalization by race

Oregon poisoning hospitalization rates varied by race between 2012–2014. The highest rate was among Black/African Americans, followed by American Indians and Alaska Natives.

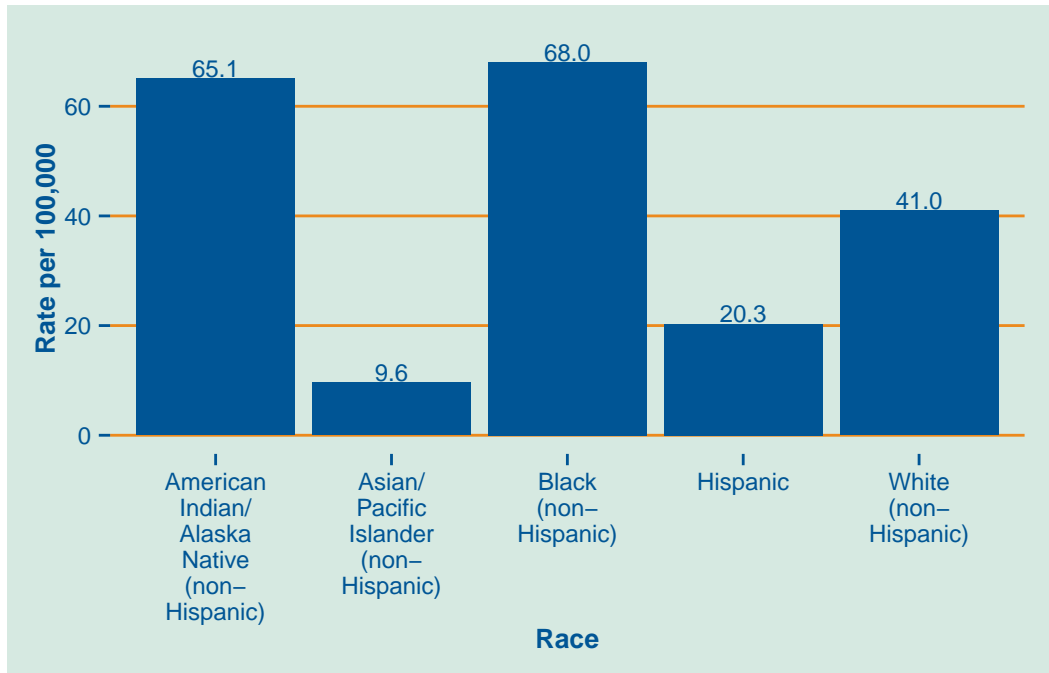


Figure 39: Average annual rate of unintentional and undetermined poisoning hospitalization by race, Oregon, 2012–2014



0.7.2.5 Poisoning hospitalization by sex and race

American Indian and Alaska Native females had the highest poisoning mortality rate, followed by Black/African American females.

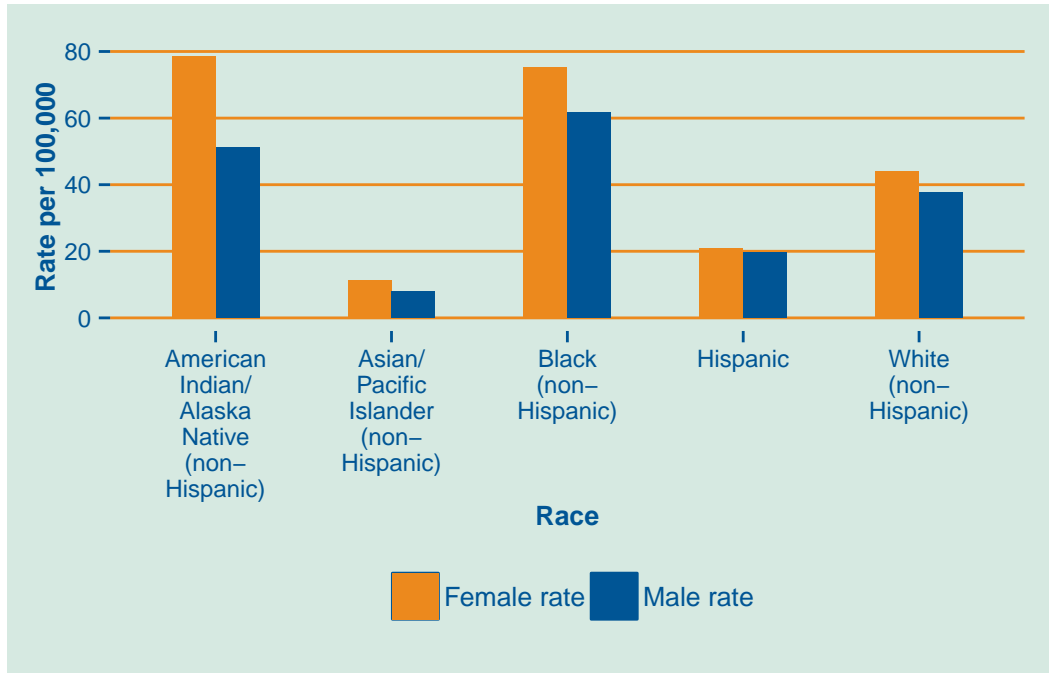


Figure 40: Average annual rate of unintentional and undetermined poisoning hospitalization by race and sex, Oregon, 2012–2014

Table 30: Average annual rate of unintentional and undetermined poisoning hospitalization by race and sex, Oregon, 2012–2014

Race	Male rate	Female rate
American Indian/Alaska Native (non-Hispanic)	51.1	78.6
Asian/Pacific Islander (non-Hispanic)	7.9	11.1
Black (non-Hispanic)	61.8	75.1
Hispanic	19.7	20.8
White (non-Hispanic)	37.8	44.0

**0.7.2.6 Poisoning hospitalization by drug type**

The number of poisoning hospitalizations by drug type is shown in Table 31. Antidepressants and psychotropics, alone or in combination with other drugs were the most frequent type of drug associated with poisoning hospitalization, followed by pharmaceutical opioids.

Table 31: Poisoning hospitalizations by drug type, Oregon, 2014

Drug Type	Number of hospitalizations
Pharmaceutical opioids	385
Heroin	91
Antidepressants and psychotropic drugs	515
Methadone	68
Benzodiazapines	135
Psychostimulants w/ abuse potential	124
Other, unspecified drugs	421
Alcohol	57



## 0.8 Unintentional motor vehicle traffic mortality and hospitalization

Unintentional motor vehicle traffic crashes (MVT) cause injury or death to vehicle occupants, motorcyclists, pedal cyclists, and pedestrians.

### Summary information:

- In Oregon in 2014, MVT caused 327 deaths and 1,709 hospitalizations.
- MVT mortality and hospitalization rates declined in Oregon between 2000 and 2014.
- MVT mortality rates increased 10-fold for those aged 15–24 years compared to the next youngest age group; rates declined with age for those aged 25 to 44 years, and generally increased with age for those aged 45 years and older.
- MVT mortality rates were twice as high for males compared to females and were consistently higher for males across age groups.
- American Indians and Alaska Natives had the highest MVT mortality rate.
- MVT hospitalization rates were higher for males than for females across all age groups.

### 0.8.1 MVT mortality

The number of deaths due to MVT is shown in Table 32 and the rates by year are shown in Figure 41. There were 327 deaths caused by MVT in 2014. In general, the MVT mortality rate has steadily declined since 2003.

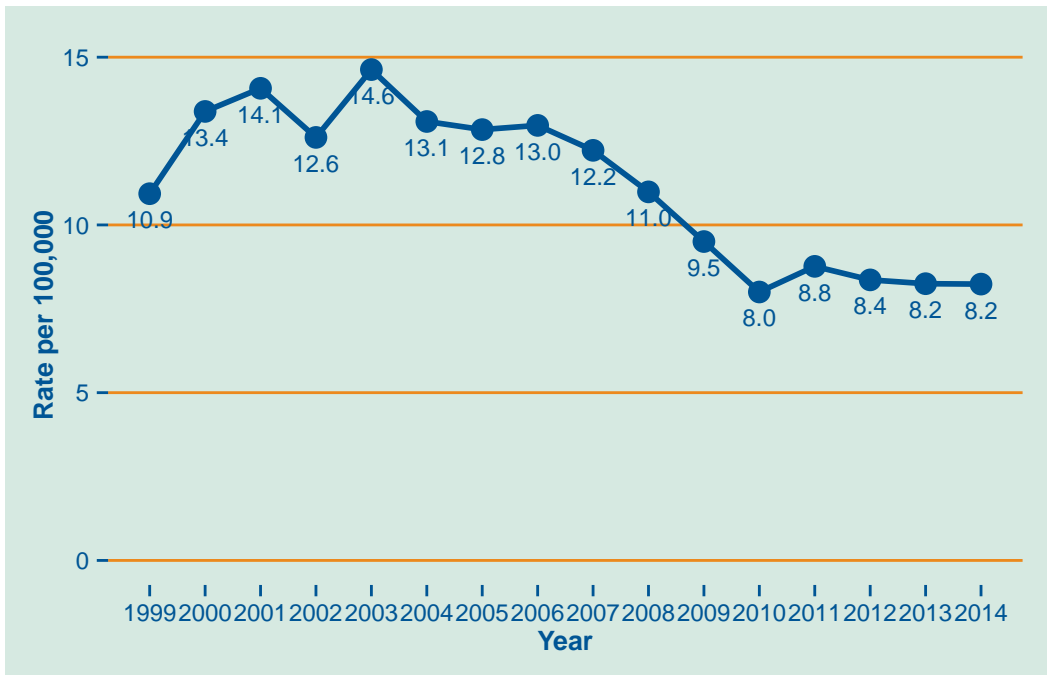


Figure 41: Rate of unintentional MVT mortality by year, Oregon, 1999–2014

As Table 32 shows, the absolute number of MVT deaths decreased in Oregon since 1999. Most of the decrease occurred after 2003.

Table 32: The number of unintentional and MVT deaths by year, 1999–2014, Oregon

Year	No.
1999	371
2000	459
2001	488
2002	443
2003	519
2004	467
2005	464
2006	476
2007	455
2008	414
2009	362
2010	307
2011	339
2012	326
2013	324
2014	327

### 0.8.1.1 MVT mortality by age

MVT mortality rates varied by age between 2012–2014. MVT mortality rates increased 10-fold for those aged 15–24 years compared to the next youngest age group; rates declined with age for those aged 25 to 44 years, and generally increased with age for those aged 45 years and older. The highest MVT mortality rate was for Oregonians 85 years or older.

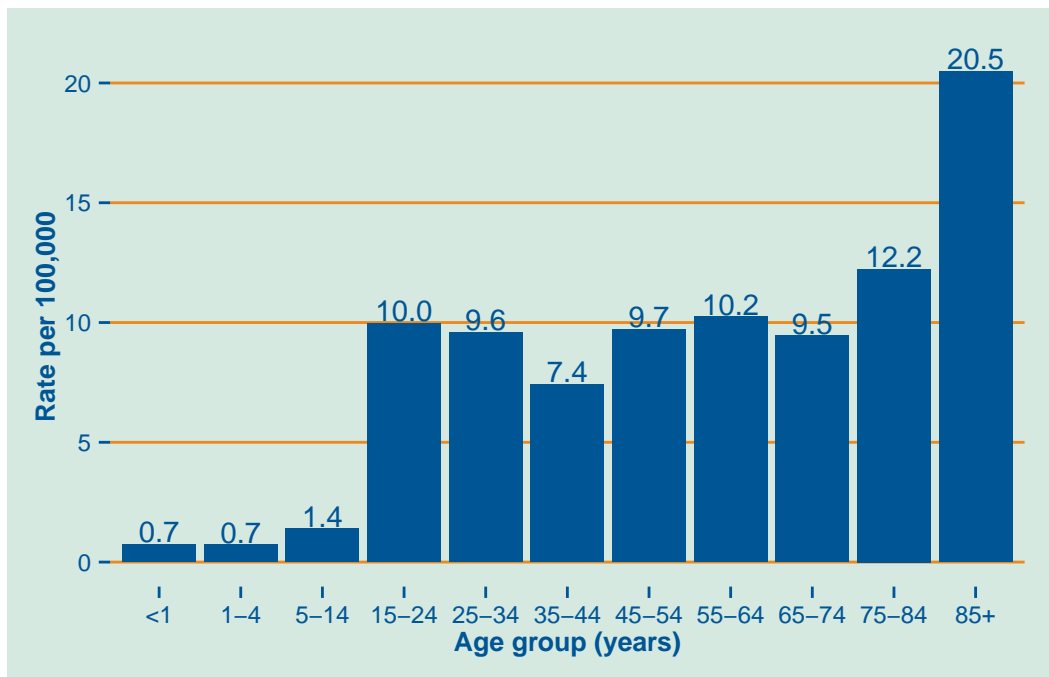


Figure 42: Average annual unintentional MVT mortality by age, Oregon, 2012–2014

### 0.8.1.2 MVT mortality by sex

MVT mortality rates varied by sex between 2012–2014. The 2012–2014 average annual male MVT mortality rate of 11.6 per 100,000 was more than double the female rate of 5.0 per 100,000.

### 0.8.1.3 MVT mortality by age and sex

MVT mortality rate varied by age and sex between 2012–2014. The rate was highest among older males (age 85 years and older). In general, rates were higher for males across age groups. For females, the highest rate occurred among those age 85 years and older, much like the mortality rate among males.

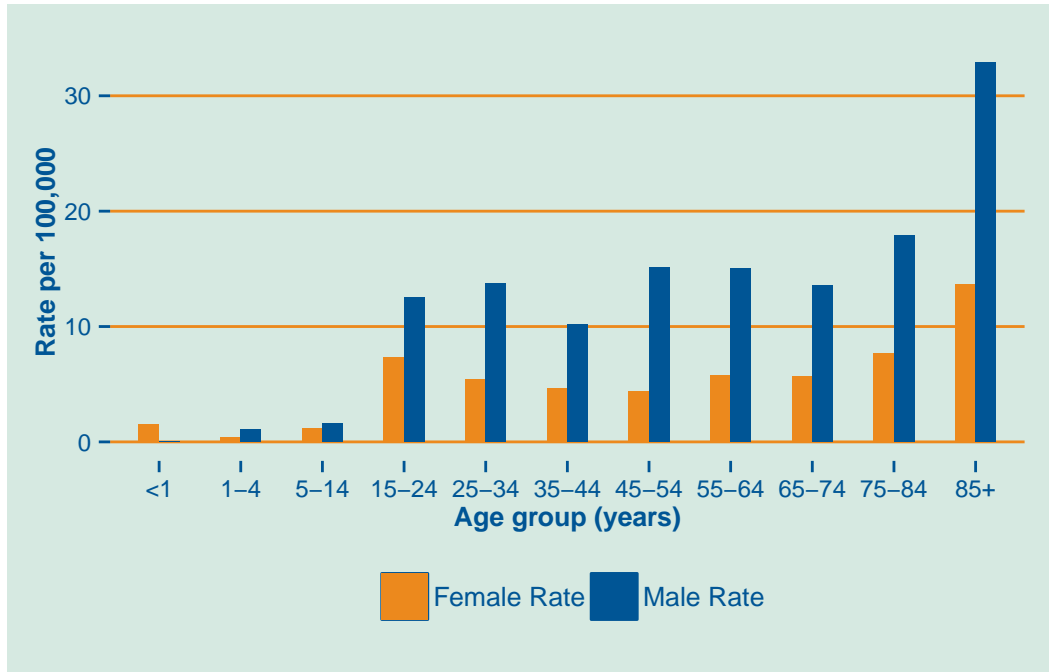


Figure 43: Average annual rate of unintentional MVT mortality by age and sex, Oregon, 2012–2014



Table 33: Average annual rate (per 100,000) of unintentional MVT mortality by age and sex, Oregon, 2012–2014

Age group (years)	Male rate	Female rate
<1	0.0	1.5
1-4	1.1	0.4
5-14	1.6	1.1
15-24	12.5	7.3
25-34	13.7	5.4
35-44	10.1	4.6
45-54	15.2	4.4
55-64	15.0	5.8
65-74	13.6	5.6
75-84	17.9	7.7
85+	32.9	13.7

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0.8.1.4 MVT mortality by race

MVT mortality rates varied by race. American Indians and Alaska Natives had the highest MVT mortality rate followed by White, Black or African Americans and Asians and Hispanics.

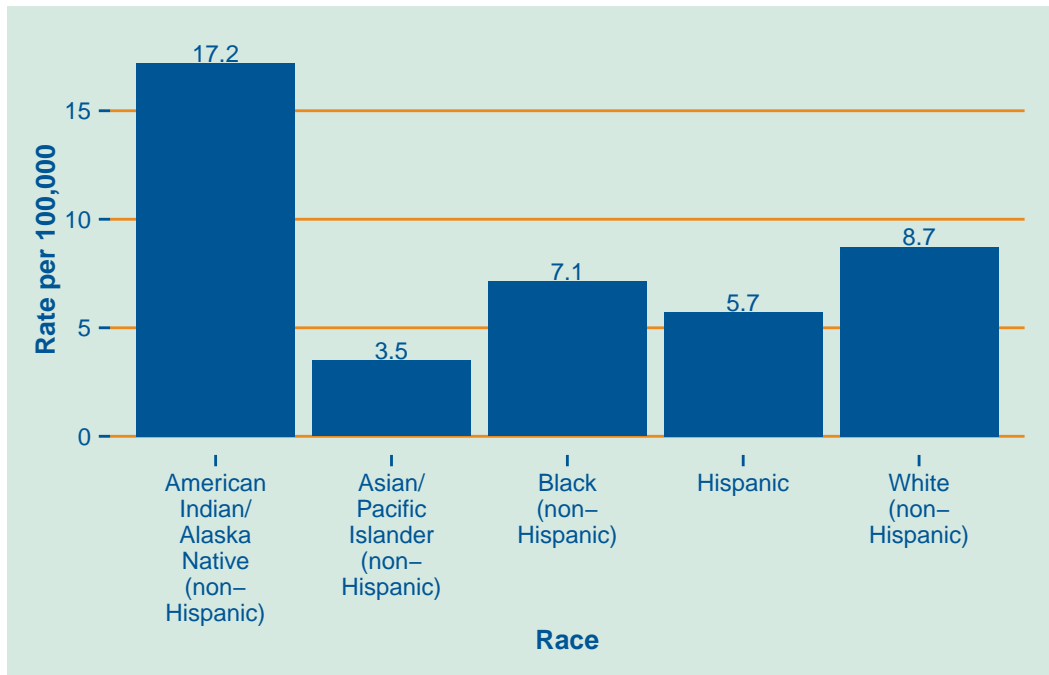


Figure 44: Average annual unintentional MVT mortality by race, Oregon, 2012–2014

0.8.1.5 MVT mortality by sex and race

American Indian and Alaska Native males had the highest MVT mortality rate, followed by White males. The rate among American Indian and Alaska Native males was more than twice that of American Indian and Alaska Native females.

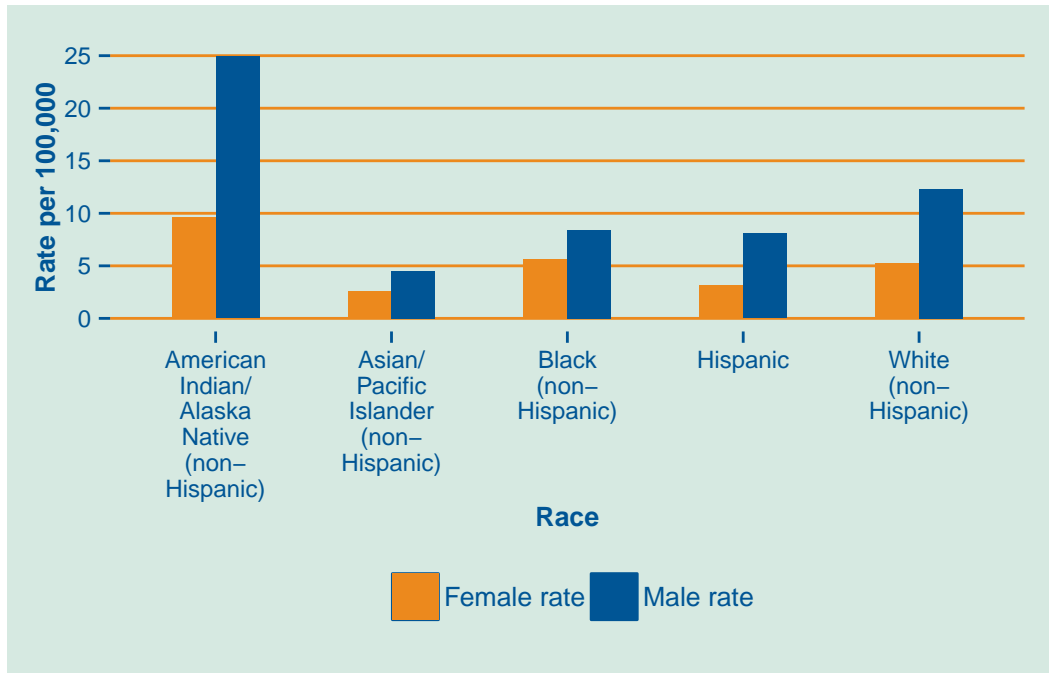


Figure 45: Average annual unintentional MVT mortality by race and sex, Oregon, 2012–2014

Table 34: Average annual rate (per 100,000) of unintentional MVT mortality by race and sex, Oregon, 2012–2014

Race	Male rate	Female rate
American Indian/Alaska Native (non-Hispanic)	24.9	9.7
Asian/Pacific Islander (non-Hispanic)	4.5	2.6
Black (non-Hispanic)	8.4	5.7
Hispanic	8.1	3.2
White (non-Hispanic)	12.3	5.3

## 0.8.1.6 MVT mortality by type

The highest number of deaths involving motor vehicle traffic consistently occur among vehicle occupants. In 2014, the second highest number was among pedestrians, followed by motorcyclists.

Table 35: MVT deaths by type and year, Oregon, 1999–2014

Year	Occupant	Motorcycle	Pedal cyclist	Pedestrian	Unknown
1999	184	20	4	43	120
2000	244	33	7	53	122
2001	308	35	13	60	72
2002	282	28	7	59	67
2003	304	40	8	53	114
2004	307	34	9	56	61
2005	333	50	10	52	19
2006	320	47	12	52	45
2007	253	55	15	50	82
2008	216	49	10	50	89
2009	176	53	5	40	88
2010	127	45	7	58	70
2011	157	40	13	52	77
2012	139	45	12	62	68
2013	155	33	5	55	76
2014	154	41	7	51	74

### 0.8.2 MVT hospitalization

The number of hospitalizations due to MVT is shown in Table 36 and the rates by year are shown in Figure 46. There were 1,709 hospitalizations caused by MVT in 2014. In general, the MVT hospitalization rate has declined since 2000, with most of the decrease occurring after 2007.

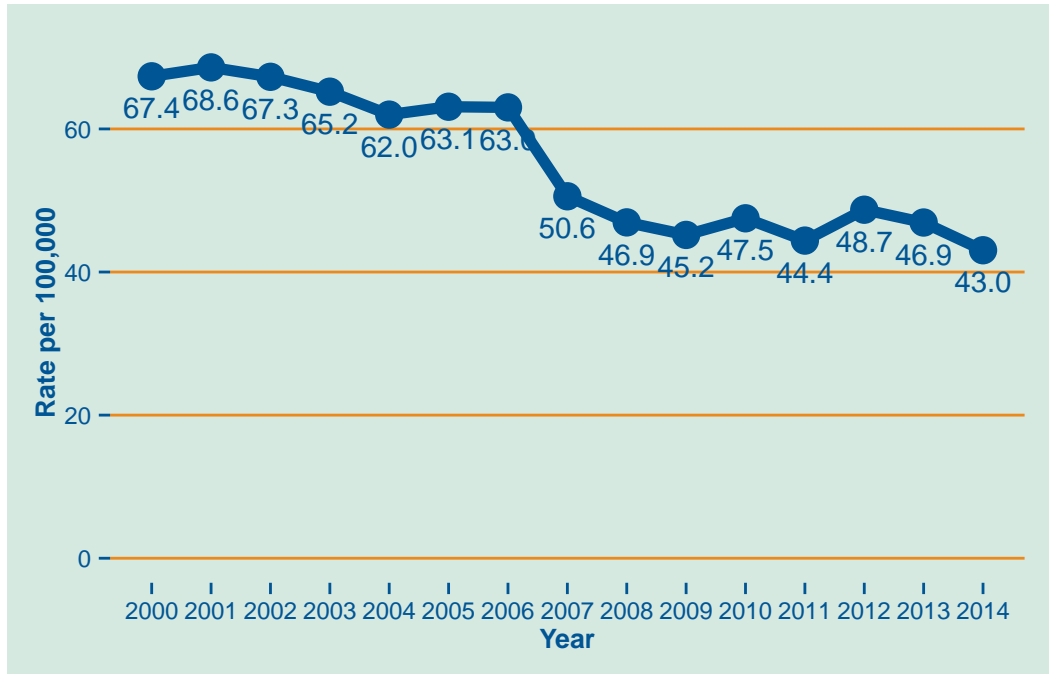


Figure 46: Rate of unintentional MVT hospitalization by year, Oregon, 2000–2014

As Table 36 shows, the absolute number of MVT hospitalizations in Oregon decreased since 2000.

Table 36: The number of unintentional MVT hospitalizations by year, Oregon, 2000–2014

Year	No.
2000	2,310
2001	2,379
2002	2,364
2003	2,313
2004	2,213
2005	2,280
2006	2,313
2007	1,883
2008	1,769
2009	1,721
2010	1,823
2011	1,717
2012	1,899
2013	1,843
2014	1,709

### 0.8.2.1 MVT hospitalization by age

MVT hospitalization rates varied by age between 2012–2014. MVT hospitalization rates increased 10-fold for those aged 15–24 years compared to the next youngest age group; rates declined with age for those aged 25 to 44 years, and generally increased with age for those aged 45 years and older. The highest MTV hospitalization rate was for persons 15–24 years of age.

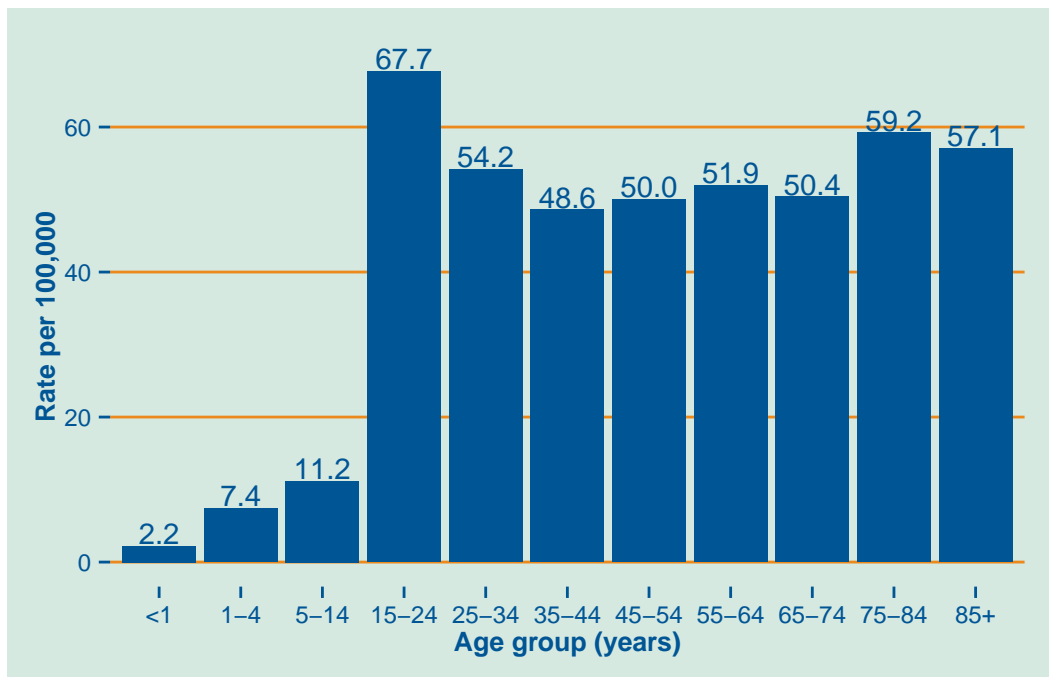


Figure 47: Average annual rate of unintentional MVT hospitalization by age, Oregon, 2012–2014

### 0.8.2.2 MVT hospitalization by sex

MVT hospitalization rates varied by sex between 2012–2014. The 2012–2014 average annual male MVT hospitalization rate of 59.5 per 100,000 was higher than the female rate of 33.3.

### 0.8.2.3 MVT hospitalization by age and sex

MVT hospitalization rates varied by age and sex between 2012–2014. MVT Hospitalization rates increased 10-fold for those aged 15–24 years compared to the next youngest age group; rates declined with age for those aged 25 to 44 years, and generally increased with age for those aged 45 years and older.

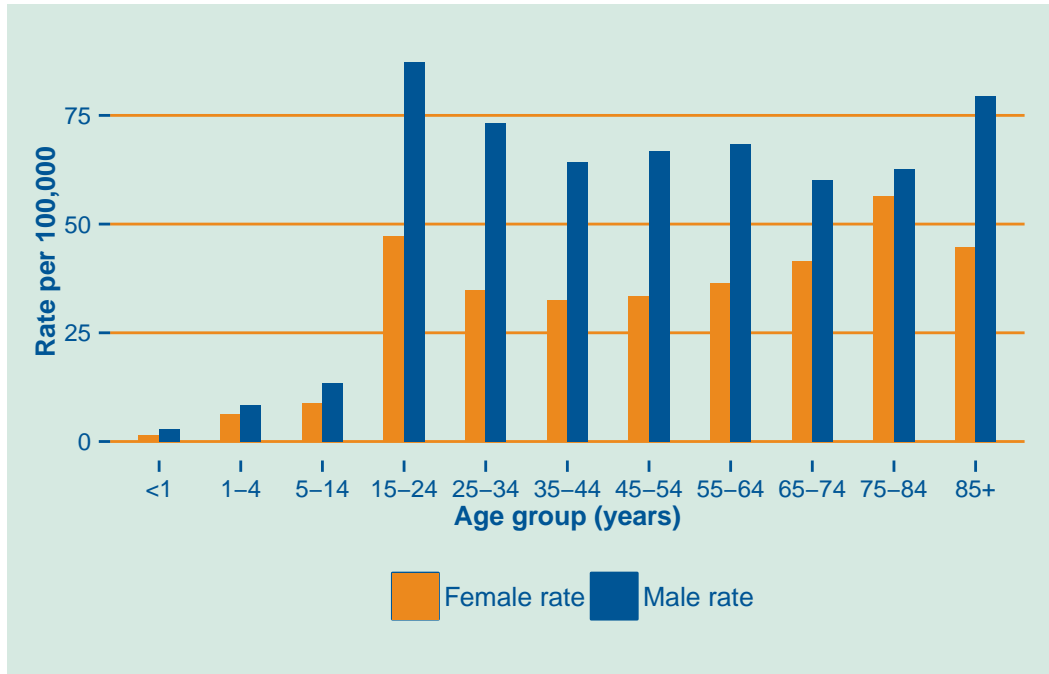


Figure 48: Average annual rate of unintentional MVT hospitalization by age and sex, Oregon, 2012–2014



Table 37: Average annual rate (per 100,000) of unintentional MVT hospitalization by age and sex, Oregon, 2012–2014

Age group (years)	Male rate	Female rate
<1	2.9	1.5
1-4	8.5	6.3
5-14	13.5	8.8
15-24	87.3	47.3
25-34	73.3	34.7
35-44	64.4	32.4
45-54	66.8	33.6
55-64	68.4	36.5
65-74	60.1	41.5
75-84	62.7	56.4
85+	79.4	44.8

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#### 0.8.2.4 MVT hospitalization by race

MVT hospitalization rates varied by race. American Indians and Alaska Natives had the highest MVT hospitalization rate followed by White, Black or African Americans and Whites.

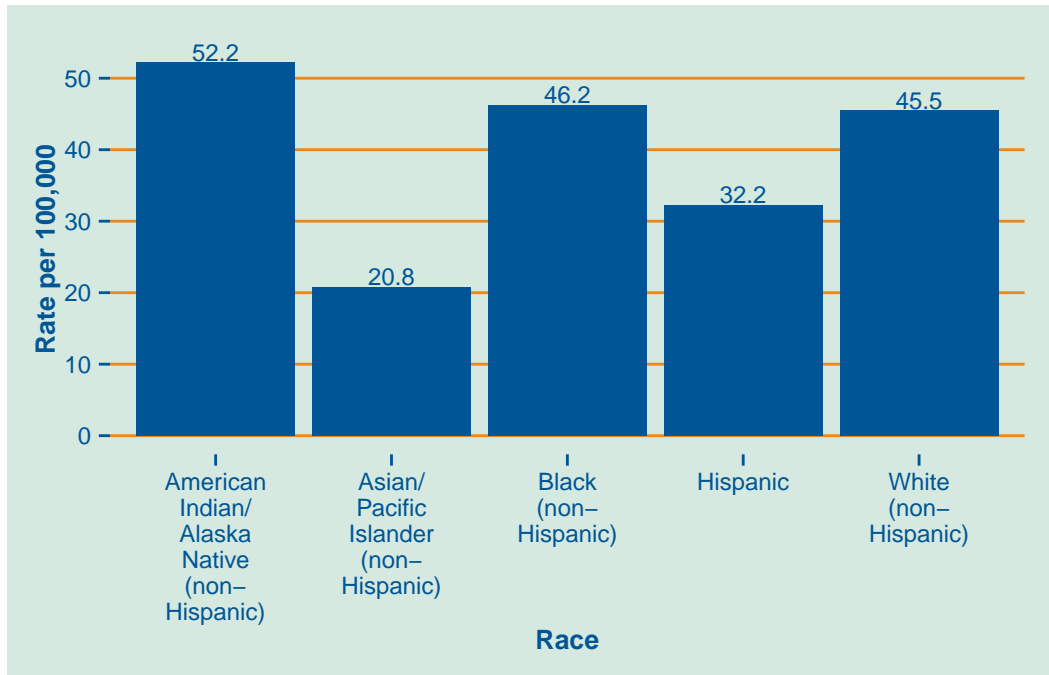


Figure 49: Average annual rate of MVT hospitalization by race, Oregon, 2012–2014

0.8.2.5 MVT hospitalization by sex and race

The rate of MVT hospitalization was higher among males of all race categories. The highest rate was for Black/African American males, although the rate among American Indian and Alaska Native males and White males was only slightly lower.

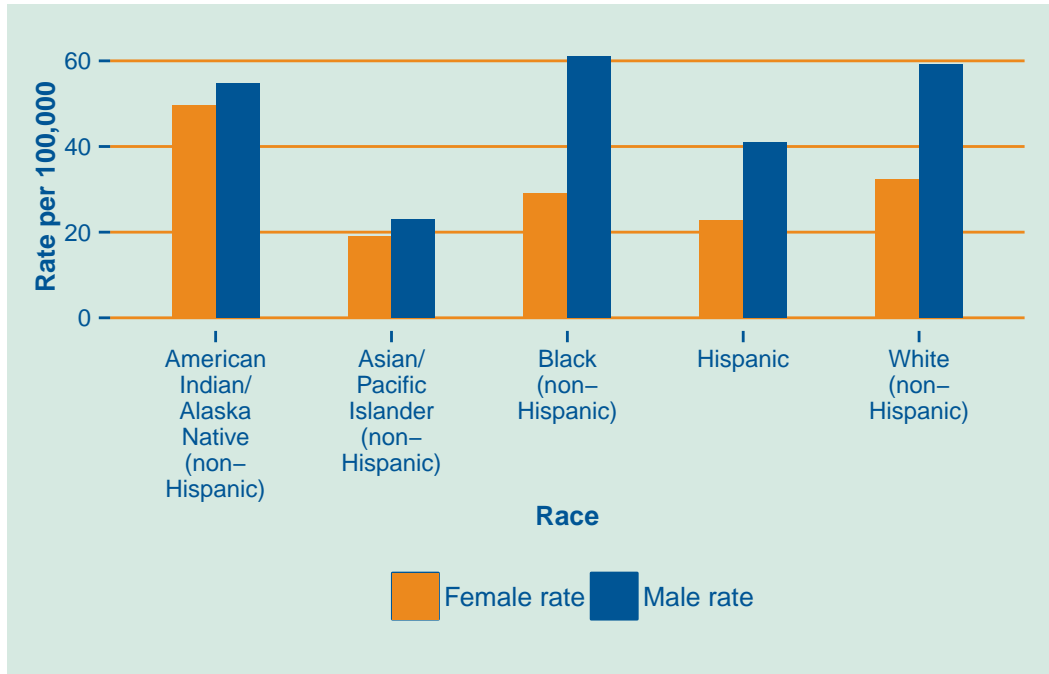


Figure 50: Average annual rate of unintentional MVT hospitalization by race and sex, Oregon, 2012–2014

Table 38: Average annual rate (per 100,000) of unintentional MVT hospitalization by race and sex, Oregon, 2012–2014

Race	Male rate	Female rate
American Indian/Alaska Native (non-Hispanic)	54.8	49.6
Asian/Pacific Islander (non-Hispanic)	22.9	19.0
Black (non-Hispanic)	61.1	29.1
Hispanic	41.0	22.8
White (non-Hispanic)	59.1	32.4

## 0.8.2.6 MVT hospitalization by type

The highest number of hospitalizations involving motor vehicle traffic consistently occur among vehicle occupants. In 2014, the second highest number was among motorcyclists, followed by pedestrians.

Table 39: MVT hospitalization by type and year, Oregon, 2000–2014

Year	Occupant	Motorcycle	Pedal cyclist	Pedestrian	Unknown	Other
2000	1624	278	87	258	50	13
2001	1685	290	82	259	54	9
2002	1704	283	104	224	38	11
2003	1634	306	97	220	44	12
2004	1498	324	92	226	57	16
2005	1509	348	112	244	53	14
2006	1533	369	111	240	40	20
2007	1259	301	92	182	39	10
2008	1099	326	120	174	36	14
2009	1064	310	103	195	36	13
2010	1128	330	80	233	39	13
2011	1049	309	96	221	34	8
2012	1097	378	119	246	45	14
2013	1075	366	108	247	38	9
2014	1007	310	111	222	50	9



## 0.9 Homicide mortality and hospitalization

Violent behavior toward another person that results in their death is homicide. Victims of homicide may or may not be hospitalized prior to their deaths, and hospitalization data in this report may include persons hospitalized for assault that subsequently died.

### **Summary information:**

- In Oregon during 2014, 92 Oregonians were the victims of homicide and 447 were hospitalized due to assault.
- Males died from homicide at twice the rate of females.
- Black or African Americans had the highest homicide mortality rates.
- Males had higher assault hospitalization rates than females across the age groups.
- Hospitalizations for assault were highest among children less than one year old, decreased with age through age 14 years, peaked again for those aged 15–24 years, then generally decreased with age for those aged 25 years and older.

### 0.9.1 Homicide mortality

Homicide was the cause of death for 92 Oregonians in 2014, as shown in Table 40. Figure 51 shows trends in the rate of homicide between 1999–2014.

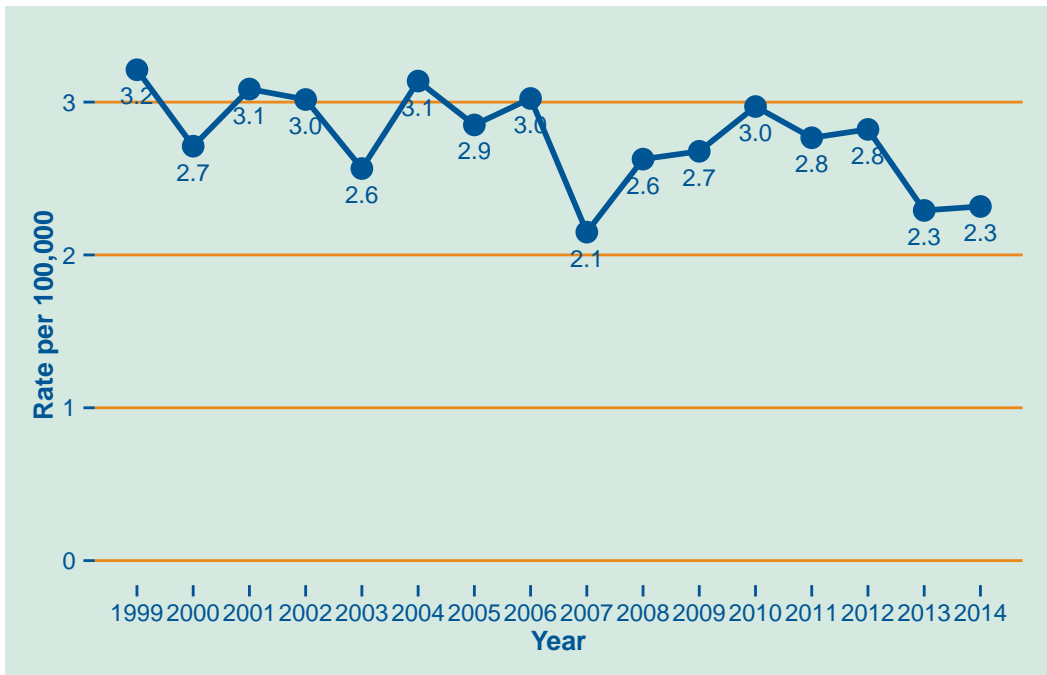


Figure 51: Homicide mortality by year, Oregon, 1999–2014

The absolute number of homicides has remained fairly constant in Oregon between 1999 and 2014.

Table 40: The number of homicide deaths by year, Oregon, 1999–2014

Year	No.
1999	109
2000	93
2001	107
2002	106
2003	91
2004	112
2005	103
2006	111
2007	80
2008	99
2009	102
2010	114
2011	107
2012	110
2013	90
2014	92



### 0.9.1.1 Homicide mortality by age

Oregon homicide mortality rates varied by age between 2012–2014. The homicide mortality rate was highest for those <1 year of age, followed by those aged 25 to 34 years. The lowest homicide mortality rates occurred among those aged 5–14 years, followed by people aged 75–84 years.

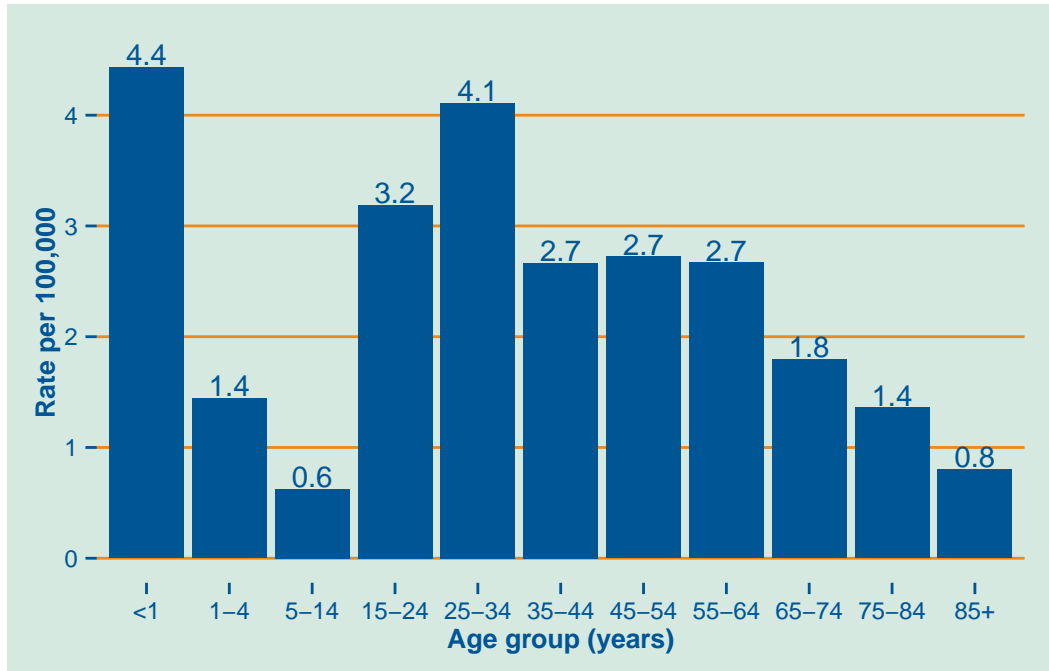


Figure 52: Average annual rate of homicide mortality by age, Oregon, 2012–2014

### 0.9.1.2 Homicide mortality by sex

Homicide mortality rates varied by sex between 2012–2014. The 2012–2014 average annual male homicide mortality rate of 3.3 per 100,000 was higher than the female rate of 1.7 per 100,000.

**0.9.1.3 Homicide mortality by age and sex**

Homicide mortality rates varied by age and sex between 2012–2014. Homicide mortality rates were higher among males than females for people <1 year of age and for those aged 15 to 74 years. The highest homicide rates were for males 25 to 34 years old and males < 1 year of age.

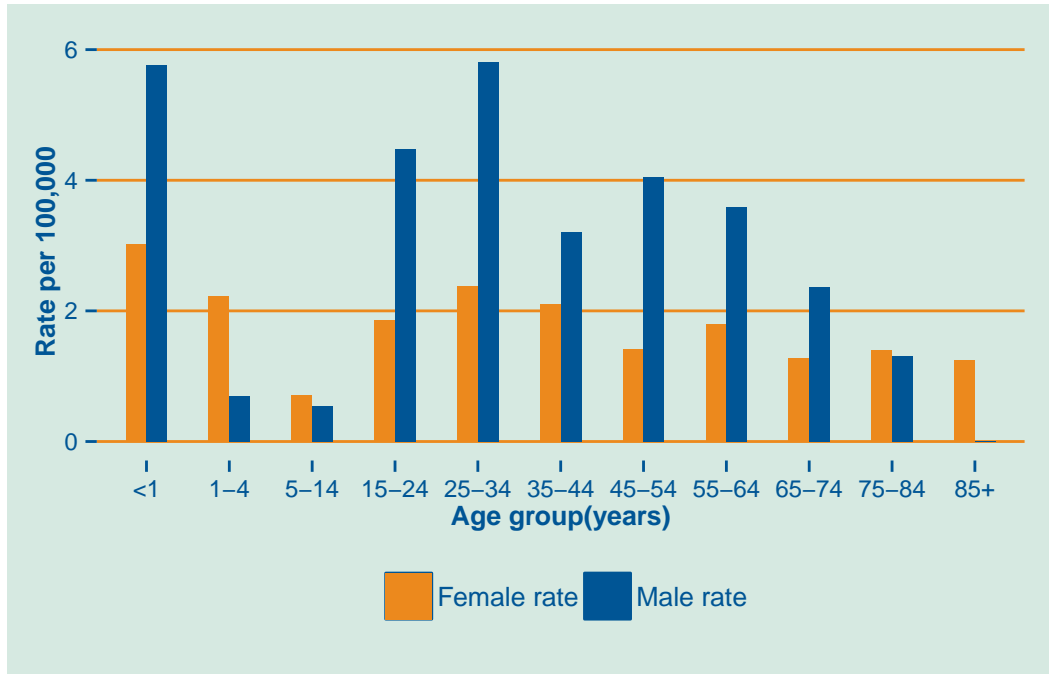


Figure 53: Average annual rate of homicide mortality by age and sex, Oregon, 2012–2014

Table 41: Average annual rate (per 100,000) of homicide mortality by age and sex, Oregon, 2012–2014

Age group (years)	Male rate	Female rate
<1	5.8	3.0
1-4	0.7	2.2
5-14	0.5	0.7
15-24	4.5	1.9
25-34	5.8	2.4
35-44	3.2	2.1
45-54	4.1	1.4
55-64	3.6	1.8
65-74	2.4	1.3
75-84	1.3	1.4
85+	0.0	1.2

**0.9.1.4 Homicide mortality by race**

Homicide mortality rates varied by race between 2012–2014. Black or African Americans had the highest homicide mortality rate, followed by Native Americans and Alaska Natives.

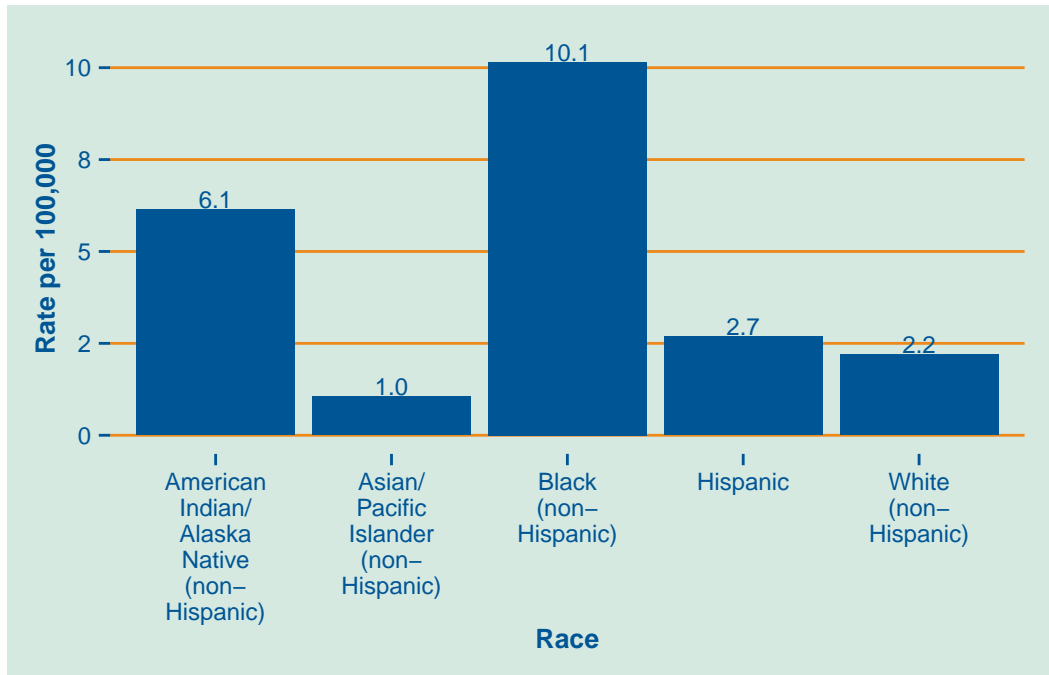


Figure 54: Average annual rate of homicide mortality by race, Oregon, 2012–2014

0.9.1.5 Homicide mortality by sex and race

Black or African American males had the highest homicide mortality rate by sex, followed by American Indian and Alaska Native males.

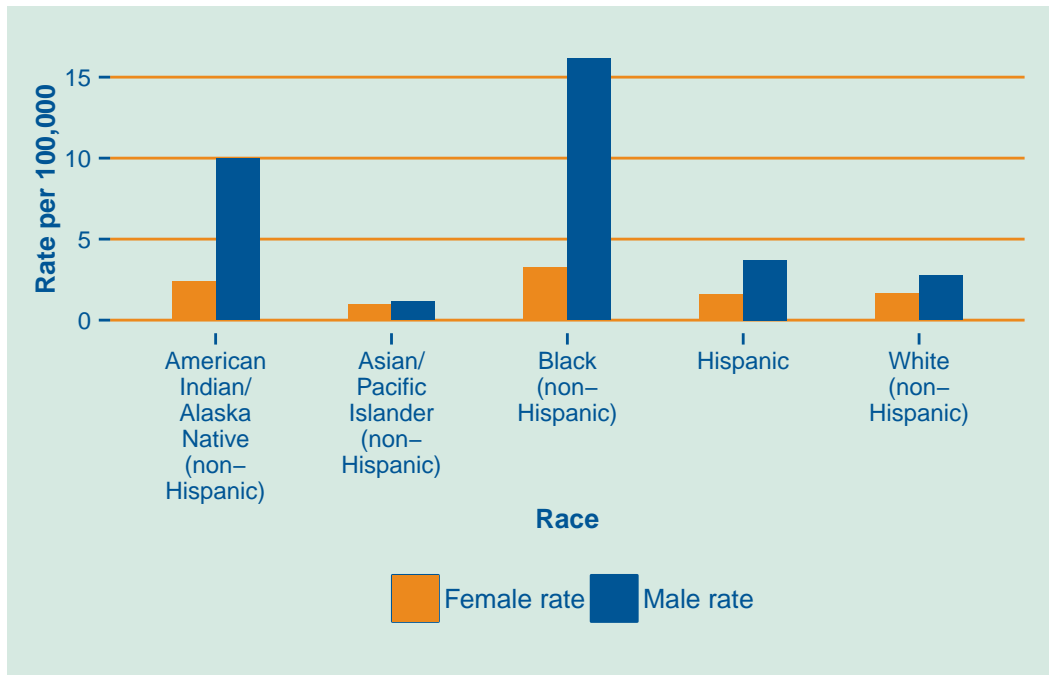


Figure 55: Average annual rate of homicide mortality by race and sex, Oregon, 2012–2014

Table 42: Average annual rate (per 100,000) of homicide mortality by race and sex, Oregon, 2012–2014

Race	Male rate	Female rate
American Indian/Alaska Native (non-Hispanic)	10.0	2.4
Asian/Pacific Islander (non-Hispanic)	1.1	1.0
Black (non-Hispanic)	16.2	3.2
Hispanic	3.7	1.6
White (non-Hispanic)	2.7	1.7

**0.9.1.6 Homicides by mechanism**

The number and percent of Oregon homicides by mechanism are shown in Table 43. The most frequent homicide mechanism was firearms, followed by cut/pierce and suffocation. Firearms were the mechanism in 54 percent of all homicides.

Table 43: The number and percent of homicides by mechanism, Oregon, 2014

Manner of homicide	Number of homicides	Percent of homicides
Firearms	50	54%
Cut/Pierce	13	14%
Suffocation	6	7%
Struck by/against	2	2%
Poisoning	1	1%
Fall	1	1%
Drowning	1	1%
All other, or not specified	18	20%

### 0.9.2 Assault hospitalizations

Crude assault hospitalization rates between 2000 and 2014 are shown in Figure 56. Table 44 shows the number of assault hospitalizations by year. There were 447 hospitalizations for assault in 2014. The rate of assault hospitalization has decreased since 2006.

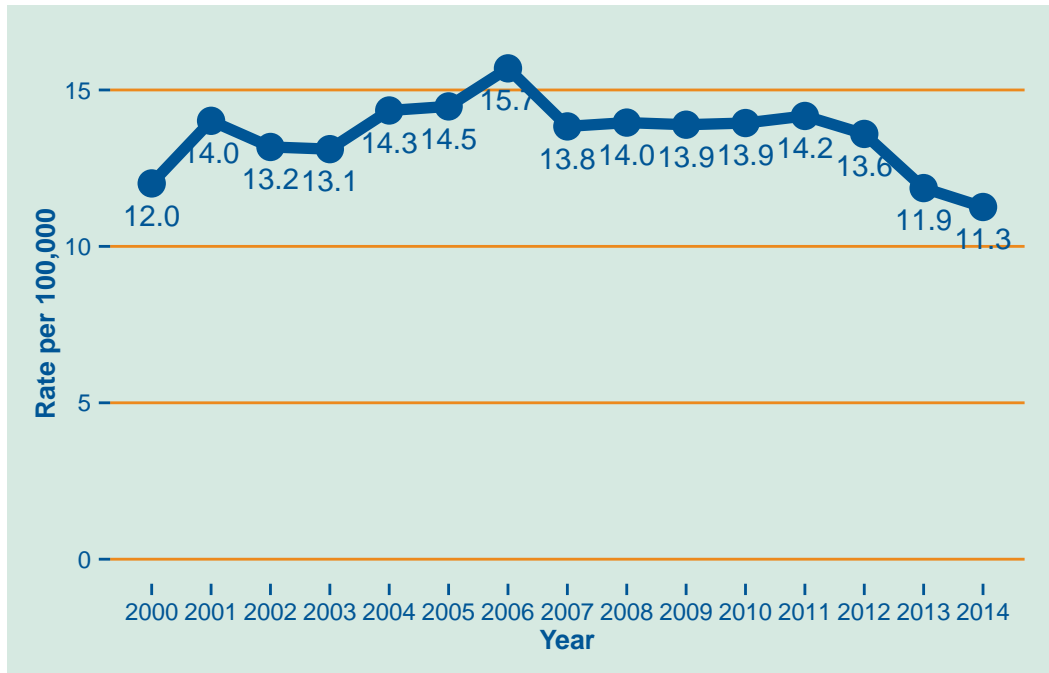


Figure 56: Assault hospitalization rate by year, Oregon, 2000–2014

The absolute number of assault hospitalizations has declined since 2006.

Table 44: The number of assault hospitalizations by year, Oregon, 2000–2014

Year	No.
2000	412
2001	486
2002	463
2003	465
2004	512
2005	523
2006	576
2007	515
2008	526
2009	529
2010	535
2011	548
2012	530
2013	466
2014	447



### 0.9.2.1 Assault hospitalizations by age

Assault hospitalization rates were highest for children less than one year old, decreased with age through age 14 years, peaked again for those aged 15–24 years, then generally decreased with age for those aged 25 years and older.

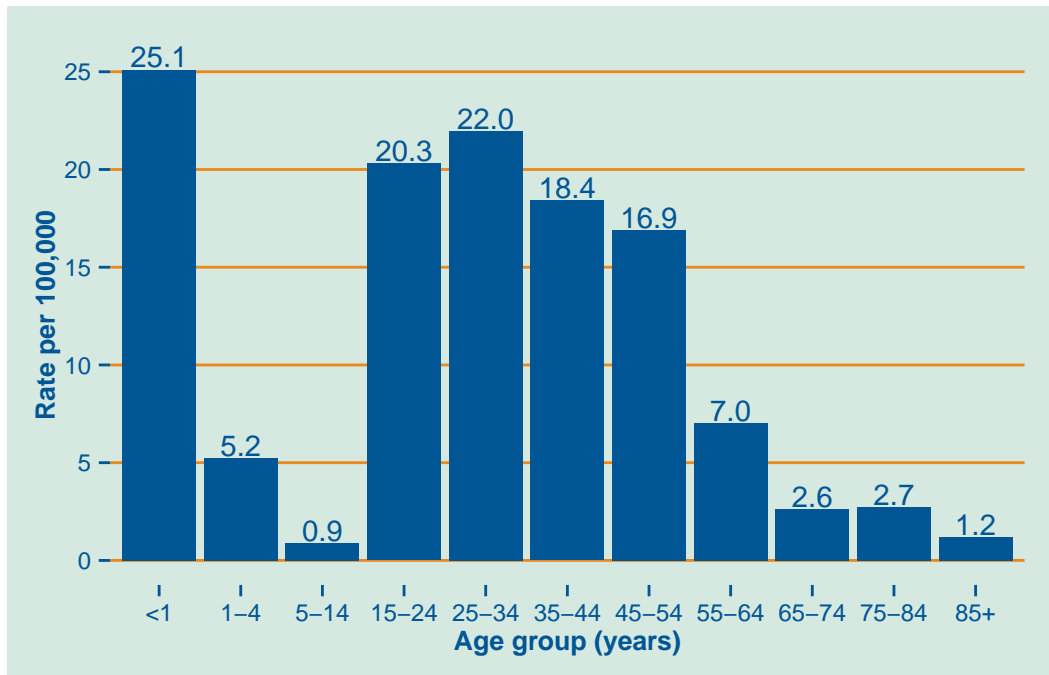


Figure 57: Average annual rate of assault hospitalization by age, Oregon, 2012–2014

### 0.9.2.2 Assault hospitalizations by sex

Assault hospitalization rates varied by sex between 2012–2014. The 2012–2014 average annual male rate of 21.3 per 100,000 was higher than the female rate of 3.4 per 100,000.

### 0.9.2.3 Assault hospitalizations by age and sex

Assault hospitalization rates varied by age and sex between 2012–2014. Male rates were higher than females across the age groups.

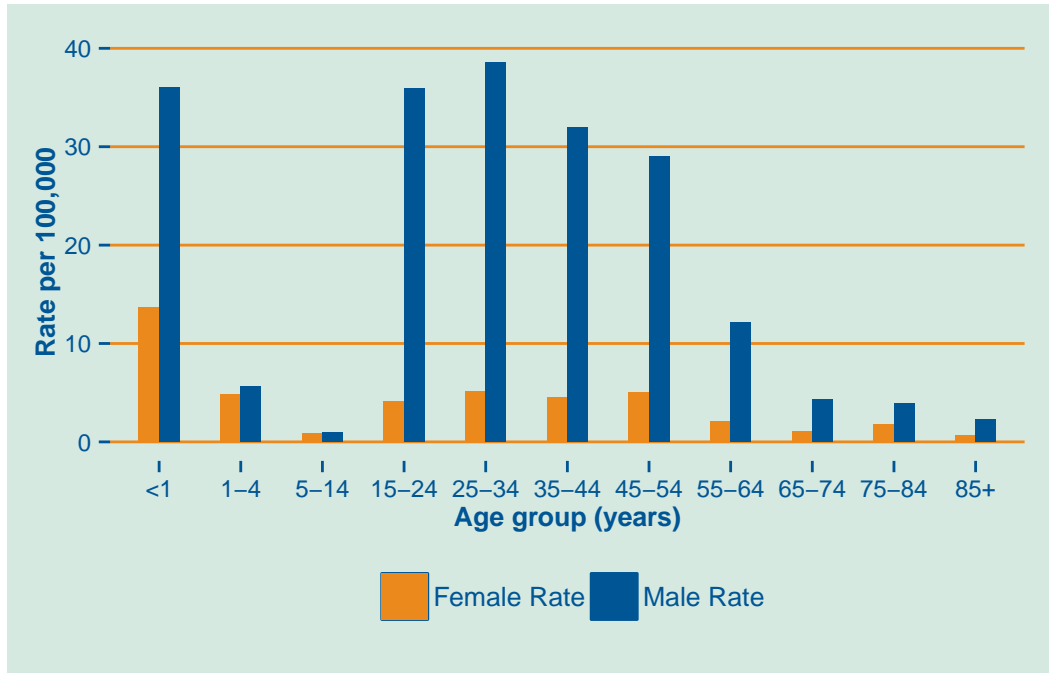


Figure 58: Average annual rate of assault hospitalization by age and sex, Oregon, 2012–2014

Table 45: Average annual rate (per 100,000) of assault by age and sex, Oregon, 2012–2014

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Age group (years)	Male rate	Female rate
<1	36.0	13.6
1-4	5.6	4.8
5-14	1.0	0.9
15-24	35.9	4.1
25-34	38.6	5.1
35-44	32.0	4.5
45-54	29.0	5.0
55-64	12.2	2.0
65-74	4.3	1.1
75-84	3.9	1.8
85+	2.3	0.6

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#### 0.9.2.4 Assault hospitalizations by race

Assault hospitalization rates varied by race between 2012–2014. Black or African Americans had the highest rate which was 1.75 times higher than the next highest rate for American Indian and Alaska Natives.

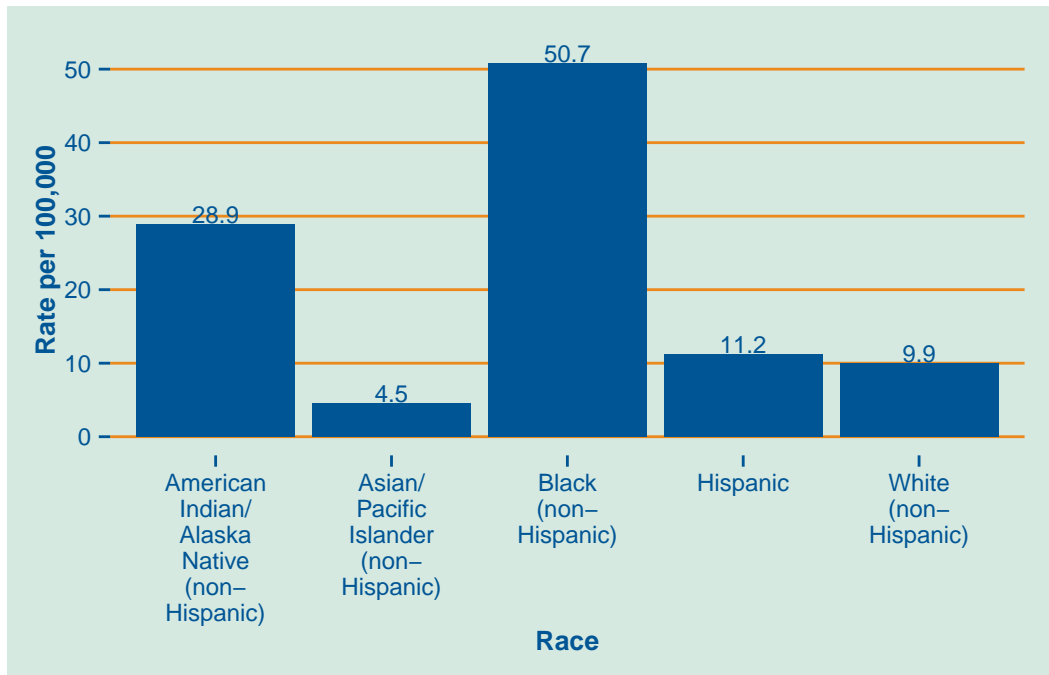


Figure 59: Average annual rate of assault hospitalization by race, Oregon, 2012–2014

0.9.2.5 Assault hospitalizations by sex and race

Black or African American males had the highest assault hospitalization rates by sex, followed by American Indian and Alaska Native males.

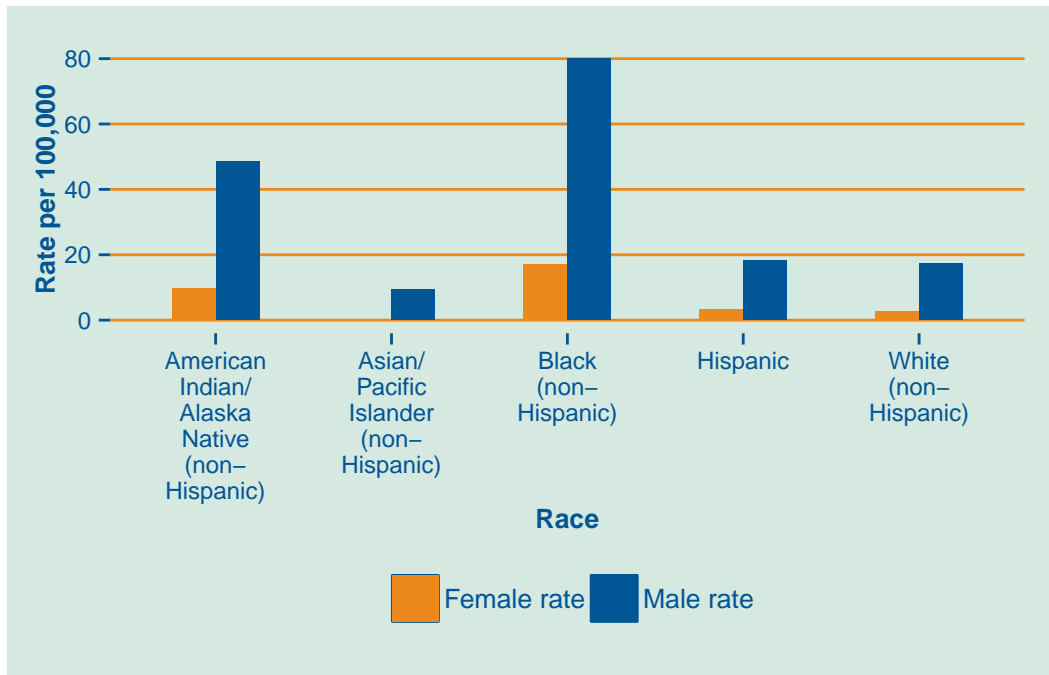


Figure 60: Average annual rate of assault hospitalization by race and sex, Oregon, 2012–2014

Table 46: Average annual rate (per 100,000) of assault hospitalization by race and sex, Oregon, 2012–2014

Race	Male rate	Female rate
American Indian/Alaska Native (non-Hispanic)	48.6	9.7
Asian/Pacific Islander (non-Hispanic)	9.4	0.3
Black (non-Hispanic)	80.1	17.0
Hispanic	18.3	3.4
White (non-Hispanic)	17.4	2.8



## 0.10 Traumatic brain injury mortality and hospitalization

Traumatic brain injury (TBI) is defined as any jolt, blow, or penetration to the head that disrupts brain function. TBIs are counted as a contributing cause of death, not a direct cause of death. Because TBI is not a unique cause of death, TBI overlaps with other injury causes of deaths including motor vehicle traffic, falls, cut or pierce, firearm, and struck by or against. TBIs that contributed to death could occur in the current or any prior year.

### Summary information:

- In Oregon in 2014, there were 874 TBI-associated deaths and 2,765 hospitalizations.
- TBI mortality rates increased with age among those aged 5 years and older.
- Males were more than twice as likely to die from TBI-associated injuries.
- American Indian and Alaska Native males and Black or African American males had the highest rates of TBI mortality and hospitalization, 2012–2014.

### 0.10.1 Traumatic brain injury (TBI) mortality

There were 873 TBI-associated deaths in Oregon in 2014, as shown in Table 47. The annual rate of TBI-associated mortality is shown in Figure 61.

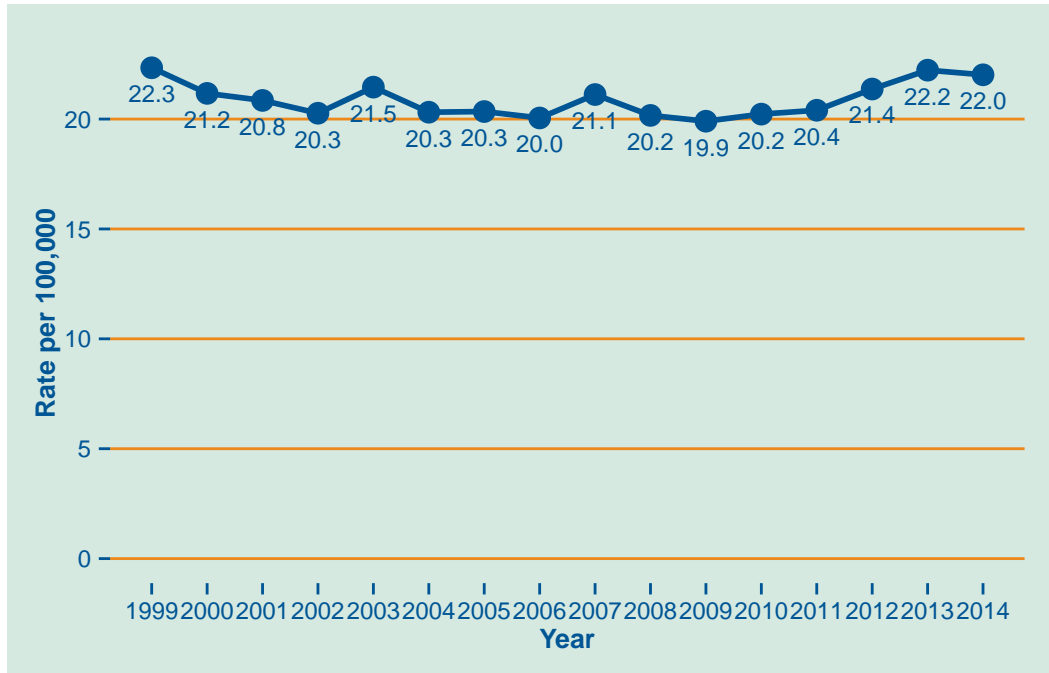


Figure 61: TBI mortality by year, Oregon, 1999–2014



The number of TBI deaths increased in Oregon since 1999.

Table 47: The number of TBI deaths by year, Oregon, 1999–2014

Year	No.
1999	758
2000	726
2001	723
2002	712
2003	761
2004	725
2005	735
2006	736
2007	786
2008	760
2009	758
2010	776
2011	789
2012	833
2013	873
2014	874

### 0.10.1.1 TBI mortality by age

Oregon TBI mortality rates varied by age between 2012–2014. TBI mortality rates steadily increased with age for those aged 5 years and older. Compared to the next oldest age group, the TBI mortality rate nearly doubled for those aged 75 to 84 years, and more than double for people aged 85 years and older. Children less than 5 years old had higher TBI mortality rates than children 5 to 14 years old.

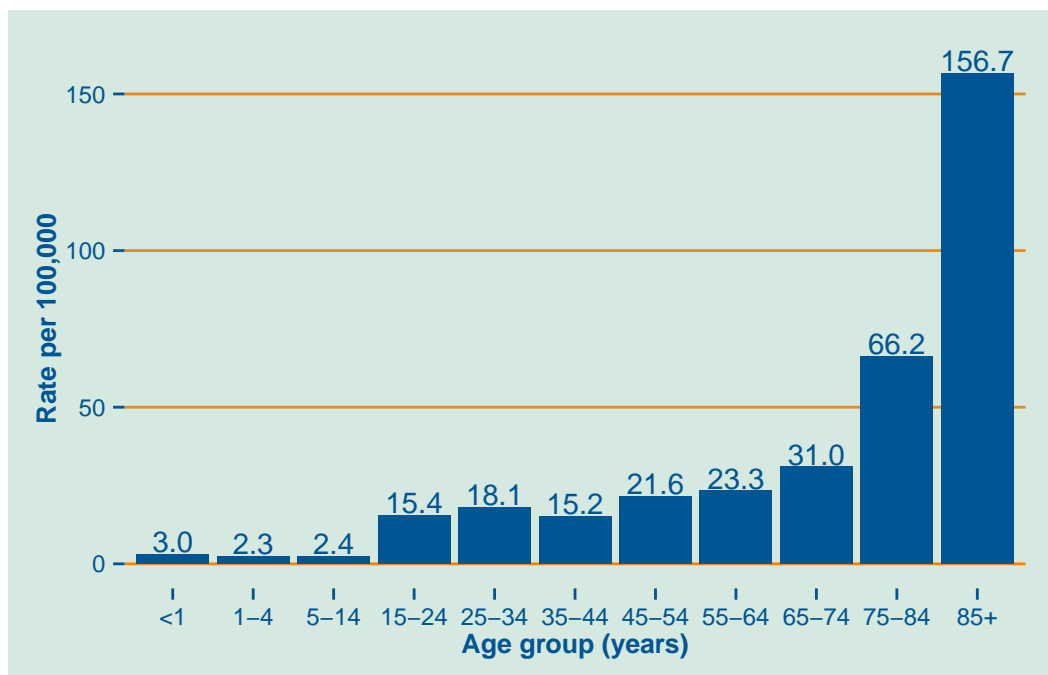


Figure 62: Average annual rate of TBI mortality by age, Oregon, 2012–2014

### 0.10.1.2 TBI mortality by sex

Oregon TBI mortality rates varied by sex between 2012–2014. The 2012–2014 average annual male TBI mortality rate of 32.4 per 100,000 was more than double the female rate of 11.6 per 100,000.

### 0.10.1.3 TBI mortality by age and sex

TBI mortality rates varied by age and sex between 2012–2014. Male TBI mortality rates were higher than females for all age groups, except for those aged < 1 year of age.

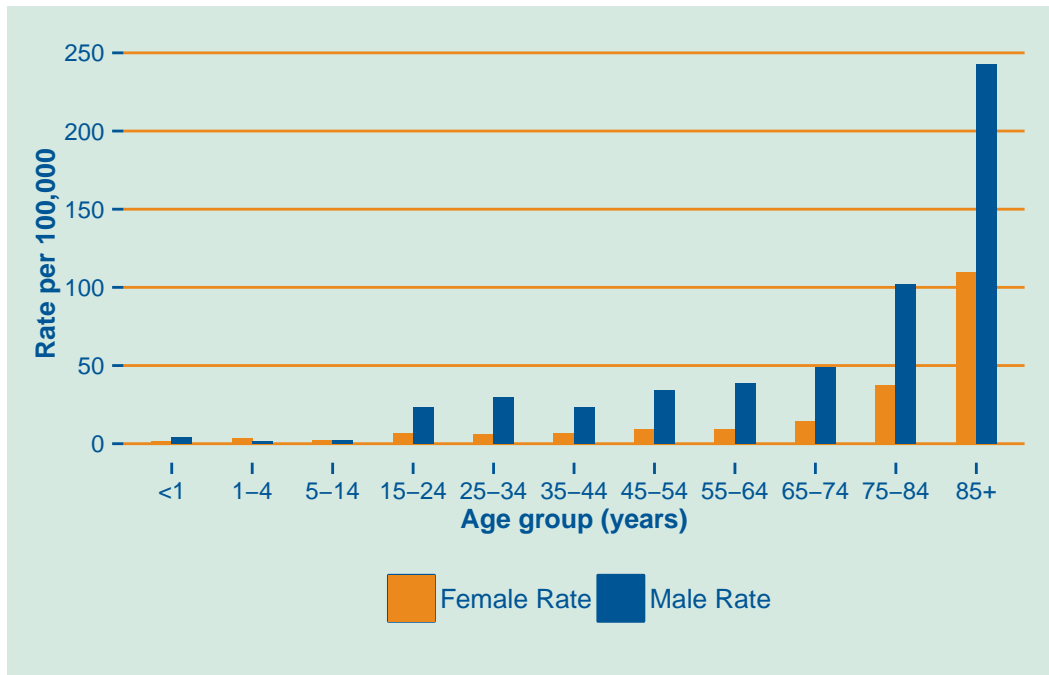


Figure 63: Average annual rate of TBI mortality by age and sex, Oregon, 2012–2014

Table 48: Average annual rate (per 100,000) of TBI mortality by age and sex, Oregon, 2012–2014

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Age group (years)	Male rate	Female rate
<1	4.3	1.5
1-4	1.4	3.3
5-14	2.3	2.4
15-24	23.6	6.9
25-34	29.8	6.1
35-44	23.5	6.7
45-54	34.0	9.4
55-64	38.5	9.1
65-74	49.2	14.2
75-84	101.9	37.5
85+	242.9	109.5

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#### 0.10.1.4 TBI mortality by race

Oregon TBI mortality rates varied by race between 2012–2014. American Indian and Alaska Natives had the highest TBI mortality rate followed by Whites.

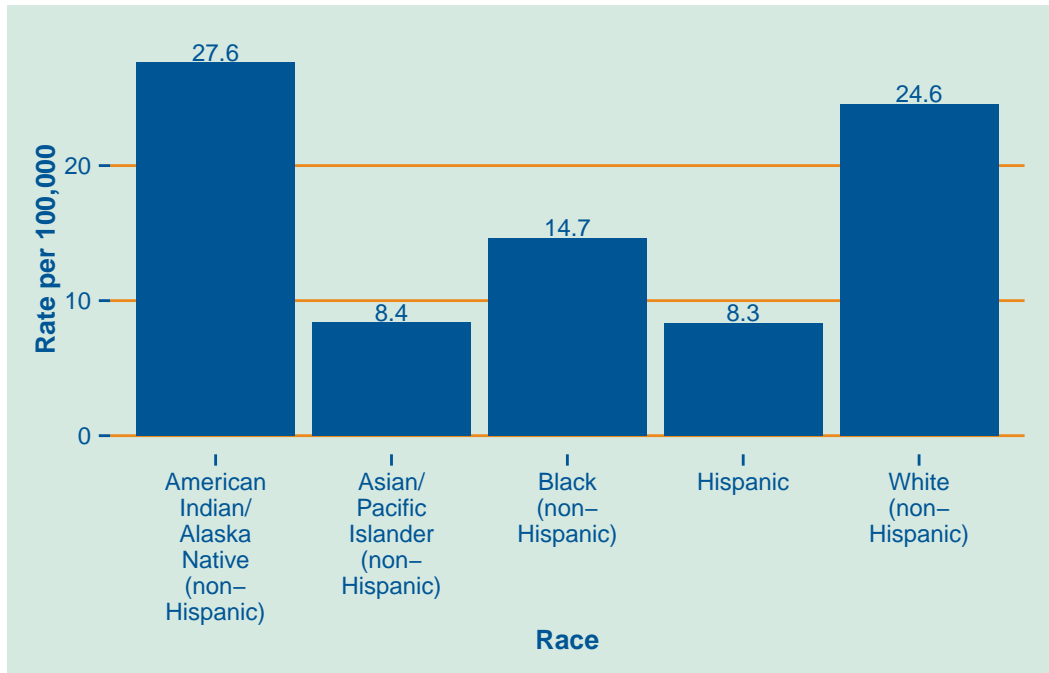


Figure 64: Average annual rate of TBI mortality by race, Oregon, 2012–2014

0.10.1.5 TBI mortality by sex and race

American Indian and Alaska Native males had the highest TBI mortality rate followed by White males.

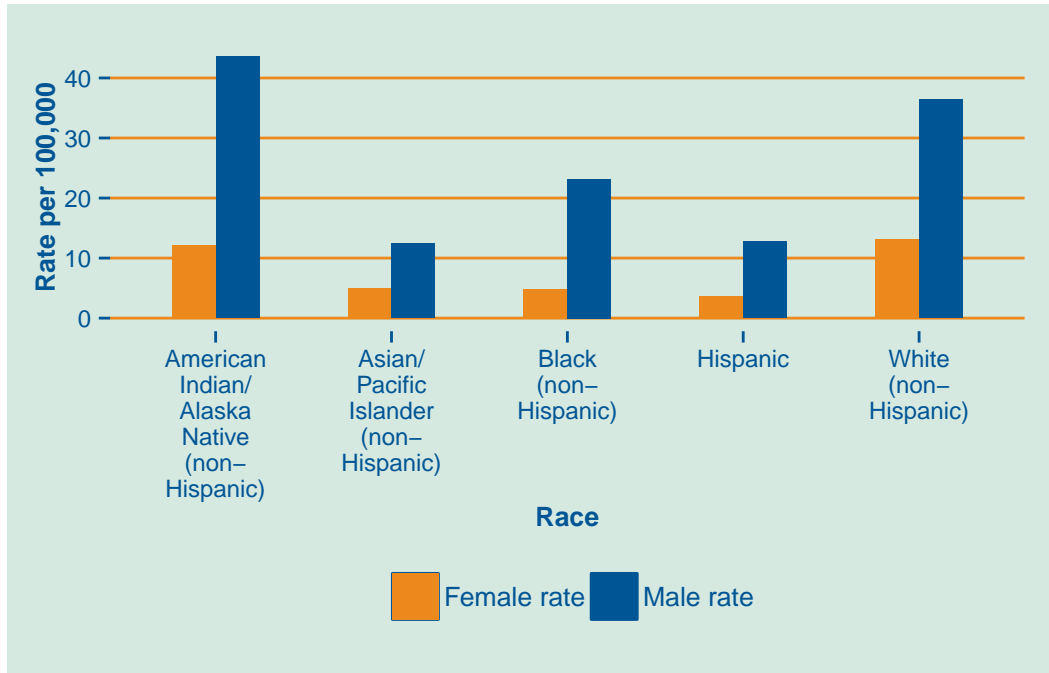


Figure 65: Average annual rate of TBI mortality by race and sex, Oregon, 2012–2014

Table 49: Average annual rate (per 100,000) of TBI mortality by race and sex, Oregon, 2012–2014

Race	Male rate	Female rate
American Indian/Alaska Native (non-Hispanic)	43.6	12.1
Asian/Pacific Islander (non-Hispanic)	12.4	4.9
Black (non-Hispanic)	23.2	4.8
Hispanic	12.7	3.6
White (non-Hispanic)	36.4	13.2

**0.10.1.6 TBI-related deaths by mechanism**

TBI-related deaths by mechanism are shown in Table 50 for 2014. Firearms were the highest frequency mechanism of TBI-related deaths, followed by falls and MVT.

Table 50: TBI deaths by mechanism, Oregon, 2014

Mechanism	Unintent.	Suicide	Homicide	Undeterm.	Legal/War
Cut/Pierce	0	0	1	0	0
Drowning	1	0	0	0	0
Fall	225	3	0	0	0
Hot object/scald	1	0	0	0	0
Firearm	1	356	24	0	4
Machinery	4	0	0	0	0
MVT	142	0	0	0	0
Pedal cyclist, other	7	0	0	0	0
Pedestrian, other	7	0	0	0	0
Other land transport	11	0	0	0	0
Other transport	1	0	0	0	0
Poisoning	2	0	0	2	0
Struck by/against	8	0	1	0	0
Suffocation	1	0	1	0	0
Other	24	4	13	4	0

\*“Unintent”= Unintentional injury; “Undeterm.”= Undetermined intent

### 0.10.2 TBI hospitalizations

Crude TBI-associated hospitalization rates from 2000–2014 are shown in Figure 66. Table 51 shows the number of TBI hospitalizations by year. There were 2,765 hospitalizations for TBI in 2014.

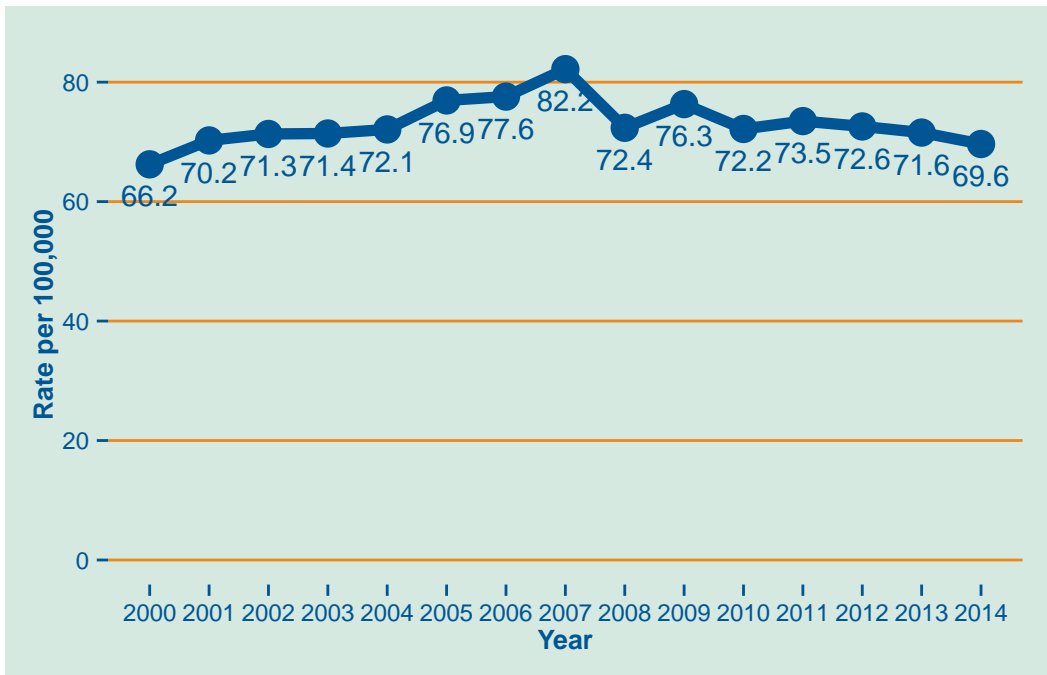


Figure 66: Rate of TBI hospitalization by year, Oregon, 2000–2014



The number of TBI hospitalizations has increased in Oregon since 2000, although it appears that the number peaked in 2007 and has remained relatively stable since 2008.

Table 51: The number of TBI hospitalizations  
by year, Oregon, 2000–2014

Year	No.
2000	2,272
2001	2,436
2002	2,506
2003	2,533
2004	2,573
2005	2,780
2006	2,848
2007	3,059
2008	2,727
2009	2,907
2010	2,769
2011	2,842
2012	2,830
2013	2,811
2014	2,765

### 0.10.2.1 TBI hospitalizations by age

Between birth and age 24 years, TBI hospitalization rates were highest for those <1 year of age and for those aged 15–24 years. Rates declined for those aged 25–44 years and then increased with age for those aged 45 years and older.

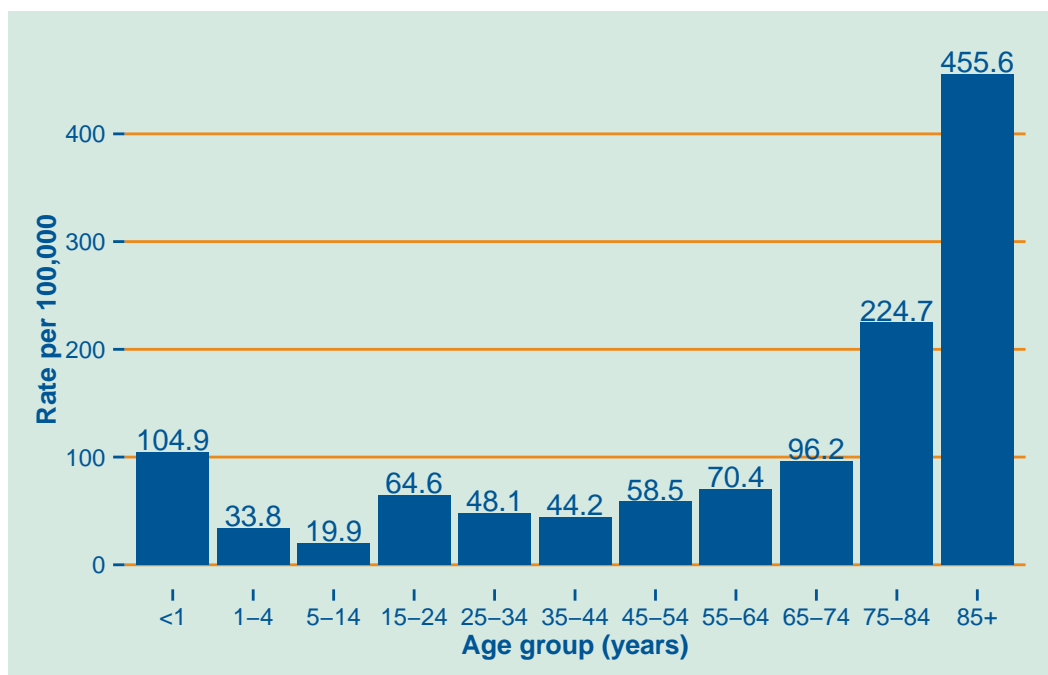


Figure 67: Average annual rate of TBI hospitalization by age, Oregon, 2012–2014

### 0.10.2.2 TBI hospitalizations by sex

TBI hospitalization rates varied by sex between 2012–2014. The average annual male TBI hospitalization rate of 90.2 per 100,000 was higher than the female rate of 52.9 per 100,000.

### 0.10.2.3 TBI hospitalizations by age and sex

Oregon TBI hospitalization rates varied by age and sex between 2012–2014. Rates were higher for males than females across age groups.



Figure 68: Average annual rate of TBI hospitalization by age and sex, Oregon, 2012–2014

Table 52: Average annual rate (per 100,000) of TBI hospitalization by age and sex, Oregon, 2012–2014

Age group (years)	Male rate	Female rate
<1	132.6	75.8
1-4	40.9	26.3
5-14	26.0	13.6
15-24	94.1	34.0
25-34	71.6	24.2
35-44	64.1	23.9
45-54	82.6	34.8
55-64	98.6	44.0
65-74	120.3	74.0
75-84	247.9	206.0
85+	524.3	417.9

#### 0.10.2.4 TBI hospitalizations by race

Oregon TBI hospitalization rates varied by race between 2012–2014. The highest rate occurred among American Indians and Alaska Natives.

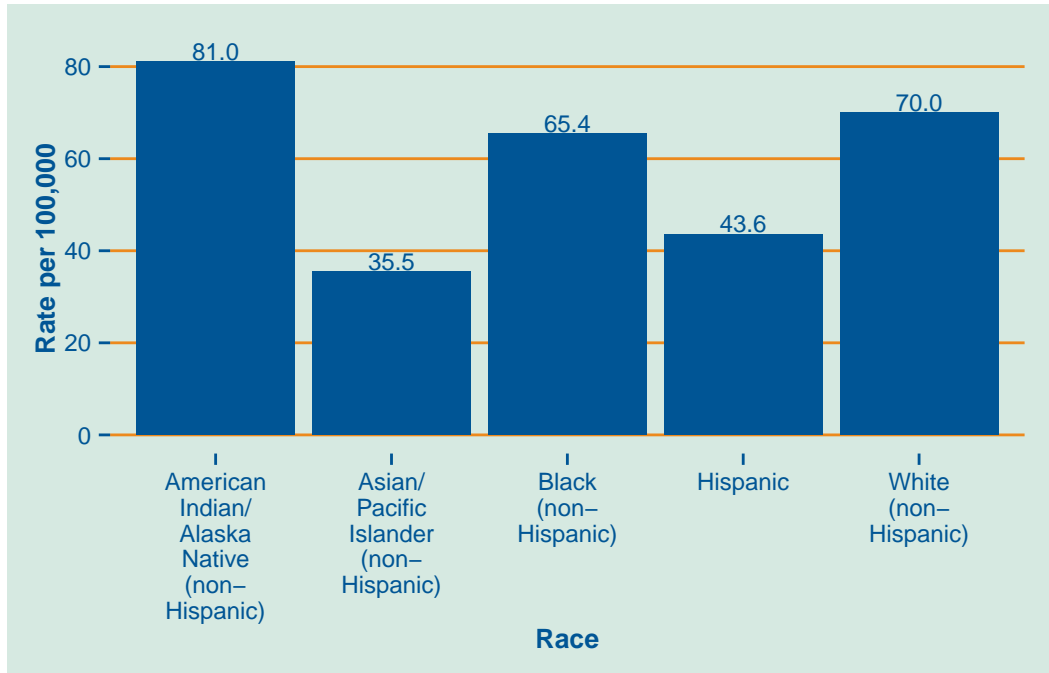


Figure 69: Average annual rate of TBI hospitalization by race, Oregon, 2012–2014

0.10.2.5 TBI hospitalizations by sex and race

American Indian and Alaska Native males had the highest TBI hospitalization rates by sex, followed by Black/African American males.

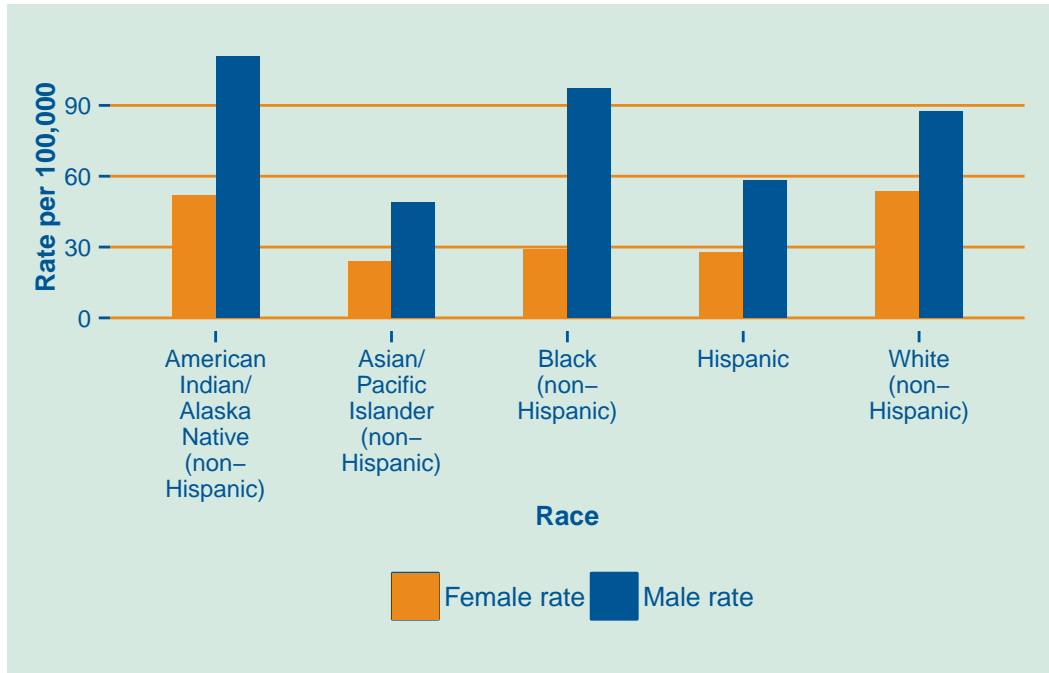


Figure 70: Average annual rate of TBI hospitalization by race and sex, Oregon, 2012–2014

Table 53: Average annual rate of TBI hospitalization by race and sex, Oregon

Race	Male rate	Female rate
American Indian/Alaska Native (non-Hispanic)	110.9	52.0
Asian/Pacific Islander (non-Hispanic)	48.9	23.9
Black (non-Hispanic)	97.0	29.1
Hispanic	58.2	27.8
White (non-Hispanic)	87.3	53.4



## 0.11 Appendix

### Additional injury resources:

- Addictions and Mental Health Services: <http://www.oregon.gov/OHA/amh/pages/index.aspx>
- Alliance for Community Traffic Safety: <http://www.actsoregon.org/>
- American Academy of Pediatrics: [www.aap.org/default.htm](http://www.aap.org/default.htm)
- Association of Community Mental Health Programs: <http://www.aocmhp.org/>
- Attorney General’s Task Force on Sexual Assault: [www.oregonsatf.org](http://www.oregonsatf.org)
- Brain Injury Association of Oregon: [www.biaoregon.org](http://www.biaoregon.org)
- Centers for Disease Control and Prevention, Conference of Local Health Officials: <http://www.oregonclho.org/>
- Fall Prevention Center of Excellence: <http://www.stopfalls.org/>
- Maternal Child Health Programs: <http://public.health.oregon.gov/PHD/Directory/Pages/program.aspx?pid=25>
- Matter of Balance: [http://www.mmc.org/mh\\_body.cfm?id=432](http://www.mmc.org/mh_body.cfm?id=432)
- National Center for Injury Prevention and Control: [www.cdc.gov/ncipc/](http://www.cdc.gov/ncipc/)
- National Council on Aging: <http://www.ncoa.org/improve-health/center-for-healthy-aging/falls-prevention/>
- National SafeKids: [www.safekids.org](http://www.safekids.org)
- National Strategy for Suicide Prevention: [http://www.surgeongeneral.gov/library/reports/national-strategy-suicide-prevention/full\\_report-rev.pdf](http://www.surgeongeneral.gov/library/reports/national-strategy-suicide-prevention/full_report-rev.pdf)
- Office of Children and Family Services: <http://www.oregon.gov/DHS/aboutdhs/pages/structure/caf.aspx>
- Oregon Coalition Against Domestic and Sexual Violence: <http://www.ocadsv.com/>
- Oregon Department of Transportation, Safety Division: <http://www.oregon.gov/odot/ts/pages/index.aspx>
- Oregon Office of the State Medical Examiner: <http://www.oregon.gov/OSP/SME/pages/index.aspx>
- Oregon Geriatric Education Center: <http://www.ohsu.edu/xd/education/schools/school-of-nursing/about/centers/oregon-geriatric-education/index.cfm/>



- Oregon SafeKids: [www.oregon.gov/DHS/ph/safekids/index.shtml](http://www.oregon.gov/DHS/ph/safekids/index.shtml) and [www.safekidsoregon.org](http://www.safekidsoregon.org)
- Otago Fall Prevention: [http://www.acc.co.nz/PRD\\_EXT\\_CSMP/groups/external\\_providers/documents/publications\\_promotion/prd\\_ctrb118334.pdf](http://www.acc.co.nz/PRD_EXT_CSMP/groups/external_providers/documents/publications_promotion/prd_ctrb118334.pdf)
- Partnership Against Violence Network: [www.pavnet.org/](http://www.pavnet.org/)
- PAXIS Institute: <http://www.paxis.org/Default.aspx?AspxAutoDetectCookieSupport=1>
- Lines for Life Drug Take Back: <http://www.linesforlife.org/>
- Safe States Alliance: <http://www.safestates.org/index.cfm>
- Seniors and People with Disabilities: <http://www.oregon.gov/DHS/spwpd/pages/index.aspx>
- Society for the Advancement of Violence and Injury Research: [www.savirweb.org](http://www.savirweb.org)
- Stepping On: <http://www.stepsingon.com/>
- STEADI: <https://apha.confex.com/apha/140am/webprogram/Paper260622.html>
- Suicide Prevention Resource Center: [www.sprc.org](http://www.sprc.org)
- Tai Chi Moving for Better Balance: <http://www.ori.org/Public/physical/AdultPhysicalActivity.html>
- United States Consumer Product Safety Commission: [www.cpsc.gov/](http://www.cpsc.gov/)



PUBLIC HEALTH

Injury and Violence Prevention

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