Mortality
The three leading causes of death for Alaska Native people are cancer, heart disease, and unintentional injury.

Life expectancy for Alaska Native people has been increasing since the 1980s and is now 70.7 years.

Alaska Native infant mortality rates have decreased significantly since the 1980s. The infant mortality rate is currently 8.9 infant deaths per 1,000 live births.

Alaska Native mortality rates from all-causes, heart disease, and unintentional injury have decreased significantly since the 1980s.

Alaska Native mortality rates for cancer and suicide have not changed significantly, and COPD mortality rates have increased significantly.

Unintentional injuries account for nearly a quarter of all years of potential life lost from premature death.
Leading Causes of Death

Definition

The leading causes of death are the causes of death that account for the highest number among all deaths in a population in a given time period. The leading causes of death are presented in rank order and are ranked according to the number of deaths. Ranking the leading causes of death is a common way to look at mortality data and to monitor the burden of various diseases and behaviors.

Summary

- The three leading causes of death for Alaska Native people during 2012-2015 were cancer, heart disease, and unintentional injury. These three causes of death accounted for half (47.7%) of all deaths during the time period.
- The Alaska Native and U.S. White population shared eight of the ten leading causes of death.
- The Alaska Native mortality rates for nine of the ten leading causes of death were significantly higher than the U.S. White rate. The mortality rate due to diabetes among Alaska Native people did not differ significantly from U.S. Whites.
- Alaska Native males had significantly higher mortality rates for cancer, heart disease, unintentional injury, suicide, COPD, and alcohol abuse compared to Alaska Native females. Alaska Native females had significantly higher rates of mortality due to cerebrovascular disease and chronic liver disease compared to Alaska Native males.

Leading Causes of Death, 2012-2015

Data Source: Alaska Division of Public Health, Health Analytics and Vital Records Section; Centers for Disease Control and Prevention, National Vital Statistics System

Appendix Table C-16

Note: U.S. Whites data are for 2012-2014.
Leading Causes of Death by Gender, Alaska Native People, 2012-2015

Data Source: Alaska Division of Public Health, Alaska Health Analytics and Vital Records Section; Alaska Department of Labor and Workforce Development

Appendix Table C-17
## Leading Causes of Death

**Leading Causes of Death and Age-Adjusted Mortality Rates per 100,000 by Population Group, 2012-2015**

Data Source: Alaska Division of Public Health, Alaska Health Analytics and Vital Records Section; Alaska Department of Labor and Workforce Development; Centers for Disease Control and Prevention, National Vital Statistics System

Appendix Table C-16 and Table C-17

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<th>Alaska Native Males</th>
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## Leading Causes of Death

### Leading Causes of Death and Age-Specific Mortality Rates per 100,000 by Age Group, Alaska Native People, 2012-2015

Data Source: Alaska Division of Public Health, Alaska Health Analytics and Vital Records Section; Alaska Department of Labor and Workforce Development

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Life Expectancy at Birth, 1980-2013

Data Source: Alaska Division of Public Health, Alaska Health Analytics and Vital Records Section; Alaska Department of Labor and Workforce Development; Centers for Disease Control and Prevention, National Vital Statistics System

Appendix Table C-18

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<th>U.S. Whites</th>
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**Definition**

Life expectancy at birth is the average number of years a person is expected to live from birth, based on the year in which they were born. Life expectancy is an indicator of the overall mortality at all ages for a population.

**Summary**

- Life expectancy at birth among Alaska Native people increased by 5.4 years since 1980-1983, reaching 70.7 years during 2009-2013.
- Despite the steady increase in life expectancy among Alaska Native people, a gap of 7.3 years existed between Alaska Native and Alaska White life expectancies during 2009-2013.
- Alaska Native females have a higher average life expectancy compared with males; however, the gender gap has decreased with each decade since 1980.
- Life expectancy varied by tribal health region from 69.3 to 73.8 years.
Mortality

Life Expectancy

Alaska Native Life Expectancy by Gender 1980-2015
Data Source: Alaska Division of Public Health, Alaska Health Analytics and Vital Records Section; Alaska Department of Labor and Workforce Development

Alaska Native Life Expectancy in Years by Tribal Health Region, 2009-2013
Data Source: Alaska Health Analytics and Vital Records Section; Alaska Department of Labor and Workforce Development
Appendix Table C-19


[Graph showing life expectancy by tribal health region (Alaska Native Males and Females) for 2009-2013.]
**All-Cause Mortality**

**Definition**

*All-cause mortality* is the death rate from all causes of death for a population in a given time period.

**Summary**

- During 2012-2015, the all-cause mortality rate among Alaska Native people was 1151.7 per 100,000 population.
- During 1980-2015, the all-cause mortality rate among Alaska Native people significantly decreased (p<0.01).
- During the same time period, a greater rate of decrease in the all-cause mortality rate among Alaska non-Native people compared with Alaska Native people widened the disparity between populations. The Alaska Native all-cause mortality rate was 1.7 times higher than the non-Native rate during 2012-2015 (p<0.05).
- The 2012-2015 all-cause mortality rate varied by tribal health region from 968.7 to 1307.9 deaths per 100,000 population.

**Age-Adjusted All-Cause Mortality Rate per 100,000 Population, 1980-1983 to 2012-2015**

*Data Source: Alaska Division of Public Health, Alaska Health Analytics and Vital Records Section; Centers for Disease Control and Prevention, National Vital Statistics System*

*Appendix Table C-20*

Note: U.S. Whites data are for 2012-2014.
All-Cause Mortality

Age-Adjusted All-Cause Mortality Rate by Gender, 2012-2015

Data Source: Alaska Division of Public Health, Alaska Health Analytics and Vital Records Section; Centers for Disease Control and Prevention, National Vital Statistics System

Appendix Table C-21

Age-Adjusted Alaska Native All-Cause Mortality Rate Per 100,000 by Tribal Health Region, 2012-2015

Data Source: Alaska Division of Public Health, Alaska Health Analytics and Vital Records Section

Appendix Table C-22

Note: U.S. Whites data are for 2012-2014.
**Infant Mortality**

**Definition**

The *infant mortality rate (IMR)* is the number of children under one year of age who died divided by the number of live births during the year. It is used to compare and monitor the health and well-being of populations throughout the world. Specifically, this rate may be an indicator of the quality and accessibility of primary health care available to pregnant women and infants as well as reflecting on the impact poverty and substandard living conditions have on maternal and infant health. Infant mortality can be affected by factors such as level of education of the mother, household income, sanitary conditions, prenatal and postnatal care, and other factors.

**Objective**

Reduce the rate of all infant deaths (within 1 year) to 6.0 infant deaths per 1,000 live births. *Healthy People 2020, Goal MICH-1.3*

**Summary**

- During 1981-2013, the Alaska Native infant mortality rate declined 49.4%, a significant decrease (p<0.01).
- Alaska Native infants experience higher mortality in the post-neonatal period (28 days to 1 year of age) than in the neonatal period (<28 days of age).
- The leading causes of Alaska Native infant deaths during 1999-2013 were congenital abnormalities (16.9%), sudden infant death syndrome (SIDS) (16.4%), and unintentional injuries (15.1%).
- During 2009-2013, rates of infant mortality varied by tribal health region, ranging from 2.6 to 10.9 per 1,000 live births.

**Infant Mortality Rate, 1981-2013**

*Data Source: Alaska Division of Public Health, Alaska Health Analytics and Vital Records Section; Centers for Disease Control and Prevention, National Vital Statistics System*

Appendix Table C-23

Note: A smoothing statistical technique using a P-spline model was used to generate the dotted line on the graph which shows a smoothed trend for the Alaska Native infant mortality rate.
**Mortality**

### Infant Mortality

#### Alaska Native Neonatal and Postneonatal Deaths, 2000-2013

Data Source: Alaska Division of Public Health, Alaska Health Analytics and Vital Records Section

Appendix Table C-24

![Graph showing the number of infant deaths from 2000 to 2013 for neonatal and postneonatal categories.](image)

#### Leading Causes of Alaska Native Infant Mortality, 1999-2013

Data Source: Alaska Division of Public Health, Alaska Health Analytics and Vital Records Section

Appendix Table C-25

- **Congenital abnormalities**: 16.9%
- **SIDS**: 16.4%
- **Unintentional injuries**: 15.1%
- **Influenza & pneumonia**: 4.7%
- **Other**: 23.1%
- **Undetermined**: 23.9%

#### Alaska Native Infant Mortality Rate Per 1,000 Live Births by Tribal Health Region, 2009-2013

Data Source: Alaska Division of Public Health, Alaska Health Analytics and Vital Records Section

Appendix Table C-26

![Map showing the mortality rate by tribal health region.](image)

- **Data Suppressed**: 2.6 - 5.0
- **5.1 - 7.0**
- **7.1 - 10.9**

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**Alaska Native Health Status Report** 31
Definition

*Years of potential life lost* (YPLL) measures premature mortality. It represents the total number of years not lived by persons who died before the age of 75 years. YPLL is an alternative measure of mortality that places more emphasis on deaths that occur at younger ages. The leading causes of YPLL are the leading causes of death ranked according to those that accounted for the highest number of YPLL.

Summary

- In 2012-2015, there were 63,443 Alaska Native years of potential life lost (YPLL) from all causes.
- The rate of Alaska Native YPLL for all-causes decreased significantly during 1980 to 1996, but has remained relatively stable from 1996 to 2015.
- Alaska Native people experienced significantly higher YPLL rates as compared to U.S. Whites in all time periods (p<0.01).
- The leading causes of YPLL among Alaska Native people, in rank order were unintentional injury, suicide, cancer, and heart disease. These causes contributed to the highest number of YPLL of all causes. Unintentional injury accounted for nearly a quarter (22.2%) of all YPLL.
- Alaska Native men disproportionately contributed to YPLL from unintentional injuries, suicide, heart disease, and homicide, as compared to Alaska Native females. However, Alaska Native females contributed more YPLL from chronic liver disease and cerebrovascular disease than Alaska Native males.

**Age-Adjusted All-Cause Years of Potential Life Lost per 100,000, 1980-1983 to 2012-2015**

Data Source: Alaska Division of Public Health, Alaska Health Analytics and Vital Records Section; Centers for Disease Control and Prevention, National Vital Statistics System

Appendix Table C-27
Years of Potential Life Lost

Leading Causes of Years of Potential Life Lost, 2012-2015
Data Source: Alaska Division of Public Health, Alaska Health Analytics and Vital Records Section
Appendix Table C-28

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<td>Unintentional Injury</td>
</tr>
<tr>
<td>3. Cancer</td>
<td>15.5</td>
<td>17.4</td>
<td>Heart Disease</td>
<td></td>
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<td>4. Heart Disease</td>
<td>18.7</td>
<td>15.1</td>
<td>Cancer</td>
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<td>5. Alcohol Abuse</td>
<td>27.3</td>
<td>25.2</td>
<td>Suicide</td>
<td>Liver Disease &amp; Cirrhosis</td>
</tr>
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<td>6. Liver Disease &amp; Cirrhosis</td>
<td>25.9</td>
<td>39.7</td>
<td>Perinatal Conditions</td>
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<td>7. Homicide</td>
<td>38.2</td>
<td></td>
<td></td>
<td>Diabetes Mellitus</td>
</tr>
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<td>8. Congenital Abnormalities</td>
<td>59.1</td>
<td>25.1</td>
<td>Homicide</td>
<td></td>
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<td>9. Perinatal Conditions</td>
<td>74.2</td>
<td>73.6</td>
<td>Cerebrovascular Disease</td>
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<td>18.4</td>
<td>19.6</td>
<td>COPD</td>
<td>COPD</td>
</tr>
</tbody>
</table>
**Definition**

*Cancer mortality* is the rate of death due to malignant neoplasms (cancer) per 100,000 population.

**Objectives**

Reduce the overall cancer death rate to 160.6 deaths per 100,000 population.

*Healthy People 2020, Goal C-1*

**Summary**

- During 2012-2015, cancer at a rate of 242.7 per 100,000, was the leading cause of death among Alaska Native people.

- There was no significant change in cancer mortality rate among Alaska Native people between 1980 and 2015. During the same time period, cancer mortality rates decreased significantly among the non-Native population, resulting in a significant disparity between Alaska Native and non-Native mortality rates after 1992 (p<0.01).

- Cancer mortality rates varied by tribal health region from 203.1 to 404.5 deaths per 100,000 population.

**Age-Adjusted Cancer Mortality Rate per 100,000 Population, 1980-1983 to 2012-2015**

*Data Source: Alaska Division of Public Health, Alaska Health Analytics and Vital Records Section; Centers for Disease Control and Prevention, National Vital Statistics System*

*Appendix Table C-29*

Note: U.S. Whites data are for 2012-2014.
**Mortality**

**Cancer Mortality**

### Age-Adjusted Cancer Mortality Rate by Gender, 2012-2015

Data Source: Alaska Division of Public Health, Alaska Health Analytics and Vital Records Section; Centers for Disease Control and Prevention, National Vital Statistics System

Appendix Table C-30

Note: U.S. Whites data are for 2012-2014.

### Age-Adjusted Alaska Native Cancer Mortality Rate Per 100,000 by Tribal Health Region, 2012-2015

Data Source: Alaska Division of Public Health, Alaska Health Analytics and Vital Records Section

Appendix Table C-31

Note: U.S. Whites data are for 2012-2014.
Definition

Heart disease mortality is the rate of death due to diseases of the heart per 100,000 population. Heart disease mortality includes deaths from coronary heart disease, hypertensive heart and renal disease, acute rheumatic fever, chronic rheumatic heart diseases, and other heart diseases including heart failure.

Summary

- During 2012-2015, heart disease was the second leading cause of death among Alaska Native people.
- During 1980 to 2015, heart disease mortality rates among Alaska Native people decreased significantly (p<0.01).
- Prior to 2008, Alaska Native people had significantly lower heart disease mortality rates compared with both non-Native and U.S. White populations; however in the most recent time periods, the Alaska Native heart disease mortality rates have been significantly higher (p<0.05).
- The heart disease mortality rate among Alaska Native males is significantly higher than the heart disease mortality rate among Alaska Native females (p<0.05).
- Heart disease mortality rates varied by tribal health region from 139.9 to 264.4 deaths per 100,000 population.

Age-Adjusted Heart Disease Mortality Rate per 100,000 Population, 1980-1983 to 2012-2015

Data Source: Alaska Division of Public Health, Alaska Health Analytics and Vital Records Section; Centers for Disease Control and Prevention, National Vital Statistics System

Appendix Table C-32

Note: U.S. Whites data are for 2012-2014.
Heart Disease Mortality

Age-Adjusted Heart Disease Mortality Rate by Gender, 2012-2015
Data Source: Alaska Division of Public Health, Alaska Health Analytics and Vital Records Section; Centers for Disease Control and Prevention, National Vital Statistics System
Appendix Table C-33

Age-Adjusted Alaska Native Heart Disease Mortality Rate Per 100,000 by Tribal Health Region, 2012-2015
Data Source: Alaska Division of Public Health, Alaska Health Analytics and Vital Records Section
Appendix Table C-34

Note: U.S. Whites data are for 2012-2014.
Unintentional Injury Mortality

Definition

Unintentional injury mortality is the total number of deaths due to unintentional injuries per 100,000 persons. Unintentional injury deaths include ICD-9 codes E800-E869, E880-929, and ICD-10 codes V01-X59, Y85-Y86. ICD-9 code “Accidental poisoning by alcoholic beverages, not otherwise classified” (E860.0) and ICD-10 code “Accidental poisoning by exposure to alcohol” (X45) are not included. These have been reassigned from unintentional injury to alcohol abuse mortality because of changes in the coding of deaths on death certificates in the State of Alaska.

Objectives

Reduce the unintentional injury mortality rate to 54.8 per 100,000 population.
Healthy Alaskans 2020, Leading Health Indicator #16
Reduce unintentional injury deaths to 36.4 deaths per 100,000 population.
Healthy People 2020, Goal IVP-11

Summary

- Unintentional injury is the third leading cause of death among Alaska Native people, with a mortality rate of 99.4 per 100,000 during 2012-2015.
- During 1980 to 2015, unintentional injury mortality rates among Alaska Native people have decreased significantly (p<0.01). Most of the decline occurred during the 1980s and 1990s. Since 2004, rates have not changed significantly.
- In 2012-2015 Alaska Native people had an unintentional injury mortality rate 2.6 times that of non-Natives and 2.4 times that of U.S. Whites (p<0.01).
- Unintentional injury mortality rates varied by tribal health region, ranging from 60.9 to 173.2 per 100,000.

Age-Adjusted Unintentional Injury Mortality Rate per 100,000 Population, 1980-1983 to 2012-2015

Data Source: Alaska Division of Public Health, Alaska Health Analytics and Vital Records Section; Centers for Disease Control and Prevention, National Vital Statistics System
Appendix Table C-35

Note: U.S. Whites data are for 2012-2014.
MORTALITY

Unintentional Injury Mortality

Unintentional Injury Mortality Rate by Gender, 2012-2015
Data Source: Alaska Division of Public Health, Alaska Health Analytics and Vital Records Section; Centers for Disease Control and Prevention, National Vital Statistics System
Appendix Table C-36

Age-Adjusted Alaska Native Unintentional Injury Mortality Rate per 100,000 by Tribal Health Region, 2012-2015
Data Source: Alaska Division of Public Health, Alaska Health Analytics and Vital Records Section
Appendix Table C-37

Note: U.S. Whites data are for 2012-2014.
COPD Mortality

Definition

Chronic obstructive pulmonary disease (COPD) mortality is the rate of death due to COPD per 100,000 population. COPD mortality includes deaths from bronchitis, emphysema, and other chronic lower respiratory diseases excluding asthma. The most significant risk factor for COPD is long-term exposure to tobacco smoke. Other risk factors include occupational or environmental exposure to dusts or chemicals, age, and genetics.

Summary

- During 2012-2015, COPD was the fifth leading cause of death among Alaska Native people.
- COPD mortality rates among Alaska Native people increased significantly between 1980 and 2015 (p<0.01).
- COPD mortality rates varied by tribal health region from 30.9 to 113.9 per 100,000 population.

Age-Adjusted COPD Mortality Rate per 100,000 Population, 1980-1983 to 2012-2015

Data Source: Alaska Division of Public Health, Alaska Health Analytics and Vital Records Section; Centers for Disease Control and Prevention, National Vital Statistics System

Appendix Table C-38

Note: U.S. Whites data are for 2012-2014.
**MORTALITY**

### COPD Mortality

#### Age-Adjusted COPD Mortality Rate by Gender, 2012-2015

Data Source: Alaska Division of Public Health, Alaska Health Analytics and Vital Records Section; Centers for Disease Control and Prevention, National Vital Statistics System

Appendix Table C-39

#### Age-Adjusted Alaska Native COPD Mortality Rate Per 100,000 by Tribal Health Region, 2012-2015

Data Source: Alaska Division of Public Health, Alaska Health Analytics and Vital Records Section

Appendix Table C-40

Note: U.S. Whites data are for 2012-2014.
Suicide Mortality

Definition
The *suicide mortality* rate is the total number of deaths due to suicide per 100,000 population. Suicide is defined as the action of intentionally taking one’s own life.

Objectives
Reduce Alaskan deaths from suicide to 43.2 per 100,000 among the population aged 15-24 years, and 23.5 per 100,000 among the population aged 25 years and older.

*Healthy Alaskans 2020, Leading Health Indicator #7a and #7b*
Reduce the suicide rate to 10.2 suicides per 100,000 population.

*Healthy People 2020, Goal MHMD-1*

Summary
- During 2012-2015, suicide was the fourth leading cause of death among Alaska Native people.
- Between 1992-1995 and 2012-2015, the suicide death rate decreased 11.9% among Alaska Native people (46.4 to 40.9 deaths per 100,000). This decrease was not statistically significant.
- During 2005-2015, firearms accounted for more than half of all suicide deaths (56.7%)
- The suicide mortality rate varied by tribal health region from 28.3 to 65.5 deaths per 100,000 population.

Age-Adjusted Suicide Mortality Rate per 100,000 Population, 1992-1995 to 2012-2015

*Data Source: Alaska Division of Public Health, Alaska Health Analytics and Vital Records Section; Centers for Disease Control and Prevention, National Vital Statistics System*

Appendix Table C-41

Note: U.S. Whites data are for 2012-2014.
Suicide Mortality

Age-Adjusted Suicide Mortality Rate by Gender, 2012-2015
Data Source: Alaska Division of Public Health, Alaska Health Analytics and Vital Records Section; Centers for Disease Control and Prevention, National Vital Statistics System
Appendix Table C-42

Suicide Death by Mechanism, Alaska Native People, All Ages, 2005-2015
Data Source: Alaska Division of Public Health, Alaska Health Analytics and Vital Records Section

Age-Adjusted Alaska Native Suicide Mortality Rate Per 100,000 by Tribal Health Region, 2012-2015
Data Source: Alaska Division of Public Health, Alaska Health Analytics and Vital Records Section
Appendix Table C-43

Note: U.S. Whites data are for 2012-2014.