

BONNER COUNTY CANCER PROFILE

*A publication from the Cancer Data Registry of Idaho,
Idaho Hospital Association.*

**Cancer Incidence 2017–2021
Cancer Mortality 2018–2022
BRFSS 2011–2022**

CANCER

Cancer is a group of over 100 different diseases, each characterized by the uncontrolled growth and spread of abnormal cells. Cancer risk increases with age and varies by gender and race. As the average age of the population increases, the incidence of cancer will increase as well.

An estimated 42% of all cancers in the United States are due to personal lifestyle factors, such as smoking and sedentary lifestyle, and are preventable (10.3322/caac.21440). Cancers are also attributable to environmental factors and gene-environment interactions. Other non-modifiable factors, such as age, sex, and family history of specific cancers, are also associated with cancer risk and can help identify people at elevated risk for developing cancer.

For some cancers, early detection can save lives. For example, colorectal cancer screening reduces mortality in adults aged 50–75 years (10.1001/jama.2017.3332). Improved primary prevention, early detection, and effective treatment can reduce the burden of cancer in Idaho.

RISK FACTORS AND INTERVENTIONS

Aging:

As the population ages, the number of new cancer cases and cancer deaths that occur each year will continue to increase. This trend could be reversed through significant improvements in primary prevention, early detection, and treatment.

Smoking:

Smoking and the use of smokeless tobacco are responsible for most cancers of the lung, trachea, bronchus, larynx, pharynx, oral cavity, and esophagus. Smoking is the leading cause of preventable death in the United States (PMID: 24455788).

Diet:

The U.S. Departments of Agriculture and Health and Human Services recommend the following dietary guidelines: eat a variety of foods; choose a diet with plenty of fruits, vegetables, and whole-grain products; limit the use of sugar, salt, and solid fats; and minimize alcoholic beverage consumption. For details, see <https://www.dietaryguidelines.gov>

Screening:

Early detection through screening reduces morbidity and mortality for cancers that can be diagnosed early and treated.

FOR MORE INFORMATION

Cancer Data Registry of Idaho
P.O. Box 1278
Boise, ID 83701
208-489-1380
<https://www.idcancer.org>

National Cancer Institute
Cancer Information Services
1-800-4CANCER
<https://www.cancer.gov/contact>

American Cancer Society
<https://www.cancer.org>

CANCER INCIDENCE 2017–2021

Nearly one in two Idahoans are estimated to develop cancer during their lifetime. During 2017–2021, 47,333 cases of invasive cancer were diagnosed among Idaho residents, and 1,732 cases of invasive cancer were diagnosed among Bonner County residents (Table 1).

Table 1: Incidence of All Cancers, Female Breast, Prostate, Lung and Bronchus, and Colorectal Cancers in Bonner County and the State of Idaho, 2017–2021

| Cancer Incidence 2017–2021 | Bonner County | State of Idaho |
|----------------------------|---------------|----------------|
| All Sites/Types | 1,732 | 47,333 |
| Female Breast | 238 | 6,943 |
| Prostate | 257 | 6,766 |
| Lung & Bronchus | 186 | 4,959 |
| Colorectal | 152 | 3,632 |

Table 3 (*Cancer Incidence 2017–2021, Comparison between Bonner County and the Remainder of the State of Idaho*) shows the number of observed cases, person-years, crude rates, age- and sex-adjusted rates, expected number of cases based upon age- and sex-specific rates in the remainder of Idaho, and p-values for tests comparing the number of observed and expected cases in Bonner County. The table also shows the number of observed cases, person-

years, and crude rates for the remainder of the state of Idaho. Comparisons between the county and the remainder of the state were made for all cancers combined, 23 invasive cancer types, in situ breast cancer, non-malignant brain and other central nervous system tumors, and pediatric (0–19 years) cancer. Separate comparisons for males, females, and both sexes combined are included.

As shown in Table 3, the crude incidence rate of invasive cancer in Bonner County was 751.0 cases per 100,000 person-years per year during 2017–2021. Comparing this crude rate with the crude rate for the remainder of Idaho (520.5) gives an estimate of the relative burden of disease in Bonner County.

The age- and sex-adjusted incidence rate of invasive cancer in Bonner County, all sites combined, was 528.0 cases per 100,000 persons per year during 2017–2021. There were more cases of cancer in Bonner County (1,732) than expected (1,707.5) based upon rates in the remainder of the state, but the difference was not statistically significant.

There are many reasons why cancer incidence rates differ by county, such as the prevalence of smoking and other lifestyle factors, and access to healthcare.

CANCER MORTALITY 2018–2022

During 2018–2022, cancer was the second leading cause of death in Idaho; 15,233 Idaho residents and 546 Bonner County residents died from cancer during this period. Most cancer deaths are from five primary sites: lung, colon, pancreas, female breast, and prostate (Table 2).

Table 2: Overall and Cancer Mortality in Bonner County and the State of Idaho, 2018–2022

| Mortality 2018–2022 | Bonner County | State of Idaho |
|---------------------|---------------|----------------|
| All Deaths | 2,577 | 80,538 |
| Cancer Deaths | 546 | 15,233 |
| % of All Deaths | 21.2% | 18.9% |
| Lung & Bronchus | 109 | 2,937 |
| Colorectal | 45 | 1,332 |
| Pancreas | 49 | 1,190 |
| Female Breast | 43 | 1,111 |
| Prostate | 41 | 997 |

Table 4 (*Cancer Mortality 2018–2022, Comparison between Bonner County and the Remainder of the State of Idaho*) shows the number of observed deaths, person-years, crude rates, age- and sex-adjusted rates, expected number of deaths based upon age- and sex-specific rates in the remainder of Idaho, and p-values for tests comparing the number of observed and expected deaths for Bonner County. The table also shows the number of observed deaths, person-years, and crude rates for the remainder of the state of Idaho. Comparisons between the county and the remainder of the state were made for all deaths, all cancer deaths, and 21 specific cancer types. Separate comparisons for males, females, and both sexes combined are included.

The age- and sex-adjusted cancer mortality rate for Bonner County, all sites combined, was 157.6 deaths per 100,000 persons per year during 2018–2022, compared with 163.7 for the remainder of the state. There were fewer cancer deaths in Bonner County (546) than expected (567.2) based upon rates in the remainder of the state, but the difference was not statistically significant.

Statistical Note: Rates and percentages based upon 12 or fewer cases or deaths (numerator) should be interpreted with caution.
Data Note: Mortality data may differ slightly from published official statistics from the Bureau of Vital Records and Health Statistics.

TABLE 3: CANCER INCIDENCE 2017–2021
COMPARISON BETWEEN BONNER COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

| Cancer Site/Type | Sex | Bonner County | | | | | | Remainder of Idaho | | |
|-------------------------------------|--------|----------------|--------------|----------------|-------------------|--------------------|-------------|--------------------|--------------|----------------|
| | | Observed Cases | Person Years | Crude Rate (1) | A.A.I. Rate (1,2) | Expected Cases (3) | P-Value (4) | Observed Cases | Person Years | Crude Rate (1) |
| All Sites Combined | Total | 1,732 | 230,632 | 751.0 | 528.0 | 1,707.5 | 0.559 | 45,601 | 8,761,474 | 520.5 |
| All Sites Combined | Male | 965 | 115,561 | 835.1 | 550.4 | 969.1 | 0.911 | 24,305 | 4,396,712 | 552.8 |
| All Sites Combined | Female | 767 | 115,071 | 666.5 | 497.1 | 752.8 | 0.613 | 21,296 | 4,364,762 | 487.9 |
| Bladder | Total | 77 | 230,632 | 33.4 | 22.4 | 84.1 | 0.475 | 2,143 | 8,761,474 | 24.5 |
| Bladder | Male | 68 | 115,561 | 58.8 | 37.3 | 70.7 | 0.810 | 1,705 | 4,396,712 | 38.8 |
| Bladder | Female | 9 | 115,071 | 7.8 | 5.5 | 16.3 | 0.073 | 438 | 4,364,762 | 10.0 |
| Brain - malignant | Total | 23 | 230,632 | 10.0 | 7.8 | 21.4 | 0.784 | 634 | 8,761,474 | 7.2 |
| Brain - malignant | Male | 16 | 115,561 | 13.8 | 10.6 | 12.6 | 0.408 | 366 | 4,396,712 | 8.3 |
| Brain - malignant | Female | 7 | 115,071 | 6.1 | 4.8 | 8.9 | 0.679 | 268 | 4,364,762 | 6.1 |
| Brain and other CNS - non-malignant | Total | 58 | 230,632 | 25.1 | 18.8 | 52.4 | 0.472 | 1,489 | 8,761,474 | 17.0 |
| Brain and other CNS - non-malignant | Male | 27 | 115,561 | 23.4 | 17.3 | 16.8 | 0.027 >> | 473 | 4,396,712 | 10.8 |
| Brain and other CNS - non-malignant | Female | 31 | 115,071 | 26.9 | 20.7 | 34.9 | 0.574 | 1,016 | 4,364,762 | 23.3 |
| Breast | Total | 245 | 230,632 | 106.2 | 76.6 | 246.8 | 0.941 | 6,763 | 8,761,474 | 77.2 |
| Breast | Male | 7 | 115,561 | 6.1 | 4.2 | 2.2 | 0.016 >> | 58 | 4,396,712 | 1.3 |
| Breast | Female | 238 | 115,071 | 206.8 | 153.9 | 237.5 | 0.993 | 6,705 | 4,364,762 | 153.6 |
| Breast - in situ | Total | 42 | 230,632 | 18.2 | 13.1 | 48.4 | 0.398 | 1,327 | 8,761,474 | 15.1 |
| Breast - in situ | Male | - | 115,561 | - | - | 0.1 | 1.000 | 4 | 4,396,712 | 0.1 |
| Breast - in situ | Female | 42 | 115,071 | 36.5 | 27.0 | 47.1 | 0.513 | 1,323 | 4,364,762 | 30.3 |
| Cervix | Female | 12 | 115,071 | 10.4 | 9.4 | 8.2 | 0.255 | 282 | 4,364,762 | 6.5 |
| Colorectal | Total | 152 | 230,632 | 65.9 | 47.3 | 127.6 | 0.039 >> | 3,480 | 8,761,474 | 39.7 |
| Colorectal | Male | 78 | 115,561 | 67.5 | 46.5 | 72.5 | 0.546 | 1,899 | 4,396,712 | 43.2 |
| Colorectal | Female | 74 | 115,071 | 64.3 | 48.2 | 55.7 | 0.021 >> | 1,581 | 4,364,762 | 36.2 |
| Corpus Uteri | Female | 40 | 115,071 | 34.8 | 25.2 | 47.7 | 0.294 | 1,314 | 4,364,762 | 30.1 |
| Esophagus | Total | 18 | 230,632 | 7.8 | 5.3 | 18.9 | 0.949 | 489 | 8,761,474 | 5.6 |
| Esophagus | Male | 14 | 115,561 | 12.1 | 7.8 | 16.8 | 0.588 | 415 | 4,396,712 | 9.4 |
| Esophagus | Female | 4 | 115,071 | 3.5 | 2.5 | 2.7 | 0.573 | 74 | 4,364,762 | 1.7 |
| Hodgkin Lymphoma | Total | 3 | 230,632 | 1.3 | 1.2 | 6.2 | 0.273 | 219 | 8,761,474 | 2.5 |
| Hodgkin Lymphoma | Male | 2 | 115,561 | 1.7 | 1.5 | 3.8 | 0.542 | 127 | 4,396,712 | 2.9 |
| Hodgkin Lymphoma | Female | 1 | 115,071 | 0.9 | 0.9 | 2.4 | 0.609 | 92 | 4,364,762 | 2.1 |
| Kidney and Renal Pelvis | Total | 81 | 230,632 | 35.1 | 25.0 | 69.2 | 0.181 | 1,870 | 8,761,474 | 21.3 |
| Kidney and Renal Pelvis | Male | 51 | 115,561 | 44.1 | 30.2 | 48.4 | 0.747 | 1,259 | 4,396,712 | 28.6 |
| Kidney and Renal Pelvis | Female | 30 | 115,071 | 26.1 | 19.3 | 21.8 | 0.108 | 611 | 4,364,762 | 14.0 |
| Larynx | Total | 14 | 230,632 | 6.1 | 4.2 | 7.9 | 0.064 | 206 | 8,761,474 | 2.4 |
| Larynx | Male | 9 | 115,561 | 7.8 | 5.1 | 6.3 | 0.379 | 158 | 4,396,712 | 3.6 |
| Larynx | Female | 5 | 115,071 | 4.3 | 3.1 | 1.8 | 0.070 | 48 | 4,364,762 | 1.1 |
| Leukemia | Total | 64 | 230,632 | 27.7 | 20.0 | 60.7 | 0.704 | 1,663 | 8,761,474 | 19.0 |
| Leukemia | Male | 38 | 115,561 | 32.9 | 22.7 | 38.0 | 1.000 | 998 | 4,396,712 | 22.7 |
| Leukemia | Female | 26 | 115,071 | 22.6 | 17.0 | 23.3 | 0.631 | 665 | 4,364,762 | 15.2 |
| Liver and Bile Duct | Total | 37 | 230,632 | 16.0 | 10.8 | 31.6 | 0.376 | 806 | 8,761,474 | 9.2 |
| Liver and Bile Duct | Male | 33 | 115,561 | 28.6 | 18.3 | 23.0 | 0.057 | 561 | 4,396,712 | 12.8 |
| Liver and Bile Duct | Female | 4 | 115,071 | 3.5 | 2.5 | 9.1 | 0.103 | 245 | 4,364,762 | 5.6 |
| Lung and Bronchus | Total | 186 | 230,632 | 80.6 | 53.5 | 189.3 | 0.848 | 4,773 | 8,761,474 | 54.5 |
| Lung and Bronchus | Male | 95 | 115,561 | 82.2 | 51.5 | 100.7 | 0.610 | 2,400 | 4,396,712 | 54.6 |
| Lung and Bronchus | Female | 91 | 115,071 | 79.1 | 55.4 | 89.4 | 0.890 | 2,373 | 4,364,762 | 54.4 |
| Melanoma of the Skin | Total | 104 | 230,632 | 45.1 | 32.9 | 109.6 | 0.633 | 3,040 | 8,761,474 | 34.7 |
| Melanoma of the Skin | Male | 69 | 115,561 | 59.7 | 40.7 | 70.4 | 0.931 | 1,826 | 4,396,712 | 41.5 |
| Melanoma of the Skin | Female | 35 | 115,071 | 30.4 | 23.8 | 40.8 | 0.407 | 1,214 | 4,364,762 | 27.8 |
| Myeloma | Total | 26 | 230,632 | 11.3 | 7.7 | 27.2 | 0.917 | 702 | 8,761,474 | 8.0 |
| Myeloma | Male | 17 | 115,561 | 14.7 | 9.5 | 17.4 | 1.000 | 430 | 4,396,712 | 9.8 |
| Myeloma | Female | 9 | 115,071 | 7.8 | 5.5 | 10.1 | 0.885 | 272 | 4,364,762 | 6.2 |
| Non-Hodgkin Lymphoma | Total | 57 | 230,632 | 24.7 | 17.5 | 71.9 | 0.081 | 1,935 | 8,761,474 | 22.1 |
| Non-Hodgkin Lymphoma | Male | 26 | 115,561 | 22.5 | 15.3 | 43.3 | 0.006 << | 1,120 | 4,396,712 | 25.5 |
| Non-Hodgkin Lymphoma | Female | 31 | 115,071 | 26.9 | 19.8 | 29.3 | 0.800 | 815 | 4,364,762 | 18.7 |
| Oral Cavity and Pharynx | Total | 48 | 230,632 | 20.8 | 14.4 | 48.2 | 1.000 | 1,267 | 8,761,474 | 14.5 |
| Oral Cavity and Pharynx | Male | 33 | 115,561 | 28.6 | 19.0 | 35.8 | 0.715 | 907 | 4,396,712 | 20.6 |
| Oral Cavity and Pharynx | Female | 15 | 115,071 | 13.0 | 9.5 | 13.1 | 0.660 | 360 | 4,364,762 | 8.2 |
| Ovary | Female | 22 | 115,071 | 19.1 | 14.4 | 18.6 | 0.481 | 531 | 4,364,762 | 12.2 |
| Pancreas | Total | 60 | 230,632 | 26.0 | 17.7 | 55.2 | 0.549 | 1,428 | 8,761,474 | 16.3 |
| Pancreas | Male | 34 | 115,561 | 29.4 | 19.0 | 32.2 | 0.791 | 792 | 4,396,712 | 18.0 |
| Pancreas | Female | 26 | 115,071 | 22.6 | 16.2 | 23.4 | 0.650 | 636 | 4,364,762 | 14.6 |
| Prostate | Male | 257 | 115,561 | 222.4 | 139.3 | 273.2 | 0.343 | 6,509 | 4,396,712 | 148.0 |
| Stomach | Total | 14 | 230,632 | 6.1 | 4.3 | 17.2 | 0.536 | 460 | 8,761,474 | 5.3 |
| Stomach | Male | 12 | 115,561 | 10.4 | 6.9 | 11.7 | 1.000 | 295 | 4,396,712 | 6.7 |
| Stomach | Female | 2 | 115,071 | 1.7 | 1.3 | 5.7 | 0.149 | 165 | 4,364,762 | 3.8 |
| Testis | Male | 4 | 115,561 | 3.5 | 4.0 | 6.1 | 0.537 | 270 | 4,396,712 | 6.1 |
| Thyroid | Total | 30 | 230,632 | 13.0 | 11.3 | 34.9 | 0.465 | 1,155 | 8,761,474 | 13.2 |
| Thyroid | Male | 11 | 115,561 | 9.5 | 7.4 | 12.2 | 0.875 | 361 | 4,396,712 | 8.2 |
| Thyroid | Female | 19 | 115,071 | 16.5 | 15.2 | 22.8 | 0.502 | 794 | 4,364,762 | 18.2 |
| Pediatric Age 0 to 19 | Total | 6 | 49,277 | 12.2 | 12.2 | 8.4 | 0.532 | 419 | 2,450,047 | 17.1 |
| Pediatric Age 0 to 19 | Male | 2 | 25,034 | 8.0 | 8.0 | 4.2 | 0.410 | 212 | 1,249,287 | 17.0 |
| Pediatric Age 0 to 19 | Female | 4 | 24,243 | 16.5 | 16.6 | 4.2 | 1.000 | 207 | 1,200,760 | 17.2 |

Notes: 1. Rates are expressed as the number of cases per 100,000 persons per year (person-years).

2. Age and sex-adjusted incidence (A.A.I.) rates for county use age and sex-specific crude rates for the remainder of the state as standard.

3. Expected cases are based upon age and sex-specific rates for the remainder of the state of Idaho (compare to observed).

4. P-values compare observed and expected cases, are two tailed, based upon the Poisson probability distribution.

"<<" denotes significantly fewer cases observed than expected, ">>" denotes significantly more cases observed than expected (p=.05).

Statistical Note: Rates based upon 12 or fewer cases (numerator) should be interpreted with caution.

TABLE 4: CANCER MORTALITY 2018–2022
COMPARISON BETWEEN BONNER COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

| Cause of Death Cancer Site/Type | Sex | Bonner County | | | | | | Remainder of Idaho | | |
|------------------------------------|--------|--------------------|-----------------|-------------------|----------------------|------------------------|-------------|--------------------|-----------------|-------------------|
| | | Observed Deaths | Person Years | Crude Rate (1) | A.A.M. Rate (1,2) | Expected Deaths (3) | P-Value (4) | Observed Deaths | Person Years | Crude Rate (1) |
| All Causes of Death | Total | 2,577 | 238,331 | 1,081.3 | 780.1 | 2,870.2 | 0.000 << | 77,958 | 8,973,063 | 868.8 |
| All Causes of Death | Male | 1,425 | 119,791 | 1,189.6 | 821.0 | 1,592.5 | 0.000 << | 41,361 | 4,507,906 | 917.5 |
| All Causes of Death | Female | 1,152 | 118,540 | 971.8 | 729.1 | 1,294.9 | 0.000 << | 36,597 | 4,465,157 | 819.6 |
| All Malignant Cancers | Total | 546 | 238,331 | 229.1 | 157.6 | 567.2 | 0.386 | 14,687 | 8,973,063 | 163.7 |
| All Malignant Cancers | Male | 306 | 119,791 | 255.4 | 166.2 | 323.8 | 0.336 | 7,929 | 4,507,906 | 175.9 |
| All Malignant Cancers | Female | 240 | 118,540 | 202.5 | 146.5 | 248.0 | 0.639 | 6,758 | 4,465,157 | 151.3 |
| Bladder | Total | 22 | 238,331 | 9.2 | 6.4 | 17.9 | 0.382 | 463 | 8,973,063 | 5.2 |
| Bladder | Male | 21 | 119,791 | 17.5 | 11.4 | 14.4 | 0.121 | 354 | 4,507,906 | 7.9 |
| Bladder | Female | 1 | 118,540 | 0.8 | 0.6 | 4.0 | 0.187 | 109 | 4,465,157 | 2.4 |
| Brain and Other Nervous System | Total | 19 | 238,331 | 8.0 | 5.8 | 18.4 | 0.943 | 499 | 8,973,063 | 5.6 |
| Brain and Other Nervous System | Male | 12 | 119,791 | 10.0 | 7.0 | 10.6 | 0.741 | 277 | 4,507,906 | 6.1 |
| Brain and Other Nervous System | Female | 7 | 118,540 | 5.9 | 4.4 | 7.9 | 0.938 | 222 | 4,465,157 | 5.0 |
| Breast | Total | 44 | 238,331 | 18.5 | 13.1 | 40.4 | 0.613 | 1,080 | 8,973,063 | 12.0 |
| Breast | Male | 1 | 119,791 | 0.8 | 0.5 | 0.5 | 0.779 | 12 | 4,507,906 | 0.3 |
| Breast | Female | 43 | 118,540 | 36.3 | 26.7 | 38.5 | 0.509 | 1,068 | 4,465,157 | 23.9 |
| Cervix | Female | 3 | 118,540 | 2.5 | 2.1 | 2.8 | 1.000 | 85 | 4,465,157 | 1.9 |
| Colorectal | Total | 45 | 238,331 | 18.9 | 13.3 | 48.5 | 0.682 | 1,287 | 8,973,063 | 14.3 |
| Colorectal | Male | 24 | 119,791 | 20.0 | 13.5 | 27.8 | 0.541 | 708 | 4,507,906 | 15.7 |
| Colorectal | Female | 21 | 118,540 | 17.7 | 13.0 | 20.9 | 1.000 | 579 | 4,465,157 | 13.0 |
| Corpus Uteri | Female | 3 | 118,540 | 2.5 | 1.8 | 6.3 | 0.254 | 166 | 4,465,157 | 3.7 |
| Esophagus | Total | 24 | 238,331 | 10.1 | 6.8 | 17.2 | 0.139 | 437 | 8,973,063 | 4.9 |
| Esophagus | Male | 20 | 119,791 | 16.7 | 10.7 | 15.4 | 0.292 | 371 | 4,507,906 | 8.2 |
| Esophagus | Female | 4 | 118,540 | 3.4 | 2.4 | 2.4 | 0.449 | 66 | 4,465,157 | 1.5 |
| Hodgkin Lymphoma | Total | 2 | 238,331 | 0.8 | 0.6 | 0.9 | 0.424 | 23 | 8,973,063 | 0.3 |
| Hodgkin Lymphoma | Male | 1 | 119,791 | 0.8 | 0.6 | 0.5 | 0.809 | 13 | 4,507,906 | 0.3 |
| Hodgkin Lymphoma | Female | 1 | 118,540 | 0.8 | 0.6 | 0.4 | 0.593 | 10 | 4,465,157 | 0.2 |
| Kidney | Total | 17 | 238,331 | 7.1 | 4.8 | 14.5 | 0.581 | 369 | 8,973,063 | 4.1 |
| Kidney | Male | 9 | 119,791 | 7.5 | 4.8 | 9.8 | 0.977 | 237 | 4,507,906 | 5.3 |
| Kidney | Female | 8 | 118,540 | 6.7 | 4.8 | 5.0 | 0.262 | 132 | 4,465,157 | 3.0 |
| Larynx | Total | 2 | 238,331 | 0.8 | 0.6 | 2.9 | 0.897 | 74 | 8,973,063 | 0.8 |
| Larynx | Male | 2 | 119,791 | 1.7 | 1.1 | 2.6 | 1.000 | 63 | 4,507,906 | 1.4 |
| Larynx | Female | - | 118,540 | - | - | 0.4 | 1.000 | 11 | 4,465,157 | 0.2 |
| Leukemia | Total | 25 | 238,331 | 10.5 | 7.3 | 24.3 | 0.946 | 640 | 8,973,063 | 7.1 |
| Leukemia | Male | 14 | 119,791 | 11.7 | 7.7 | 15.4 | 0.847 | 383 | 4,507,906 | 8.5 |
| Leukemia | Female | 11 | 118,540 | 9.3 | 6.8 | 9.2 | 0.647 | 257 | 4,465,157 | 5.8 |
| Liver and Bile Duct | Total | 25 | 238,331 | 10.5 | 7.0 | 24.1 | 0.916 | 610 | 8,973,063 | 6.8 |
| Liver and Bile Duct | Male | 19 | 119,791 | 15.9 | 10.1 | 16.8 | 0.655 | 404 | 4,507,906 | 9.0 |
| Liver and Bile Duct | Female | 6 | 118,540 | 5.1 | 3.6 | 7.7 | 0.696 | 206 | 4,465,157 | 4.6 |
| Lung and Bronchus | Total | 109 | 238,331 | 45.7 | 30.5 | 112.5 | 0.791 | 2,828 | 8,973,063 | 31.5 |
| Lung and Bronchus | Male | 54 | 119,791 | 45.1 | 28.4 | 62.6 | 0.302 | 1,487 | 4,507,906 | 33.0 |
| Lung and Bronchus | Female | 55 | 118,540 | 46.4 | 32.7 | 50.5 | 0.564 | 1,341 | 4,465,157 | 30.0 |
| Melanoma of the Skin | Total | 10 | 238,331 | 4.2 | 3.0 | 10.9 | 0.933 | 291 | 8,973,063 | 3.2 |
| Melanoma of the Skin | Male | 8 | 119,791 | 6.7 | 4.5 | 7.6 | 0.991 | 192 | 4,507,906 | 4.3 |
| Melanoma of the Skin | Female | 2 | 118,540 | 1.7 | 1.3 | 3.5 | 0.633 | 99 | 4,465,157 | 2.2 |
| Myeloma | Total | 2 | 238,331 | 0.8 | 0.6 | 12.8 | 0.001 << | 323 | 8,973,063 | 3.6 |
| Myeloma | Male | 2 | 119,791 | 1.7 | 1.1 | 7.8 | 0.033 << | 186 | 4,507,906 | 4.1 |
| Myeloma | Female | - | 118,540 | - | - | 5.1 | 0.012 << | 137 | 4,465,157 | 3.1 |
| Non-Hodgkin Lymphoma | Total | 15 | 238,331 | 6.3 | 4.3 | 21.3 | 0.198 | 553 | 8,973,063 | 6.2 |
| Non-Hodgkin Lymphoma | Male | 8 | 119,791 | 6.7 | 4.4 | 12.3 | 0.277 | 302 | 4,507,906 | 6.7 |
| Non-Hodgkin Lymphoma | Female | 7 | 118,540 | 5.9 | 4.3 | 9.2 | 0.596 | 251 | 4,465,157 | 5.6 |
| Oral Cavity and Pharynx | Total | 9 | 238,331 | 3.8 | 2.6 | 10.4 | 0.814 | 266 | 8,973,063 | 3.0 |
| Oral Cavity and Pharynx | Male | 4 | 119,791 | 3.3 | 2.1 | 7.8 | 0.225 | 188 | 4,507,906 | 4.2 |
| Oral Cavity and Pharynx | Female | 5 | 118,540 | 4.2 | 3.0 | 2.9 | 0.331 | 78 | 4,465,157 | 1.7 |
| Ovary | Female | 12 | 118,540 | 10.1 | 7.2 | 13.0 | 0.925 | 349 | 4,465,157 | 7.8 |
| Pancreas | Total | 49 | 238,331 | 20.6 | 13.8 | 45.1 | 0.598 | 1,141 | 8,973,063 | 12.7 |
| Pancreas | Male | 24 | 119,791 | 20.0 | 12.7 | 26.2 | 0.768 | 626 | 4,507,906 | 13.9 |
| Pancreas | Female | 25 | 118,540 | 21.1 | 14.9 | 19.3 | 0.241 | 515 | 4,465,157 | 11.5 |
| Prostate | Male | 41 | 119,791 | 34.2 | 22.2 | 39.1 | 0.803 | 956 | 4,507,906 | 21.2 |
| Stomach | Total | 5 | 238,331 | 2.1 | 1.5 | 7.0 | 0.612 | 189 | 8,973,063 | 2.1 |
| Stomach | Male | 3 | 119,791 | 2.5 | 1.7 | 4.5 | 0.670 | 116 | 4,507,906 | 2.6 |
| Stomach | Female | 2 | 118,540 | 1.7 | 1.3 | 2.5 | 1.000 | 73 | 4,465,157 | 1.6 |

Notes: 1. Rates are expressed as the number of cases per 100,000 persons per year (person-years).

2. Age and sex-adjusted mortality (A.A.M.) rates for county use age and sex-specific crude rates for the remainder of the state as standard.

3. Expected cases are based upon age and sex-specific rates for the remainder of the state of Idaho (compare to observed).

4. P-values compare observed and expected cases, are two tailed, based upon the Poisson probability distribution.

"<<" denotes significantly fewer cases observed than expected, ">>" denotes significantly more cases observed than expected (p=.05).

Statistical Notes: Rates based upon 12 or fewer cases (numerator) should be interpreted with caution.

Mortality statistics presented differ from BVRHS official statistics due to differences in methodology.

Data Source: Bureau of Vital Records and Health Statistics (BVRHS), Division of Public Health, Idaho Department of Health and Welfare, 2023.

Cancer Screening and Risk Factors

The Division of Public Health (DPH), Idaho Department of Health and Welfare, under a cooperative agreement with the Centers for Disease Control and Prevention, has conducted telephone Behavioral Risk Factor Surveys since 1984. These surveys are conducted with randomly selected adult Idahoans to measure population prevalences of risk factors for major causes of death in the U.S., including cancer. DPH provided Behavioral Risk Factor Surveillance System (BRFSS) data from 2011 through 2022 to CDRI staff, who performed the analyses reported in these *County Profiles*. Analysis weights were post-stratified to 2022 population estimates by age group, sex, and county, beginning with the BRFSS raked weights. Not all questions were asked in all years. Crude prevalence estimates are presented herein; a minimum of 50 respondents was required to generate county-level statistics. Results may differ from IDHW reports due to differences in methods. Cancer screening and risk factor measures were selected to assist in monitoring *Comprehensive Cancer Alliance for Idaho* (CCAI) objectives. Wald log-linear chi-square statistics were used to test for independence of the selected measures and other variables, such as age and race, taking the complex survey design into account.

Cancer Screening and Risk Factor Prevalence Estimates, 2011–2022

| Measure | State of Idaho | HD 1 | HD 2 | HD 3 | HD 4 | HD 5 | HD 6 | HD 7 | Bonner County |
|--|----------------|-------|-------|-------|-------|-------|-------|-------|---------------|
| Access to Care | | | | | | | | | |
| Have Health Insurance, Age < 65 (2021–2022) | 90.0% | 89.3% | 87.8% | 86.4% | 92.6% | 87.2% | 89.1% | 92.6% | 87.9% |
| Not See Doctor Due to Cost in Past Year (2020–2022) | 10.4% | 9.5% | 11.0% | 11.0% | 10.2% | 10.2% | 10.4% | 11.3% | 11.8% |
| Cancer Screening | | | | | | | | | |
| Mammogram Past 2 Years, Age 40–74 (2014–2022, even years) | 62.9% | 61.0% | 70.0% | 60.3% | 66.1% | 58.9% | 61.0% | 62.5% | 60.3% |
| Pap Test Past 3 Years, Cervix Intact Age 21–65 (2018, 2020) | 71.1% | 73.7% | 73.6% | 70.9% | 72.9% | 69.4% | 69.3% | 65.5% | 68.8% |
| Colorectal Cancer Screening, Age 45–75 (2022) | 63.3% | 61.0% | 62.5% | 60.8% | 67.2% | 65.0% | 60.4% | 60.2% | 61.3% |
| Tobacco Use | | | | | | | | | |
| Current Tobacco User (2020–2022) | 22.1% | 24.3% | 20.4% | 24.8% | 21.3% | 22.5% | 22.6% | 18.1% | 27.5% |
| Other Cancer-Related | | | | | | | | | |
| Healthy Weight by Body Mass Index, Age 20+ (2020–2022) | 30.0% | 30.0% | 30.1% | 26.5% | 33.7% | 27.5% | 26.7% | 30.2% | 34.1% |
| Any Physical Activity Besides Job Past 30 Days (2018–2022) | 79.1% | 79.0% | 78.0% | 75.4% | 82.7% | 75.2% | 76.7% | 81.0% | 79.2% |
| Meet Physical Activity Guidelines (2011, 2013, 2015, 2017, 2019) | 22.0% | 22.8% | 19.2% | 20.0% | 25.2% | 19.5% | 20.4% | 20.3% | 22.4% |
| Home Ever Tested for Radon (2016, 2018, 2020) | 22.9% | 30.8% | 18.3% | 16.9% | 25.2% | 20.1% | 23.0% | 21.0% | 24.2% |

Access to Care

Have Health Insurance – 2021–2022

Statewide, 90.0% of adults aged 18–64 reported having health care coverage. Health care coverage differed significantly by race/ethnicity, with 91.4% of white non-Hispanics, compared to 81.5% of Hispanics and 90.5% of Native Americans, having health insurance. Spanish-speaking respondents were significantly less likely to be insured (46.0%) than English-speaking respondents (90.5%). Health care coverage differed significantly by age of respondent, with 87.2% of persons aged 18–29, and 93.4% of persons aged 50–64, having health insurance. Health care coverage differed significantly by county, with a range of 64.8% in Idaho County to 95.9% in Shoshone County having health insurance.

Not See Doctor Due to Cost in Past Year – 2020–2022

Statewide, 10.4% of adults aged 18+ reported they needed to see a doctor but could not because of cost sometime in the past 12 months. Inability to see a doctor due to cost differed significantly by race/ethnicity (9.2% of white non-Hispanics, 16.9% of Hispanics, and 15.7% of Native Americans). Inability to see a doctor due to cost differed significantly by annual household income (21.9% for less than \$15,000, 5.8% for greater than \$50,000).

** Current for colorectal cancer screening means a blood stool test in the past year, sigmoidoscopy in the past 5 years and blood stool test in the past 3 years, blood stool DNA test in the past 3 years, virtual colonoscopy in the past 5 years, or a colonoscopy in the past 10 years.

Cancer Screening

Mammogram – 2014–2022, even years

Statewide, 62.9% of women aged 40–74 reported having a mammogram in the past 2 years. Insured women were about twice as likely to have had a mammogram in the past 2 years (66.3% versus 31.2%). Mammography rates differed significantly by county, with a range in screening of 41.6% in Owyhee County to 76.1% in Nez Perce County. In 2022, Idaho ranked 49th among states and the District of Columbia for mammography screening rates among women aged 40+.

Pap Test – 2018, 2020

Statewide, 71.1% of women with an intact cervix and aged 21–65 reported having a Pap test in the past 3 years. Women with health insurance were significantly more likely to have timely Pap screening than uninsured women (75.0% versus 52.8% screened in the past 3 years). Pap screening differed significantly by county, with a range of 50.6% in Bingham County to 78.9% in Bannock County. In 2020, Idaho ranked 49th among states and the District of Columbia for Pap screening rate.

Colorectal Cancer Screening – 2022

Statewide, 63.3% of adults aged 45–75 reported being current for colorectal cancer screening.** Persons with health insurance were over twice as likely to be current for colorectal cancer screening. In 2022, Idaho ranked 42nd among states and the District of Columbia in the percentage of adults aged 45–75 and older who reported being up-to-date for colorectal cancer screening.

Cancer Screening and Risk Factors

Tobacco Use

Current Tobacco Use – 2020–2022

Current tobacco use includes at least 1 form of cigarettes; cigars, cigarillos, filtered little cigars; regular pipes, water pipes, hookah; e-cigarettes; and/or smokeless tobacco products every day or some days. Statewide, 22.1% of adults aged 18 and older were current tobacco users. Tobacco use differed significantly by age of respondent, with 28.9% of persons aged 18–29, and 10.7% of persons aged 65 and older reporting current tobacco use. Tobacco use was lower among white non-Hispanics (21.5%) than among Native Americans (38.0%). Tobacco use differed significantly by county, with a range of 6.1% in Madison County to 33.5% in Elmore County. Counties with higher rates of tobacco use had significantly higher rates of lung cancer.

Other Cancer-Related

Healthy Weight by Body Mass Index – 2020–2022

Statewide, 30.0% of adults aged 20 and older were in the healthy weight range as measured by body mass index (BMI 18.5–24.9). BMI differed significantly by race/ethnicity, with 30.5% of white non-Hispanics, compared to 25.8% of Hispanics and 21.5% of Native Americans, being in the healthy weight range. Males (24.4%) were significantly less likely to be in the healthy weight range than females (35.7%). BMI differed significantly by age of respondent, with 41.1% of persons aged 18–29, and 23.4% of persons aged 50–64, being in the healthy weight range. BMI differed significantly by county, with a range of 11.7% in Power County to 44.3% in Blaine County of adults being in the healthy weight range.

Any Physical Activity – 2018-2022

CCAI is measuring physical activity with two metrics: Any physical activity besides job in past 30 days and meeting aerobic and strength physical activity guidelines during the past month or week. Statewide, 79.1% of adults aged 18 and older reported physical activity besides their job in the past 30 days. Physical activity differed significantly by age of respondent, with 83.7% of persons aged 18–29, and 72.5% of persons aged 65+, reporting any physical activity besides their job. The percentage of adults reporting any physical activity differed significantly by county, with a range of 66.9% in Oneida County to 88.3% in Teton County. Counties with higher rates of physical activity had significantly lower rates of overall and colorectal cancer.

Physical Activity Guidelines – 2011, 2013, 2015, 2017, 2019

Statewide, 22.0% of adults aged 18 and older met aerobic and strength physical activity guidelines during the past month or week. Meeting physical activity guidelines differed significantly by age of respondent, with 26.2% of persons aged 18–29, and 19.2% of persons aged 50–64, meeting guidelines. The percentage of adults meeting physical activity guidelines differed significantly by county, with a range of 9.5% in Franklin County to 30.7% in Blaine County.

Home Radon Testing – 2016, 2018, 2020

Statewide, 22.9% of adults have ever tested their house for radon. Radon test usage varied significantly by race/ethnicity, with 25.1% of white non-Hispanics, 7.3% of Hispanics, and 25.4% of Native Americans having ever tested their house for radon. Radon test usage was higher for persons aged 50+ than for younger persons. Home radon testing differed significantly by county, with a range of 8.7% in Cassia County to 54.7% in Blaine County.

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