

CANCER COUNTY PROFILES 2017–2021 Incidence Years

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IDAHO DEPARTMENT OF
HEALTH & WELFARE

ADA COUNTY CANCER PROFILE

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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

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P.O. Box 1278
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<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 12,448 cases of invasive cancer were diagnosed among Ada County residents (Table 1).

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

Cancer Incidence 2017–2021	Ada County	State of Idaho
All Sites/Types	12,448	47,333
Female Breast	2,053	6,943
Prostate	1,908	6,766
Lung & Bronchus	1,183	4,959
Colorectal	814	3,632

Table 3 (*Cancer Incidence 2017–2021, Comparison between Ada 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 Ada 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 Ada County was 515.4 cases per 100,000 person-years per year during 2017–2021. Comparing this crude rate with the crude rate for the remainder of Idaho (530.4) gives an estimate of the relative burden of disease in Ada County.

The age- and sex-adjusted incidence rate of invasive cancer in Ada County, all sites combined, was 540.9 cases per 100,000 persons per year during 2017–2021. There were statistically significantly more cases of cancer in Ada County (12,448) than expected (12,208.0) based upon rates in the remainder of the state ($p=.031$).

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 3,684 Ada 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 Ada County and the State of Idaho, 2018–2022

Mortality 2018–2022	Ada County	State of Idaho
All Deaths	18,272	80,538
Cancer Deaths	3,684	15,233
% of All Deaths	20.2%	18.9%
Lung & Bronchus	679	2,937
Colorectal	281	1,332
Pancreas	308	1,190
Female Breast	295	1,111
Prostate	207	997

Table 4 (*Cancer Mortality 2018–2022, Comparison between Ada 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 Ada 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 Ada County, all sites combined, was 158.7 deaths per 100,000 persons per year during 2018–2022, compared with 171.5 for the remainder of the state. There were statistically significantly fewer cancer deaths in Ada County (3,684) than expected (3,980.8) based upon rates in the remainder of the state ($p<.001$).

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 ADA COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cancer Site/Type	Sex	Ada 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	12,448	2,415,348	515.4	540.9	12,208.0	0.031 >>	34,885	6,576,758	530.4
All Sites Combined	Male	6,535	1,211,536	539.4	589.1	6,297.0	0.003 >>	18,735	3,300,737	567.6
All Sites Combined	Female	5,913	1,203,812	491.2	498.9	5,843.3	0.365	16,150	3,276,021	493.0
Bladder	Total	554	2,415,348	22.9	25.1	559.5	0.839	1,666	6,576,758	25.3
Bladder	Male	427	1,211,536	35.2	40.1	434.2	0.752	1,346	3,300,737	40.8
Bladder	Female	127	1,203,812	10.5	11.1	111.9	0.171	320	3,276,021	9.8
Brain - malignant	Total	181	2,415,348	7.5	7.6	171.7	0.497	476	6,576,758	7.2
Brain - malignant	Male	99	1,211,536	8.2	8.3	101.7	0.842	283	3,300,737	8.6
Brain - malignant	Female	82	1,203,812	6.8	6.9	69.6	0.159	193	3,276,021	5.9
Brain and other CNS - non-malignant	Total	390	2,415,348	16.1	16.6	413.1	0.266	1,157	6,576,758	17.6
Brain and other CNS - non-malignant	Male	123	1,211,536	10.2	10.6	132.3	0.448	377	3,300,737	11.4
Brain and other CNS - non-malignant	Female	267	1,203,812	22.2	22.4	283.3	0.349	780	3,276,021	23.8
Breast	Total	2,073	2,415,348	85.8	87.4	1,779.5	0.000 >>	4,935	6,576,758	75.0
Breast	Male	20	1,211,536	1.7	1.8	14.9	0.243	45	3,300,737	1.4
Breast	Female	2,053	1,203,812	170.5	170.9	1,793.5	0.000 >>	4,890	3,276,021	149.3
Breast - in situ	Total	468	2,415,348	19.4	19.5	329.5	0.000 >>	901	6,576,758	13.7
Breast - in situ	Male	1	1,211,536	0.1	0.1	1.1	1.000	3	3,300,737	0.1
Breast - in situ	Female	467	1,203,812	38.8	38.4	333.0	0.000 >>	898	3,276,021	27.4
Cervix	Female	64	1,203,812	5.3	4.9	91.5	0.003 <<	230	3,276,021	7.0
Colorectal	Total	814	2,415,348	33.7	35.0	996.5	0.000 <<	2,818	6,576,758	42.8
Colorectal	Male	420	1,211,536	34.7	36.7	539.4	0.000 <<	1,557	3,300,737	47.2
Colorectal	Female	394	1,203,812	32.7	33.4	454.2	0.004 <<	1,261	3,276,021	38.5
Corpus Uteri	Female	310	1,203,812	25.8	25.9	380.9	0.000 <<	1,044	3,276,021	31.9
Esophagus	Total	127	2,415,348	5.3	5.6	130.2	0.821	380	6,576,758	5.8
Esophagus	Male	107	1,211,536	8.8	9.7	107.3	1.000	322	3,300,737	9.8
Esophagus	Female	20	1,203,812	1.7	1.7	20.3	1.000	58	3,276,021	1.8
Hodgkin Lymphoma	Total	74	2,415,348	3.1	3.1	54.2	0.012 >>	148	6,576,758	2.3
Hodgkin Lymphoma	Male	40	1,211,536	3.3	3.3	32.6	0.229	89	3,300,737	2.7
Hodgkin Lymphoma	Female	34	1,203,812	2.8	2.8	21.5	0.015 >>	59	3,276,021	1.8
Kidney and Renal Pelvis	Total	461	2,415,348	19.1	19.9	526.1	0.004 <<	1,490	6,576,758	22.7
Kidney and Renal Pelvis	Male	312	1,211,536	25.8	27.3	345.3	0.075	998	3,300,737	30.2
Kidney and Renal Pelvis	Female	149	1,203,812	12.4	12.7	176.6	0.037 <<	492	3,276,021	15.0
Larynx	Total	47	2,415,348	1.9	2.1	59.5	0.111	173	6,576,758	2.6
Larynx	Male	38	1,211,536	3.1	3.5	43.0	0.500	129	3,300,737	3.9
Larynx	Female	9	1,203,812	0.7	0.8	15.6	0.107	44	3,276,021	1.3
Leukemia	Total	441	2,415,348	18.3	19.4	444.6	0.890	1,286	6,576,758	19.6
Leukemia	Male	262	1,211,536	21.6	23.6	259.9	0.915	774	3,300,737	23.4
Leukemia	Female	179	1,203,812	14.9	15.4	181.5	0.892	512	3,276,021	15.6
Liver and Bile Duct	Total	212	2,415,348	8.8	9.3	218.8	0.677	631	6,576,758	9.6
Liver and Bile Duct	Male	139	1,211,536	11.5	12.5	153.6	0.252	455	3,300,737	13.8
Liver and Bile Duct	Female	73	1,203,812	6.1	6.3	62.5	0.211	176	3,276,021	5.4
Lung and Bronchus	Total	1,183	2,415,348	49.0	53.4	1,272.9	0.011 <<	3,776	6,576,758	57.4
Lung and Bronchus	Male	569	1,211,536	47.0	53.1	625.2	0.024 <<	1,926	3,300,737	58.4
Lung and Bronchus	Female	614	1,203,812	51.0	53.8	644.1	0.243	1,850	3,276,021	56.5
Melanoma of the Skin	Total	964	2,415,348	39.9	41.2	776.3	0.000 >>	2,180	6,576,758	33.1
Melanoma of the Skin	Male	585	1,211,536	48.3	52.1	446.0	0.000 >>	1,310	3,300,737	39.7
Melanoma of the Skin	Female	379	1,203,812	31.5	31.2	322.9	0.003 >>	870	3,276,021	26.6
Myeloma	Total	191	2,415,348	7.9	8.5	184.5	0.651	537	6,576,758	8.2
Myeloma	Male	116	1,211,536	9.6	10.5	110.4	0.617	331	3,300,737	10.0
Myeloma	Female	75	1,203,812	6.2	6.5	72.7	0.819	206	3,276,021	6.3
Non-Hodgkin Lymphoma	Total	500	2,415,348	20.7	21.8	519.5	0.405	1,492	6,576,758	22.7
Non-Hodgkin Lymphoma	Male	306	1,211,536	25.3	27.2	285.9	0.248	840	3,300,737	25.4
Non-Hodgkin Lymphoma	Female	194	1,203,812	16.1	16.7	231.6	0.012 <<	652	3,276,021	19.9
Oral Cavity and Pharynx	Total	349	2,415,348	14.4	15.0	340.8	0.671	966	6,576,758	14.7
Oral Cavity and Pharynx	Male	249	1,211,536	20.6	21.8	238.6	0.517	691	3,300,737	20.9
Oral Cavity and Pharynx	Female	100	1,203,812	8.3	8.5	98.9	0.938	275	3,276,021	8.4
Ovary	Female	138	1,203,812	11.5	11.5	152.1	0.270	415	3,276,021	12.7
Pancreas	Total	377	2,415,348	15.6	16.8	380.0	0.906	1,111	6,576,758	16.9
Pancreas	Male	202	1,211,536	16.7	18.5	206.8	0.774	624	3,300,737	18.9
Pancreas	Female	175	1,203,812	14.5	15.2	171.1	0.785	487	3,276,021	14.9
Prostate	Male	1,908	1,211,536	157.5	174.5	1,608.9	0.000 >>	4,858	3,300,737	147.2
Stomach	Total	109	2,415,348	4.5	4.8	126.7	0.120	365	6,576,758	5.5
Stomach	Male	69	1,211,536	5.7	6.3	79.3	0.269	238	3,300,737	7.2
Stomach	Female	40	1,203,812	3.3	3.4	46.0	0.424	127	3,276,021	3.9
Testis	Male	85	1,211,536	7.0	6.4	75.6	0.308	189	3,300,737	5.7
Thyroid	Total	311	2,415,348	12.9	12.4	333.3	0.230	874	6,576,758	13.3
Thyroid	Male	90	1,211,536	7.4	7.4	103.6	0.193	282	3,300,737	8.5
Thyroid	Female	221	1,203,812	18.4	17.5	228.6	0.646	592	3,276,021	18.1
Pediatric Age 0 to 19	Total	106	620,640	17.1	17.1	105.2	0.965	319	1,878,684	17.0
Pediatric Age 0 to 19	Male	47	317,672	14.8	14.8	55.3	0.295	167	956,649	17.5
Pediatric Age 0 to 19	Female	59	302,968	19.5	19.5	49.8	0.222	152	922,035	16.5

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 ADA COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cause of Death Cancer Site/Type	Sex	Ada 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	18,272	2,477,261	737.6	784.3	21,539.7	0.000 <<	62,263	6,734,133	924.6
All Causes of Death	Male	9,440	1,245,093	758.2	826.6	11,257.5	0.000 <<	33,346	3,382,604	985.8
All Causes of Death	Female	8,832	1,232,168	716.8	746.2	10,211.5	0.000 <<	28,917	3,351,529	862.8
All Malignant Cancers	Total	3,684	2,477,261	148.7	158.7	3,980.8	0.000 <<	11,549	6,734,133	171.5
All Malignant Cancers	Male	1,905	1,245,093	153.0	169.4	2,104.4	0.000 <<	6,330	3,382,604	187.1
All Malignant Cancers	Female	1,779	1,232,168	144.4	149.4	1,854.0	0.082	5,219	3,351,529	155.7
Bladder	Total	117	2,477,261	4.7	5.1	124.2	0.557	368	6,734,133	5.5
Bladder	Male	82	1,245,093	6.6	7.5	95.1	0.191	293	3,382,604	8.7
Bladder	Female	35	1,232,168	2.8	3.0	26.0	0.106	75	3,351,529	2.2
Brain and Other Nervous System	Total	150	2,477,261	6.1	6.2	131.5	0.121	368	6,734,133	5.5
Brain and Other Nervous System	Male	81	1,245,093	6.5	6.8	72.9	0.370	208	3,382,604	6.1
Brain and Other Nervous System	Female	69	1,232,168	5.6	5.7	58.2	0.183	160	3,351,529	4.8
Breast	Total	298	2,477,261	12.0	12.6	290.9	0.692	826	6,734,133	12.3
Breast	Male	3	1,245,093	0.2	0.3	3.2	1.000	10	3,382,604	0.3
Breast	Female	295	1,232,168	23.9	24.4	294.0	0.969	816	3,351,529	24.3
Cervix	Female	21	1,232,168	1.7	1.6	25.8	0.397	67	3,351,529	2.0
Colorectal	Total	281	2,477,261	11.3	11.9	369.0	0.000 <<	1,051	6,734,133	15.6
Colorectal	Male	152	1,245,093	12.2	13.1	199.7	0.001 <<	580	3,382,604	17.1
Colorectal	Female	129	1,232,168	10.5	10.8	168.2	0.002 <<	471	3,351,529	14.1
Corpus Uteri	Female	49	1,232,168	4.0	4.1	42.6	0.360	120	3,351,529	3.6
Esophagus	Total	125	2,477,261	5.0	5.4	116.1	0.430	336	6,734,133	5.0
Esophagus	Male	105	1,245,093	8.4	9.2	96.0	0.385	286	3,382,604	8.5
Esophagus	Female	20	1,232,168	1.6	1.7	17.6	0.631	50	3,351,529	1.5
Hodgkin Lymphoma	Total	8	2,477,261	0.3	0.3	5.8	0.454	17	6,734,133	0.3
Hodgkin Lymphoma	Male	6	1,245,093	0.5	0.6	2.6	0.091	8	3,382,604	0.2
Hodgkin Lymphoma	Female	2	1,232,168	0.2	0.2	3.2	0.765	9	3,351,529	0.3
Kidney	Total	99	2,477,261	4.0	4.3	97.8	0.930	287	6,734,133	4.3
Kidney	Male	64	1,245,093	5.1	5.7	60.3	0.668	182	3,382,604	5.4
Kidney	Female	35	1,232,168	2.8	3.0	36.6	0.876	105	3,351,529	3.1
Larynx	Total	22	2,477,261	0.9	0.9	18.6	0.493	54	6,734,133	0.8
Larynx	Male	18	1,245,093	1.4	1.6	15.6	0.615	47	3,382,604	1.4
Larynx	Female	4	1,232,168	0.3	0.3	2.5	0.500	7	3,351,529	0.2
Leukemia	Total	173	2,477,261	7.0	7.5	168.4	0.743	492	6,734,133	7.3
Leukemia	Male	96	1,245,093	7.7	8.6	99.7	0.759	301	3,382,604	8.9
Leukemia	Female	77	1,232,168	6.2	6.5	67.1	0.256	191	3,351,529	5.7
Liver and Bile Duct	Total	156	2,477,261	6.3	6.7	165.9	0.470	479	6,734,133	7.1
Liver and Bile Duct	Male	103	1,245,093	8.3	9.1	107.6	0.703	320	3,382,604	9.5
Liver and Bile Duct	Female	53	1,232,168	4.3	4.4	56.5	0.703	159	3,351,529	4.7
Lung and Bronchus	Total	679	2,477,261	27.4	29.6	768.9	0.001 <<	2,258	6,734,133	33.5
Lung and Bronchus	Male	341	1,245,093	27.4	30.6	394.7	0.006 <<	1,200	3,382,604	35.5
Lung and Bronchus	Female	338	1,232,168	27.4	28.7	371.2	0.087	1,058	3,351,529	31.6
Melanoma of the Skin	Total	78	2,477,261	3.1	3.3	77.7	1.000	223	6,734,133	3.3
Melanoma of the Skin	Male	54	1,245,093	4.3	4.7	49.2	0.531	146	3,382,604	4.3
Melanoma of the Skin	Female	24	1,232,168	1.9	2.0	27.6	0.567	77	3,351,529	2.3
Myeloma	Total	76	2,477,261	3.1	3.3	84.3	0.397	249	6,734,133	3.7
Myeloma	Male	39	1,245,093	3.1	3.5	48.9	0.172	149	3,382,604	4.4
Myeloma	Female	37	1,232,168	3.0	3.2	34.8	0.749	100	3,351,529	3.0
Non-Hodgkin Lymphoma	Total	119	2,477,261	4.8	5.2	152.9	0.005 <<	449	6,734,133	6.7
Non-Hodgkin Lymphoma	Male	67	1,245,093	5.4	6.0	80.3	0.146	243	3,382,604	7.2
Non-Hodgkin Lymphoma	Female	52	1,232,168	4.2	4.4	72.0	0.017 <<	206	3,351,529	6.1
Oral Cavity and Pharynx	Total	70	2,477,261	2.8	3.0	71.0	0.968	205	6,734,133	3.0
Oral Cavity and Pharynx	Male	53	1,245,093	4.3	4.7	46.4	0.371	139	3,382,604	4.1
Oral Cavity and Pharynx	Female	17	1,232,168	1.4	1.4	23.7	0.197	66	3,351,529	2.0
Ovary	Female	96	1,232,168	7.8	8.0	94.7	0.918	265	3,351,529	7.9
Pancreas	Total	308	2,477,261	12.4	13.3	302.9	0.785	882	6,734,133	13.1
Pancreas	Male	166	1,245,093	13.3	14.8	160.7	0.696	484	3,382,604	14.3
Pancreas	Female	142	1,232,168	11.5	12.0	140.7	0.935	398	3,351,529	11.9
Prostate	Male	207	1,245,093	16.6	19.0	255.0	0.002 <<	790	3,382,604	23.4
Stomach	Total	48	2,477,261	1.9	2.0	51.9	0.655	146	6,734,133	2.2
Stomach	Male	26	1,245,093	2.1	2.3	31.5	0.375	93	3,382,604	2.7
Stomach	Female	22	1,232,168	1.8	1.8	19.7	0.668	53	3,351,529	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	Ada 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%	93.1%
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%	10.2%
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%	66.2%
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%	73.8%
Colorectal Cancer Screening, Age 45–75 (2022)	63.3%	61.0%	62.5%	60.8%	67.2%	65.0%	60.4%	60.2%	67.2%
Tobacco Use									
Current Tobacco User (2020–2022)	22.1%	24.3%	20.4%	24.8%	21.3%	22.5%	22.6%	18.1%	20.5%
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%	34.0%
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%	83.5%
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%	25.5%
Home Ever Tested for Radon (2016, 2018, 2020)	22.9%	30.8%	18.3%	16.9%	25.2%	20.1%	23.0%	21.0%	25.8%

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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ADAMS 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 162 cases of invasive cancer were diagnosed among Adams County residents (Table 1).

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

Cancer Incidence 2017–2021	Adams County	State of Idaho
All Sites/Types	162	47,333
Female Breast	19	6,943
Prostate	32	6,766
Lung & Bronchus	21	4,959
Colorectal	4	3,632

Table 3 (*Cancer Incidence 2017–2021, Comparison between Adams 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 Adams 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 Adams County was 747.0 cases per 100,000 person-years per year during 2017–2021. Comparing this crude rate with the crude rate for the remainder of Idaho (525.9) gives an estimate of the relative burden of disease in Adams County.

The age- and sex-adjusted incidence rate of invasive cancer in Adams County, all sites combined, was 462.8 cases per 100,000 persons per year during 2017–2021. There were fewer cases of cancer in Adams County (162) than expected (184.1) 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 68 Adams 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 Adams County and the State of Idaho, 2018–2022

Mortality 2018–2022	Adams County	State of Idaho
All Deaths	243	80,538
Cancer Deaths	68	15,233
% of All Deaths	28.0%	18.9%
Lung & Bronchus	15	2,937
Colorectal	2	1,332
Pancreas	3	1,190
Female Breast	7	1,111
Prostate	5	997

Table 4 (*Cancer Mortality 2018–2022, Comparison between Adams 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 Adams 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 Adams County, all sites combined, was 184.3 deaths per 100,000 persons per year during 2018–2022, compared with 165.0 for the remainder of the state. There were more cancer deaths in Adams County (68) than expected (60.9) 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 ADAMS COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cancer Site/Type	Sex	Adams 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	162	21,687	747.0	462.8	184.1	0.108	47,171	8,970,419	525.9
All Sites Combined	Male	96	11,238	854.2	486.4	110.4	0.182	25,174	4,501,035	559.3
All Sites Combined	Female	66	10,449	631.6	423.3	76.7	0.239	21,997	4,469,384	492.2
Bladder	Total	8	21,687	36.9	21.4	9.2	0.859	2,212	8,970,419	24.7
Bladder	Male	7	11,238	62.3	33.5	8.2	0.853	1,766	4,501,035	39.2
Bladder	Female	1	10,449	9.6	6.0	1.7	1.000	446	4,469,384	10.0
Brain - malignant	Total	2	21,687	9.2	6.5	2.2	1.000	655	8,970,419	7.3
Brain - malignant	Male	2	11,238	17.8	12.2	1.4	0.806	380	4,501,035	8.4
Brain - malignant	Female	-	10,449	-	-	0.9	0.824	275	4,469,384	6.2
Brain and other CNS - non-malignant	Total	1	21,687	4.6	3.1	5.6	0.051	1,546	8,970,419	17.2
Brain and other CNS - non-malignant	Male	-	11,238	-	-	1.9	0.300	500	4,501,035	11.1
Brain and other CNS - non-malignant	Female	1	10,449	9.6	6.7	3.5	0.270	1,046	4,469,384	23.4
Breast	Total	20	21,687	92.2	59.6	26.2	0.265	6,988	8,970,419	77.9
Breast	Male	1	11,238	8.9	5.3	0.3	0.473	64	4,501,035	1.4
Breast	Female	19	10,449	181.8	121.9	24.1	0.346	6,924	4,469,384	154.9
Breast - in situ	Total	3	21,687	13.8	9.0	5.1	0.508	1,366	8,970,419	15.2
Breast - in situ	Male	-	11,238	-	-	0.0	1.000	4	4,501,035	0.1
Breast - in situ	Female	3	10,449	28.7	19.2	4.8	0.599	1,362	4,469,384	30.5
Cervix	Female	-	10,449	-	-	0.8	0.928	294	4,469,384	6.6
Colorectal	Total	4	21,687	18.4	11.8	13.7	0.004 <<	3,628	8,970,419	40.4
Colorectal	Male	4	11,238	35.6	21.6	8.1	0.185	1,973	4,501,035	43.8
Colorectal	Female	-	10,449	-	-	5.7	0.007 <<	1,655	4,469,384	37.0
Corpus Uteri	Female	2	10,449	19.1	12.3	4.9	0.261	1,352	4,469,384	30.3
Esophagus	Total	1	21,687	4.6	2.7	2.1	0.774	506	8,970,419	5.6
Esophagus	Male	1	11,238	8.9	4.9	1.9	0.856	428	4,501,035	9.5
Esophagus	Female	-	10,449	-	-	0.3	1.000	78	4,469,384	1.7
Hodgkin Lymphoma	Total	2	21,687	9.2	8.2	0.6	0.240	220	8,970,419	2.5
Hodgkin Lymphoma	Male	2	11,238	17.8	14.7	0.4	0.114	127	4,501,035	2.8
Hodgkin Lymphoma	Female	-	10,449	-	-	0.2	1.000	93	4,469,384	2.1
Kidney and Renal Pelvis	Total	6	21,687	27.7	17.4	7.5	0.767	1,945	8,970,419	21.7
Kidney and Renal Pelvis	Male	4	11,238	35.6	21.3	5.4	0.735	1,306	4,501,035	29.0
Kidney and Renal Pelvis	Female	2	10,449	19.1	12.8	2.2	1.000	639	4,469,384	14.3
Larynx	Total	1	21,687	4.6	2.7	0.9	1.000	219	8,970,419	2.4
Larynx	Male	-	11,238	-	-	0.7	0.947	167	4,501,035	3.7
Larynx	Female	1	10,449	9.6	5.9	0.2	0.358	52	4,469,384	1.2
Leukemia	Total	2	21,687	9.2	5.9	6.5	0.085	1,725	8,970,419	19.2
Leukemia	Male	1	11,238	8.9	5.3	4.3	0.143	1,035	4,501,035	23.0
Leukemia	Female	1	10,449	9.6	6.5	2.4	0.628	690	4,469,384	15.4
Liver and Bile Duct	Total	2	21,687	9.2	5.4	3.5	0.643	841	8,970,419	9.4
Liver and Bile Duct	Male	2	11,238	17.8	9.8	2.7	0.996	592	4,501,035	13.2
Liver and Bile Duct	Female	-	10,449	-	-	0.9	0.787	249	4,469,384	5.6
Lung and Bronchus	Total	21	21,687	96.8	55.5	20.8	1.000	4,938	8,970,419	55.0
Lung and Bronchus	Male	8	11,238	71.2	37.8	11.7	0.354	2,487	4,501,035	55.3
Lung and Bronchus	Female	13	10,449	124.4	76.5	9.3	0.298	2,451	4,469,384	54.8
Melanoma of the Skin	Total	10	21,687	46.1	30.2	11.6	0.787	3,134	8,970,419	34.9
Melanoma of the Skin	Male	6	11,238	53.4	31.9	7.9	0.651	1,889	4,501,035	42.0
Melanoma of the Skin	Female	4	10,449	38.3	27.6	4.0	1.000	1,245	4,469,384	27.9
Myeloma	Total	1	21,687	4.6	2.7	3.0	0.408	727	8,970,419	8.1
Myeloma	Male	1	11,238	8.9	5.0	2.0	0.816	446	4,501,035	9.9
Myeloma	Female	-	10,449	-	-	1.1	0.699	281	4,469,384	6.3
Non-Hodgkin Lymphoma	Total	7	21,687	32.3	20.2	7.7	0.996	1,985	8,970,419	22.1
Non-Hodgkin Lymphoma	Male	5	11,238	44.5	26.4	4.8	1.000	1,141	4,501,035	25.3
Non-Hodgkin Lymphoma	Female	2	10,449	19.1	12.5	3.0	0.839	844	4,469,384	18.9
Oral Cavity and Pharynx	Total	7	21,687	32.3	19.6	5.2	0.541	1,308	8,970,419	14.6
Oral Cavity and Pharynx	Male	4	11,238	35.6	20.7	4.0	1.000	936	4,501,035	20.8
Oral Cavity and Pharynx	Female	3	10,449	28.7	18.5	1.3	0.308	372	4,469,384	8.3
Ovary	Female	3	10,449	28.7	19.4	1.9	0.592	550	4,469,384	12.3
Pancreas	Total	6	21,687	27.7	16.4	6.0	1.000	1,482	8,970,419	16.5
Pancreas	Male	4	11,238	35.6	19.8	3.7	1.000	822	4,501,035	18.3
Pancreas	Female	2	10,449	19.1	12.1	2.4	1.000	660	4,469,384	14.8
Prostate	Male	32	11,238	284.7	152.2	31.4	0.969	6,734	4,501,035	149.6
Stomach	Total	2	21,687	9.2	5.8	1.8	1.000	472	8,970,419	5.3
Stomach	Male	1	11,238	8.9	5.1	1.3	1.000	306	4,501,035	6.8
Stomach	Female	1	10,449	9.6	6.6	0.6	0.860	166	4,469,384	3.7
Testis	Male	-	11,238	-	-	0.5	1.000	274	4,501,035	6.1
Thyroid	Total	5	21,687	23.1	19.3	3.4	0.517	1,180	8,970,419	13.2
Thyroid	Male	2	11,238	17.8	12.7	1.3	0.740	370	4,501,035	8.2
Thyroid	Female	3	10,449	28.7	25.6	2.1	0.711	810	4,469,384	18.1
Pediatric Age 0 to 19	Total	2	4,098	48.8	49.4	0.7	0.302	423	2,495,226	17.0
Pediatric Age 0 to 19	Male	1	2,181	45.9	46.3	0.4	0.607	213	1,272,140	16.7
Pediatric Age 0 to 19	Female	1	1,917	52.2	52.3	0.3	0.560	210	1,223,086	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 ADAMS COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cause of Death Cancer Site/Type	Sex	Adams 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	243	22,376	1,086.0	702.0	302.5	0.000 <<	80,292	9,189,018	873.8
All Causes of Death	Male	144	11,607	1,240.6	747.5	178.0	0.010 <<	42,642	4,616,090	923.8
All Causes of Death	Female	99	10,769	919.3	635.5	128.3	0.009 <<	37,650	4,572,928	823.3
All Malignant Cancers	Total	68	22,376	303.9	184.3	60.9	0.393	15,165	9,189,018	165.0
All Malignant Cancers	Male	39	11,607	336.0	188.8	36.7	0.744	8,196	4,616,090	177.6
All Malignant Cancers	Female	29	10,769	269.3	174.9	25.3	0.508	6,969	4,572,928	152.4
Bladder	Total	1	22,376	4.5	2.7	1.9	0.852	484	9,189,018	5.3
Bladder	Male	1	11,607	8.6	4.8	1.7	0.998	374	4,616,090	8.1
Bladder	Female	-	10,769	-	-	0.4	1.000	110	4,572,928	2.4
Brain and Other Nervous System	Total	2	22,376	8.9	5.8	2.0	1.000	516	9,189,018	5.6
Brain and Other Nervous System	Male	2	11,607	17.2	10.7	1.2	0.650	287	4,616,090	6.2
Brain and Other Nervous System	Female	-	10,769	-	-	0.8	0.891	229	4,572,928	5.0
Breast	Total	7	22,376	31.3	19.8	4.3	0.287	1,117	9,189,018	12.2
Breast	Male	-	11,607	-	-	0.1	1.000	13	4,616,090	0.3
Breast	Female	7	10,769	65.0	43.3	3.9	0.202	1,104	4,572,928	24.1
Cervix	Female	-	10,769	-	-	0.3	1.000	88	4,572,928	1.9
Colorectal	Total	2	22,376	8.9	5.6	5.2	0.223	1,330	9,189,018	14.5
Colorectal	Male	1	11,607	8.6	5.1	3.1	0.368	731	4,616,090	15.8
Colorectal	Female	1	10,769	9.3	6.2	2.1	0.752	599	4,572,928	13.1
Corpus Uteri	Female	1	10,769	9.3	5.7	0.6	0.949	168	4,572,928	3.7
Esophagus	Total	2	22,376	8.9	5.3	1.9	1.000	459	9,189,018	5.0
Esophagus	Male	2	11,607	17.2	9.5	1.8	1.000	389	4,616,090	8.4
Esophagus	Female	-	10,769	-	-	0.3	1.000	70	4,572,928	1.5
Hodgkin Lymphoma	Total	-	22,376	-	-	0.1	1.000	25	9,189,018	0.3
Hodgkin Lymphoma	Male	-	11,607	-	-	0.1	1.000	14	4,616,090	0.3
Hodgkin Lymphoma	Female	-	10,769	-	-	0.0	1.000	11	4,572,928	0.2
Kidney	Total	-	22,376	-	-	1.6	0.409	386	9,189,018	4.2
Kidney	Male	-	11,607	-	-	1.1	0.658	246	4,616,090	5.3
Kidney	Female	-	10,769	-	-	0.5	1.000	140	4,572,928	3.1
Larynx	Total	1	22,376	4.5	2.7	0.3	0.530	75	9,189,018	0.8
Larynx	Male	-	11,607	-	-	0.3	1.000	65	4,616,090	1.4
Larynx	Female	1	10,769	9.3	5.7	0.0	0.075	10	4,572,928	0.2
Leukemia	Total	1	22,376	4.5	2.8	2.6	0.533	664	9,189,018	7.2
Leukemia	Male	1	11,607	8.6	4.9	1.7	0.959	396	4,616,090	8.6
Leukemia	Female	-	10,769	-	-	0.9	0.784	268	4,572,928	5.9
Liver and Bile Duct	Total	2	22,376	8.9	5.2	2.6	1.000	633	9,189,018	6.9
Liver and Bile Duct	Male	2	11,607	17.2	9.5	1.9	1.000	421	4,616,090	9.1
Liver and Bile Duct	Female	-	10,769	-	-	0.8	0.906	212	4,572,928	4.6
Lung and Bronchus	Total	15	22,376	67.0	39.1	12.2	0.494	2,922	9,189,018	31.8
Lung and Bronchus	Male	8	11,607	68.9	37.3	7.1	0.839	1,533	4,616,090	33.2
Lung and Bronchus	Female	7	10,769	65.0	40.7	5.2	0.544	1,389	4,572,928	30.4
Melanoma of the Skin	Total	3	22,376	13.4	8.4	1.2	0.221	298	9,189,018	3.2
Melanoma of the Skin	Male	3	11,607	25.8	15.1	0.8	0.108	197	4,616,090	4.3
Melanoma of the Skin	Female	-	10,769	-	-	0.4	1.000	101	4,572,928	2.2
Myeloma	Total	1	22,376	4.5	2.6	1.3	1.000	324	9,189,018	3.5
Myeloma	Male	1	11,607	8.6	4.7	0.9	1.000	187	4,616,090	4.1
Myeloma	Female	-	10,769	-	-	0.5	1.000	137	4,572,928	3.0
Non-Hodgkin Lymphoma	Total	4	22,376	17.9	10.9	2.3	0.381	564	9,189,018	6.1
Non-Hodgkin Lymphoma	Male	2	11,607	17.2	9.8	1.4	0.791	308	4,616,090	6.7
Non-Hodgkin Lymphoma	Female	2	10,769	18.6	12.2	0.9	0.470	256	4,572,928	5.6
Oral Cavity and Pharynx	Total	4	22,376	17.9	10.6	1.1	0.053	271	9,189,018	2.9
Oral Cavity and Pharynx	Male	3	11,607	25.8	14.4	0.9	0.111	189	4,616,090	4.1
Oral Cavity and Pharynx	Female	1	10,769	9.3	5.9	0.3	0.522	82	4,572,928	1.8
Ovary	Female	1	10,769	9.3	5.9	1.3	1.000	360	4,572,928	7.9
Pancreas	Total	3	22,376	13.4	7.9	4.9	0.557	1,187	9,189,018	12.9
Pancreas	Male	2	11,607	17.2	9.5	3.0	0.863	648	4,616,090	14.0
Pancreas	Female	1	10,769	9.3	5.9	2.0	0.804	539	4,572,928	11.8
Prostate	Male	5	11,607	43.1	23.9	4.5	0.936	992	4,616,090	21.5
Stomach	Total	-	22,376	-	-	0.7	0.966	194	9,189,018	2.1
Stomach	Male	-	11,607	-	-	0.5	1.000	119	4,616,090	2.6
Stomach	Female	-	10,769	-	-	0.2	1.000	75	4,572,928	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	Adams County
<u>Access to Care</u>									
Have Health Insurance, Age < 65 (2021–2022)	90.0%	89.3%	87.8%	86.4%	92.6%	87.2%	89.1%	92.6%	.
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%	10.2%
<u>Cancer Screening</u>									
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%	.
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%	.
Colorectal Cancer Screening, Age 45–75 (2022)	63.3%	61.0%	62.5%	60.8%	67.2%	65.0%	60.4%	60.2%	.
<u>Tobacco Use</u>									
Current Tobacco User (2020–2022)	22.1%	24.3%	20.4%	24.8%	21.3%	22.5%	22.6%	18.1%	29.3%
<u>Other Cancer-Related</u>									
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%	26.7%
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%	71.7%
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%	12.3%
Home Ever Tested for Radon (2016, 2018, 2020)	22.9%	30.8%	18.3%	16.9%	25.2%	20.1%	23.0%	21.0%	20.8%

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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BANNOCK 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 1,964 cases of invasive cancer were diagnosed among Bannock County residents (Table 1).

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

Cancer Incidence 2017–2021	Bannock County	State of Idaho
All Sites/Types	1,964	47,333
Female Breast	295	6,943
Prostate	238	6,766
Lung & Bronchus	199	4,959
Colorectal	153	3,632

Table 3 (*Cancer Incidence 2017–2021, Comparison between Bannock 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 Bannock 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 Bannock County was 449.1 cases per 100,000 person-years per year during 2017–2021. Comparing this crude rate with the crude rate for the remainder of Idaho (530.3) gives an estimate of the relative burden of disease in Bannock County.

The age- and sex-adjusted incidence rate of invasive cancer in Bannock County, all sites combined, was 492.0 cases per 100,000 persons per year during 2017–2021. There were statistically significantly fewer cases of cancer in Bannock County (1,964) than expected (2,116.8) based upon rates in the remainder of the state ($p < .001$).

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 694 Bannock 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 Bannock County and the State of Idaho, 2018–2022

Mortality 2018–2022	Bannock County	State of Idaho
All Deaths	4,204	80,538
Cancer Deaths	694	15,233
% of All Deaths	16.5%	18.9%
Lung & Bronchus	130	2,937
Colorectal	61	1,332
Pancreas	60	1,190
Female Breast	51	1,111
Prostate	50	997

Table 4 (*Cancer Mortality 2018–2022, Comparison between Bannock 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 Bannock 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 Bannock County, all sites combined, was 176.5 deaths per 100,000 persons per year during 2018–2022, compared with 165.8 for the remainder of the state. There were more cancer deaths in Bannock County (694) than expected (651.7) 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 BANNOCK COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cancer Site/Type	Sex	Bannock 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	1,964	437,298	449.1	492.0	2,116.8	0.001 <<	45,369	8,554,808	530.3
All Sites Combined	Male	1,034	217,900	474.5	525.8	1,109.8	0.022 <<	24,236	4,294,373	564.4
All Sites Combined	Female	930	219,398	423.9	459.4	1,004.1	0.019 <<	21,133	4,260,435	496.0
Bladder	Total	85	437,298	19.4	21.7	97.6	0.216	2,135	8,554,808	25.0
Bladder	Male	71	217,900	32.6	36.9	76.2	0.597	1,702	4,294,373	39.6
Bladder	Female	14	219,398	6.4	7.1	20.2	0.196	433	4,260,435	10.2
Brain - malignant	Total	36	437,298	8.2	8.8	29.8	0.301	621	8,554,808	7.3
Brain - malignant	Male	20	217,900	9.2	9.8	17.2	0.555	362	4,294,373	8.4
Brain - malignant	Female	16	219,398	7.3	7.7	12.6	0.402	259	4,260,435	6.1
Brain and other CNS - non-malignant	Total	42	437,298	9.6	10.4	70.9	0.000 <<	1,505	8,554,808	17.6
Brain and other CNS - non-malignant	Male	10	217,900	4.6	5.0	22.8	0.004 <<	490	4,294,373	11.4
Brain and other CNS - non-malignant	Female	32	219,398	14.6	15.7	48.4	0.016 <<	1,015	4,260,435	23.8
Breast	Total	299	437,298	68.4	74.6	314.3	0.404	6,709	8,554,808	78.4
Breast	Male	4	217,900	1.8	2.1	2.8	0.600	61	4,294,373	1.4
Breast	Female	295	219,398	134.5	145.8	315.7	0.255	6,648	4,260,435	156.0
Breast - in situ	Total	63	437,298	14.4	15.7	61.2	0.855	1,306	8,554,808	15.3
Breast - in situ	Male	-	217,900	-	-	0.2	1.000	4	4,294,373	0.1
Breast - in situ	Female	63	219,398	28.7	31.2	61.8	0.909	1,302	4,260,435	30.6
Cervix	Female	23	219,398	10.5	10.7	13.6	0.025 >>	271	4,260,435	6.4
Colorectal	Total	153	437,298	35.0	38.5	161.7	0.522	3,479	8,554,808	40.7
Colorectal	Male	77	217,900	35.3	39.3	86.7	0.322	1,900	4,294,373	44.2
Colorectal	Female	76	219,398	34.6	37.7	74.7	0.913	1,579	4,260,435	37.1
Corpus Uteri	Female	55	219,398	25.1	27.2	61.6	0.439	1,299	4,260,435	30.5
Esophagus	Total	25	437,298	5.7	6.3	22.2	0.609	482	8,554,808	5.6
Esophagus	Male	22	217,900	10.1	11.3	18.4	0.465	407	4,294,373	9.5
Esophagus	Female	3	219,398	1.4	1.5	3.5	1.000	75	4,260,435	1.8
Hodgkin Lymphoma	Total	14	437,298	3.2	3.2	10.6	0.363	208	8,554,808	2.4
Hodgkin Lymphoma	Male	7	217,900	3.2	3.3	6.1	0.818	122	4,294,373	2.8
Hodgkin Lymphoma	Female	7	219,398	3.2	3.2	4.5	0.329	86	4,260,435	2.0
Kidney and Renal Pelvis	Total	91	437,298	20.8	22.8	86.7	0.674	1,860	8,554,808	21.7
Kidney and Renal Pelvis	Male	69	217,900	31.7	35.0	57.0	0.133	1,241	4,294,373	28.9
Kidney and Renal Pelvis	Female	22	219,398	10.0	10.9	29.2	0.205	619	4,260,435	14.5
Larynx	Total	13	437,298	3.0	3.3	9.6	0.341	207	8,554,808	2.4
Larynx	Male	12	217,900	5.5	6.2	7.0	0.108	155	4,294,373	3.6
Larynx	Female	1	219,398	0.5	0.5	2.5	0.595	52	4,260,435	1.2
Leukemia	Total	67	437,298	15.3	16.8	77.6	0.250	1,660	8,554,808	19.4
Leukemia	Male	38	217,900	17.4	19.3	45.8	0.276	998	4,294,373	23.2
Leukemia	Female	29	219,398	13.2	14.4	31.4	0.759	662	4,260,435	15.5
Liver and Bile Duct	Total	40	437,298	9.1	10.0	37.4	0.711	803	8,554,808	9.4
Liver and Bile Duct	Male	25	217,900	11.5	12.6	26.2	0.912	569	4,294,373	13.2
Liver and Bile Duct	Female	15	219,398	6.8	7.5	11.0	0.290	234	4,260,435	5.5
Lung and Bronchus	Total	199	437,298	45.5	50.8	218.1	0.205	4,760	8,554,808	55.6
Lung and Bronchus	Male	100	217,900	45.9	51.7	107.9	0.480	2,395	4,294,373	55.8
Lung and Bronchus	Female	99	219,398	45.1	49.9	110.0	0.315	2,365	4,260,435	55.5
Melanoma of the Skin	Total	145	437,298	33.2	36.0	141.2	0.770	2,999	8,554,808	35.1
Melanoma of the Skin	Male	86	217,900	39.5	43.7	82.9	0.760	1,809	4,294,373	42.1
Melanoma of the Skin	Female	59	219,398	26.9	28.6	57.6	0.886	1,190	4,260,435	27.9
Myeloma	Total	26	437,298	5.9	6.6	32.3	0.304	702	8,554,808	8.2
Myeloma	Male	15	217,900	6.9	7.7	19.5	0.371	432	4,294,373	10.1
Myeloma	Female	11	219,398	5.0	5.5	12.7	0.776	270	4,260,435	6.3
Non-Hodgkin Lymphoma	Total	83	437,298	19.0	20.8	89.2	0.552	1,909	8,554,808	22.3
Non-Hodgkin Lymphoma	Male	55	217,900	25.2	27.7	50.5	0.558	1,091	4,294,373	25.4
Non-Hodgkin Lymphoma	Female	28	219,398	12.8	13.9	38.7	0.092	818	4,260,435	19.2
Oral Cavity and Pharynx	Total	48	437,298	11.0	12.0	59.0	0.165	1,267	8,554,808	14.8
Oral Cavity and Pharynx	Male	29	217,900	13.3	14.7	41.9	0.046 <<	911	4,294,373	21.2
Oral Cavity and Pharynx	Female	19	219,398	8.7	9.5	16.8	0.654	356	4,260,435	8.4
Ovary	Female	18	219,398	8.2	8.9	25.5	0.154	535	4,260,435	12.6
Pancreas	Total	68	437,298	15.6	17.3	65.3	0.774	1,420	8,554,808	16.6
Pancreas	Male	36	217,900	16.5	18.6	35.7	1.000	790	4,294,373	18.4
Pancreas	Female	32	219,398	14.6	16.1	29.4	0.680	630	4,260,435	14.8
Prostate	Male	238	217,900	109.2	120.7	299.6	0.000 <<	6,528	4,294,373	152.0
Stomach	Total	25	437,298	5.7	6.3	20.8	0.408	449	8,554,808	5.2
Stomach	Male	19	217,900	8.7	9.8	13.0	0.143	288	4,294,373	6.7
Stomach	Female	6	219,398	2.7	3.0	7.6	0.717	161	4,260,435	3.8
Testis	Male	14	217,900	6.4	6.2	13.7	1.000	260	4,294,373	6.1
Thyroid	Total	48	437,298	11.0	11.3	56.4	0.288	1,137	8,554,808	13.3
Thyroid	Male	18	217,900	8.3	8.8	16.9	0.855	354	4,294,373	8.2
Thyroid	Female	30	219,398	13.7	13.9	39.8	0.132	783	4,260,435	18.4
Pediatric Age 0 to 19	Total	20	126,235	15.8	15.8	21.6	0.836	405	2,373,089	17.1
Pediatric Age 0 to 19	Male	12	64,443	18.6	18.6	10.8	0.788	202	1,209,878	16.7
Pediatric Age 0 to 19	Female	8	61,792	12.9	12.9	10.8	0.496	203	1,163,211	17.5

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 BANNOCK COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cause of Death Cancer Site/Type	Sex	Bannock 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	4,204	441,244	952.8	1,070.9	3,416.8	0.000 >>	76,331	8,770,150	870.3
All Causes of Death	Male	2,200	220,232	998.9	1,136.3	1,782.9	0.000 >>	40,586	4,407,465	920.8
All Causes of Death	Female	2,004	221,012	906.7	1,010.6	1,624.7	0.000 >>	35,745	4,362,685	819.3
All Malignant Cancers	Total	694	441,244	157.3	176.5	651.7	0.104	14,539	8,770,150	165.8
All Malignant Cancers	Male	366	220,232	166.2	189.6	344.6	0.262	7,869	4,407,465	178.5
All Malignant Cancers	Female	328	221,012	148.4	164.6	304.7	0.193	6,670	4,362,685	152.9
Bladder	Total	14	441,244	3.2	3.6	20.7	0.160	471	8,770,150	5.4
Bladder	Male	10	220,232	4.5	5.3	15.5	0.189	365	4,407,465	8.3
Bladder	Female	4	221,012	1.8	2.0	4.8	0.962	106	4,362,685	2.4
Brain and Other Nervous System	Total	28	441,244	6.3	6.9	22.6	0.305	490	8,770,150	5.6
Brain and Other Nervous System	Male	13	220,232	5.9	6.5	12.6	0.979	276	4,407,465	6.3
Brain and Other Nervous System	Female	15	221,012	6.8	7.4	10.0	0.166	214	4,362,685	4.9
Breast	Total	52	441,244	11.8	13.2	48.3	0.628	1,072	8,770,150	12.2
Breast	Male	1	220,232	0.5	0.5	0.5	0.832	12	4,407,465	0.3
Breast	Female	51	221,012	23.1	25.5	48.6	0.768	1,060	4,362,685	24.3
Cervix	Female	7	221,012	3.2	3.3	3.9	0.198	81	4,362,685	1.9
Colorectal	Total	61	441,244	13.8	15.5	57.2	0.649	1,271	8,770,150	14.5
Colorectal	Male	32	220,232	14.5	16.4	31.0	0.902	700	4,407,465	15.9
Colorectal	Female	29	221,012	13.1	14.6	26.1	0.618	571	4,362,685	13.1
Corpus Uteri	Female	7	221,012	3.2	3.5	7.4	1.000	162	4,362,685	3.7
Esophagus	Total	12	441,244	2.7	3.0	20.2	0.071	449	8,770,150	5.1
Esophagus	Male	11	220,232	5.0	5.6	16.8	0.183	380	4,407,465	8.6
Esophagus	Female	1	221,012	0.5	0.5	3.2	0.356	69	4,362,685	1.6
Hodgkin Lymphoma	Total	3	441,244	0.7	0.7	1.0	0.166	22	8,770,150	0.3
Hodgkin Lymphoma	Male	1	220,232	0.5	0.5	0.6	0.887	13	4,407,465	0.3
Hodgkin Lymphoma	Female	2	221,012	0.9	1.0	0.4	0.134	9	4,362,685	0.2
Kidney	Total	18	441,244	4.1	4.6	16.4	0.765	368	8,770,150	4.2
Kidney	Male	12	220,232	5.4	6.2	10.3	0.669	234	4,407,465	5.3
Kidney	Female	6	221,012	2.7	3.0	6.1	1.000	134	4,362,685	3.1
Larynx	Total	8	441,244	1.8	2.0	3.1	0.027 >>	68	8,770,150	0.8
Larynx	Male	8	220,232	3.6	4.2	2.5	0.008 >>	57	4,407,465	1.3
Larynx	Female	-	221,012	-	-	0.5	1.000	11	4,362,685	0.3
Leukemia	Total	34	441,244	7.7	8.7	28.2	0.317	631	8,770,150	7.2
Leukemia	Male	20	220,232	9.1	10.4	16.5	0.442	377	4,407,465	8.6
Leukemia	Female	14	221,012	6.3	7.1	11.5	0.543	254	4,362,685	5.8
Liver and Bile Duct	Total	34	441,244	7.7	8.6	27.2	0.232	601	8,770,150	6.9
Liver and Bile Duct	Male	22	220,232	10.0	11.1	18.0	0.397	401	4,407,465	9.1
Liver and Bile Duct	Female	12	221,012	5.4	6.0	9.1	0.419	200	4,362,685	4.6
Lung and Bronchus	Total	130	441,244	29.5	33.2	125.4	0.701	2,807	8,770,150	32.0
Lung and Bronchus	Male	69	220,232	31.3	35.7	64.6	0.613	1,472	4,407,465	33.4
Lung and Bronchus	Female	61	221,012	27.6	30.8	60.6	0.991	1,335	4,362,685	30.6
Melanoma of the Skin	Total	11	441,244	2.5	2.8	13.1	0.685	290	8,770,150	3.3
Melanoma of the Skin	Male	5	220,232	2.3	2.6	8.6	0.287	195	4,407,465	4.4
Melanoma of the Skin	Female	6	221,012	2.7	3.0	4.4	0.561	95	4,362,685	2.2
Myeloma	Total	18	441,244	4.1	4.6	13.6	0.297	307	8,770,150	3.5
Myeloma	Male	10	220,232	4.5	5.2	7.7	0.501	178	4,407,465	4.0
Myeloma	Female	8	221,012	3.6	4.0	5.8	0.471	129	4,362,685	3.0
Non-Hodgkin Lymphoma	Total	22	441,244	5.0	5.6	24.3	0.736	546	8,770,150	6.2
Non-Hodgkin Lymphoma	Male	13	220,232	5.9	6.7	13.0	1.000	297	4,407,465	6.7
Non-Hodgkin Lymphoma	Female	9	221,012	4.1	4.6	11.3	0.622	249	4,362,685	5.7
Oral Cavity and Pharynx	Total	10	441,244	2.3	2.5	12.0	0.703	265	8,770,150	3.0
Oral Cavity and Pharynx	Male	7	220,232	3.2	3.6	8.2	0.844	185	4,407,465	4.2
Oral Cavity and Pharynx	Female	3	221,012	1.4	1.5	3.7	1.000	80	4,362,685	1.8
Ovary	Female	15	221,012	6.8	7.5	15.9	0.962	346	4,362,685	7.9
Pancreas	Total	60	441,244	13.6	15.2	50.8	0.224	1,130	8,770,150	12.9
Pancreas	Male	29	220,232	13.2	14.9	27.4	0.815	621	4,407,465	14.1
Pancreas	Female	31	221,012	14.0	15.6	23.2	0.139	509	4,362,685	11.7
Prostate	Male	50	220,232	22.7	26.7	40.2	0.151	947	4,407,465	21.5
Stomach	Total	9	441,244	2.0	2.3	8.4	0.916	185	8,770,150	2.1
Stomach	Male	7	220,232	3.2	3.6	4.9	0.440	112	4,407,465	2.5
Stomach	Female	2	221,012	0.9	1.0	3.4	0.674	73	4,362,685	1.7

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	Bannock County
<u>Access to Care</u>									
Have Health Insurance, Age < 65 (2021–2022)	90.0%	89.3%	87.8%	86.4%	92.6%	87.2%	89.1%	92.6%	91.6%
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%	11.6%
<u>Cancer Screening</u>									
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%	64.3%
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%	78.9%
Colorectal Cancer Screening, Age 45–75 (2022)	63.3%	61.0%	62.5%	60.8%	67.2%	65.0%	60.4%	60.2%	62.8%
<u>Tobacco Use</u>									
Current Tobacco User (2020–2022)	22.1%	24.3%	20.4%	24.8%	21.3%	22.5%	22.6%	18.1%	23.9%
<u>Other Cancer-Related</u>									
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%	30.0%
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%	78.5%
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%	24.1%
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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BEAR LAKE 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 171 cases of invasive cancer were diagnosed among Bear Lake County residents (Table 1).

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

Cancer Incidence 2017–2021	Bear Lake County	State of Idaho
All Sites/Types	171	47,333
Female Breast	16	6,943
Prostate	24	6,766
Lung & Bronchus	15	4,959
Colorectal	14	3,632

Table 3 (*Cancer Incidence 2017–2021, Comparison between Bear Lake 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 Bear Lake 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 Bear Lake County was 553.6 cases per 100,000 person-years per year during 2017–2021. Comparing this crude rate with the crude rate for the remainder of Idaho (526.3) gives an estimate of the relative burden of disease in Bear Lake County.

The age- and sex-adjusted incidence rate of invasive cancer in Bear Lake County, all sites combined, was 467.1 cases per 100,000 persons per year during 2017–2021. There were fewer cases of cancer in Bear Lake County (171) than expected (192.7) 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 61 Bear Lake 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 Bear Lake County and the State of Idaho, 2018–2022

Mortality 2018–2022	Bear Lake County	State of Idaho
All Deaths	342	80,538
Cancer Deaths	61	15,233
% of All Deaths	17.8%	18.9%
Lung & Bronchus	12	2,937
Colorectal	9	1,332
Pancreas	3	1,190
Female Breast	5	1,111
Prostate	4	997

Table 4 (*Cancer Mortality 2018–2022, Comparison between Bear Lake 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 Bear Lake 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 Bear Lake County, all sites combined, was 156.1 deaths per 100,000 persons per year during 2018–2022, compared with 165.3 for the remainder of the state. There were fewer cancer deaths in Bear Lake County (61) than expected (64.6) 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 BEAR LAKE COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cancer Site/Type	Sex	Bear Lake 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	171	30,888	553.6	467.1	192.7	0.123	47,162	8,961,218	526.3
All Sites Combined	Male	106	15,416	687.6	562.8	105.4	0.979	25,164	4,496,857	559.6
All Sites Combined	Female	65	15,472	420.1	365.0	87.7	0.014 <<	21,998	4,464,361	492.7
Bladder	Total	13	30,888	42.1	33.3	9.6	0.346	2,207	8,961,218	24.6
Bladder	Male	12	15,416	77.8	60.4	7.8	0.194	1,761	4,496,857	39.2
Bladder	Female	1	15,472	6.5	5.3	1.9	0.869	446	4,464,361	10.0
Brain - malignant	Total	4	30,888	13.0	11.5	2.5	0.495	653	8,961,218	7.3
Brain - malignant	Male	1	15,416	6.5	5.8	1.5	1.000	381	4,496,857	8.5
Brain - malignant	Female	3	15,472	19.4	17.2	1.1	0.183	272	4,464,361	6.1
Brain and other CNS - non-malignant	Total	12	30,888	38.9	33.8	6.1	0.044 >>	1,535	8,961,218	17.1
Brain and other CNS - non-malignant	Male	3	15,416	19.5	16.9	2.0	0.626	497	4,496,857	11.1
Brain and other CNS - non-malignant	Female	9	15,472	58.2	51.0	4.1	0.049 >>	1,038	4,464,361	23.3
Breast	Total	17	30,888	55.0	48.2	27.5	0.044 <<	6,991	8,961,218	78.0
Breast	Male	1	15,416	6.5	5.3	0.3	0.474	64	4,496,857	1.4
Breast	Female	16	15,472	103.4	91.5	27.1	0.030 <<	6,927	4,464,361	155.2
Breast - in situ	Total	4	30,888	13.0	11.6	5.2	0.797	1,365	8,961,218	15.2
Breast - in situ	Male	-	15,416	-	-	0.0	1.000	4	4,496,857	0.1
Breast - in situ	Female	4	15,472	25.9	23.4	5.2	0.808	1,361	4,464,361	30.5
Cervix	Female	2	15,472	12.9	13.3	1.0	0.518	292	4,464,361	6.5
Colorectal	Total	14	30,888	45.3	38.5	14.7	0.999	3,618	8,961,218	40.4
Colorectal	Male	10	15,416	64.9	54.8	8.0	0.563	1,967	4,496,857	43.7
Colorectal	Female	4	15,472	25.9	22.1	6.7	0.404	1,651	4,464,361	37.0
Corpus Uteri	Female	3	15,472	19.4	17.2	5.3	0.459	1,351	4,464,361	30.3
Esophagus	Total	2	30,888	6.5	5.3	2.1	1.000	505	8,961,218	5.6
Esophagus	Male	2	15,416	13.0	10.5	1.8	1.000	427	4,496,857	9.5
Esophagus	Female	-	15,472	-	-	0.3	1.000	78	4,464,361	1.7
Hodgkin Lymphoma	Total	1	30,888	3.2	3.2	0.8	1.000	221	8,961,218	2.5
Hodgkin Lymphoma	Male	-	15,416	-	-	0.5	1.000	129	4,496,857	2.9
Hodgkin Lymphoma	Female	1	15,472	6.5	6.6	0.3	0.536	92	4,464,361	2.1
Kidney and Renal Pelvis	Total	4	30,888	13.0	11.0	7.9	0.215	1,947	8,961,218	21.7
Kidney and Renal Pelvis	Male	4	15,416	25.9	21.9	5.3	0.777	1,306	4,496,857	29.0
Kidney and Renal Pelvis	Female	-	15,472	-	-	2.6	0.151	641	4,464,361	14.4
Larynx	Total	1	30,888	3.2	2.7	0.9	1.000	219	8,961,218	2.4
Larynx	Male	1	15,416	6.5	5.2	0.7	1.000	166	4,496,857	3.7
Larynx	Female	-	15,472	-	-	0.2	1.000	53	4,464,361	1.2
Leukemia	Total	9	30,888	29.1	24.3	7.1	0.567	1,718	8,961,218	19.2
Leukemia	Male	7	15,416	45.4	37.3	4.3	0.287	1,029	4,496,857	22.9
Leukemia	Female	2	15,472	12.9	11.0	2.8	0.930	689	4,464,361	15.4
Liver and Bile Duct	Total	4	30,888	13.0	10.8	3.5	0.913	839	8,961,218	9.4
Liver and Bile Duct	Male	2	15,416	13.0	10.6	2.5	1.000	592	4,496,857	13.2
Liver and Bile Duct	Female	2	15,472	12.9	10.9	1.0	0.539	247	4,464,361	5.5
Lung and Bronchus	Total	15	30,888	48.6	38.7	21.4	0.194	4,944	8,961,218	55.2
Lung and Bronchus	Male	10	15,416	64.9	50.8	10.9	0.948	2,485	4,496,857	55.3
Lung and Bronchus	Female	5	15,472	32.3	26.2	10.5	0.099	2,459	4,464,361	55.1
Melanoma of the Skin	Total	14	30,888	45.3	39.1	12.5	0.744	3,130	8,961,218	34.9
Melanoma of the Skin	Male	9	15,416	58.4	48.5	7.8	0.755	1,886	4,496,857	41.9
Melanoma of the Skin	Female	5	15,472	32.3	29.3	4.8	1.000	1,244	4,464,361	27.9
Myeloma	Total	2	30,888	6.5	5.3	3.1	0.815	726	8,961,218	8.1
Myeloma	Male	2	15,416	13.0	10.4	1.9	1.000	445	4,496,857	9.9
Myeloma	Female	-	15,472	-	-	1.2	0.613	281	4,464,361	6.3
Non-Hodgkin Lymphoma	Total	9	30,888	29.1	24.6	8.1	0.845	1,983	8,961,218	22.1
Non-Hodgkin Lymphoma	Male	6	15,416	38.9	32.5	4.7	0.656	1,140	4,496,857	25.4
Non-Hodgkin Lymphoma	Female	3	15,472	19.4	16.4	3.4	1.000	843	4,464,361	18.9
Oral Cavity and Pharynx	Total	3	30,888	9.7	8.3	5.3	0.452	1,312	8,961,218	14.6
Oral Cavity and Pharynx	Male	2	15,416	13.0	10.9	3.8	0.533	938	4,496,857	20.9
Oral Cavity and Pharynx	Female	1	15,472	6.5	5.6	1.5	1.000	374	4,464,361	8.4
Ovary	Female	1	15,472	6.5	5.7	2.2	0.732	552	4,464,361	12.4
Pancreas	Total	4	30,888	13.0	10.5	6.3	0.491	1,484	8,961,218	16.6
Pancreas	Male	3	15,416	19.5	15.5	3.5	1.000	823	4,496,857	18.3
Pancreas	Female	1	15,472	6.5	5.3	2.8	0.470	661	4,464,361	14.8
Prostate	Male	24	15,416	155.7	125.8	28.6	0.450	6,742	4,496,857	149.9
Stomach	Total	1	30,888	3.2	2.7	2.0	0.832	473	8,961,218	5.3
Stomach	Male	1	15,416	6.5	5.3	1.3	1.000	306	4,496,857	6.8
Stomach	Female	-	15,472	-	-	0.7	1.000	167	4,464,361	3.7
Testis	Male	1	15,416	6.5	7.4	0.8	1.000	273	4,496,857	6.1
Thyroid	Total	5	30,888	16.2	16.0	4.1	0.784	1,180	8,961,218	13.2
Thyroid	Male	3	15,416	19.5	17.9	1.4	0.320	369	4,496,857	8.2
Thyroid	Female	2	15,472	12.9	13.3	2.7	0.971	811	4,464,361	18.2
Pediatric Age 0 to 19	Total	2	9,005	22.2	22.3	1.5	0.899	423	2,490,319	17.0
Pediatric Age 0 to 19	Male	1	4,561	21.9	21.8	0.8	1.000	213	1,269,760	16.8
Pediatric Age 0 to 19	Female	1	4,444	22.5	23.0	0.7	1.000	210	1,220,559	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 BEAR LAKE COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cause of Death Cancer Site/Type	Sex	Bear Lake 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	342	31,581	1,082.9	876.0	341.1	0.974	80,193	9,179,813	873.6
All Causes of Death	Male	182	15,820	1,150.4	915.6	183.6	0.944	42,604	4,611,877	923.8
All Causes of Death	Female	160	15,761	1,015.2	834.3	157.8	0.883	37,589	4,567,936	822.9
All Malignant Cancers	Total	61	31,581	193.2	156.1	64.6	0.714	15,172	9,179,813	165.3
All Malignant Cancers	Male	35	15,820	221.2	174.2	35.7	0.993	8,200	4,611,877	177.8
All Malignant Cancers	Female	26	15,761	165.0	136.2	29.1	0.643	6,972	4,567,936	152.6
Bladder	Total	1	31,581	3.2	2.5	2.1	0.736	484	9,179,813	5.3
Bladder	Male	1	15,820	6.3	4.7	1.7	0.978	374	4,611,877	8.1
Bladder	Female	-	15,761	-	-	0.5	1.000	110	4,567,936	2.4
Brain and Other Nervous System	Total	3	31,581	9.5	8.2	2.1	0.676	515	9,179,813	5.6
Brain and Other Nervous System	Male	1	15,820	6.3	5.4	1.2	1.000	288	4,611,877	6.2
Brain and Other Nervous System	Female	2	15,761	12.7	11.1	0.9	0.452	227	4,567,936	5.0
Breast	Total	5	31,581	15.8	13.1	4.6	0.988	1,119	9,179,813	12.2
Breast	Male	-	15,820	-	-	0.1	1.000	13	4,611,877	0.3
Breast	Female	5	15,761	31.7	26.9	4.5	0.935	1,106	4,567,936	24.2
Cervix	Female	-	15,761	-	-	0.3	1.000	88	4,567,936	1.9
Colorectal	Total	9	31,581	28.5	23.6	5.5	0.212	1,323	9,179,813	14.4
Colorectal	Male	5	15,820	31.6	25.9	3.0	0.383	727	4,611,877	15.8
Colorectal	Female	4	15,761	25.4	21.1	2.5	0.471	596	4,567,936	13.0
Corpus Uteri	Female	-	15,761	-	-	0.7	0.994	169	4,567,936	3.7
Esophagus	Total	2	31,581	6.3	5.2	1.9	1.000	459	9,179,813	5.0
Esophagus	Male	2	15,820	12.6	10.1	1.7	0.990	389	4,611,877	8.4
Esophagus	Female	-	15,761	-	-	0.3	1.000	70	4,567,936	1.5
Hodgkin Lymphoma	Total	-	31,581	-	-	0.1	1.000	25	9,179,813	0.3
Hodgkin Lymphoma	Male	-	15,820	-	-	0.1	1.000	14	4,611,877	0.3
Hodgkin Lymphoma	Female	-	15,761	-	-	0.0	1.000	11	4,567,936	0.2
Kidney	Total	1	31,581	3.2	2.5	1.7	1.000	385	9,179,813	4.2
Kidney	Male	1	15,820	6.3	5.0	1.1	1.000	245	4,611,877	5.3
Kidney	Female	-	15,761	-	-	0.6	1.000	140	4,567,936	3.1
Larynx	Total	-	31,581	-	-	0.3	1.000	76	9,179,813	0.8
Larynx	Male	-	15,820	-	-	0.3	1.000	65	4,611,877	1.4
Larynx	Female	-	15,761	-	-	0.0	1.000	11	4,567,936	0.2
Leukemia	Total	5	31,581	15.8	12.6	2.8	0.319	660	9,179,813	7.2
Leukemia	Male	3	15,820	19.0	14.8	1.7	0.501	394	4,611,877	8.5
Leukemia	Female	2	15,761	12.7	10.3	1.1	0.626	266	4,567,936	5.8
Liver and Bile Duct	Total	4	31,581	12.7	10.4	2.6	0.546	631	9,179,813	6.9
Liver and Bile Duct	Male	1	15,820	6.3	5.1	1.8	0.931	422	4,611,877	9.2
Liver and Bile Duct	Female	3	15,761	19.0	15.7	0.9	0.117	209	4,567,936	4.6
Lung and Bronchus	Total	12	31,581	38.0	30.2	12.6	1.000	2,925	9,179,813	31.9
Lung and Bronchus	Male	8	15,820	50.6	39.6	6.7	0.720	1,533	4,611,877	33.2
Lung and Bronchus	Female	4	15,761	25.4	20.4	6.0	0.578	1,392	4,567,936	30.5
Melanoma of the Skin	Total	1	31,581	3.2	2.6	1.3	1.000	300	9,179,813	3.3
Melanoma of the Skin	Male	1	15,820	6.3	5.1	0.8	1.000	199	4,611,877	4.3
Melanoma of the Skin	Female	-	15,761	-	-	0.4	1.000	101	4,567,936	2.2
Myeloma	Total	1	31,581	3.2	2.5	1.4	1.000	324	9,179,813	3.5
Myeloma	Male	1	15,820	6.3	4.9	0.8	1.000	187	4,611,877	4.1
Myeloma	Female	-	15,761	-	-	0.6	1.000	137	4,567,936	3.0
Non-Hodgkin Lymphoma	Total	3	31,581	9.5	7.5	2.4	0.885	565	9,179,813	6.2
Non-Hodgkin Lymphoma	Male	3	15,820	19.0	15.0	1.3	0.299	307	4,611,877	6.7
Non-Hodgkin Lymphoma	Female	-	15,761	-	-	1.1	0.651	258	4,567,936	5.6
Oral Cavity and Pharynx	Total	-	31,581	-	-	1.1	0.633	275	9,179,813	3.0
Oral Cavity and Pharynx	Male	-	15,820	-	-	0.8	0.880	192	4,611,877	4.2
Oral Cavity and Pharynx	Female	-	15,761	-	-	0.3	1.000	83	4,567,936	1.8
Ovary	Female	1	15,761	6.3	5.3	1.5	1.000	360	4,567,936	7.9
Pancreas	Total	3	31,581	9.5	7.7	5.1	0.516	1,187	9,179,813	12.9
Pancreas	Male	2	15,820	12.6	10.1	2.8	0.941	648	4,611,877	14.1
Pancreas	Female	1	15,761	6.3	5.2	2.3	0.679	539	4,567,936	11.8
Prostate	Male	4	15,820	25.3	18.9	4.6	1.000	993	4,611,877	21.5
Stomach	Total	-	31,581	-	-	0.8	0.902	194	9,179,813	2.1
Stomach	Male	-	15,820	-	-	0.5	1.000	119	4,611,877	2.6
Stomach	Female	-	15,761	-	-	0.3	1.000	75	4,567,936	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	Bear Lake 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%	.
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%	19.0%
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%	.
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%	.
Colorectal Cancer Screening, Age 45–75 (2022)	63.3%	61.0%	62.5%	60.8%	67.2%	65.0%	60.4%	60.2%	.
Tobacco Use									
Current Tobacco User (2020–2022)	22.1%	24.3%	20.4%	24.8%	21.3%	22.5%	22.6%	18.1%	16.4%
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%	23.7%
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%	74.3%
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%	19.2%
Home Ever Tested for Radon (2016, 2018, 2020)	22.9%	30.8%	18.3%	16.9%	25.2%	20.1%	23.0%	21.0%	33.8%

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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BENEWAH 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 310 cases of invasive cancer were diagnosed among Benewah County residents (Table 1).

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

Cancer Incidence 2017–2021	Benewah County	State of Idaho
All Sites/Types	310	47,333
Female Breast	43	6,943
Prostate	38	6,766
Lung & Bronchus	41	4,959
Colorectal	24	3,632

Table 3 (*Cancer Incidence 2017–2021, Comparison between Benewah 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 Benewah 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 Benewah County was 658.7 cases per 100,000 person-years per year during 2017–2021. Comparing this crude rate with the crude rate for the remainder of Idaho (525.7) gives an estimate of the relative burden of disease in Benewah County.

The age- and sex-adjusted incidence rate of invasive cancer in Benewah County, all sites combined, was 498.9 cases per 100,000 persons per year during 2017–2021. There were fewer cases of cancer in Benewah County (310) than expected (326.7) 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 121 Benewah 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 Benewah County and the State of Idaho, 2018–2022

Mortality 2018–2022	Benewah County	State of Idaho
All Deaths	667	80,538
Cancer Deaths	121	15,233
% of All Deaths	18.1%	18.9%
Lung & Bronchus	33	2,937
Colorectal	5	1,332
Pancreas	11	1,190
Female Breast	8	1,111
Prostate	8	997

Table 4 (*Cancer Mortality 2018–2022, Comparison between Benewah 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 Benewah 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 Benewah County, all sites combined, was 189.8 deaths per 100,000 persons per year during 2018–2022, compared with 164.9 for the remainder of the state. There were more cancer deaths in Benewah County (121) than expected (105.1) 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 BENEWAH COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cancer Site/Type	Sex	Benewah 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	310	47,063	658.7	498.9	326.7	0.372	47,023	8,945,043	525.7
All Sites Combined	Male	176	24,082	730.8	522.6	188.3	0.392	25,094	4,488,191	559.1
All Sites Combined	Female	134	22,981	583.1	464.2	142.0	0.533	21,929	4,456,852	492.0
Bladder	Total	20	47,063	42.5	30.9	15.9	0.361	2,200	8,945,043	24.6
Bladder	Male	15	24,082	62.3	42.6	13.8	0.815	1,758	4,488,191	39.2
Bladder	Female	5	22,981	21.8	16.7	3.0	0.359	442	4,456,852	9.9
Brain - malignant	Total	5	47,063	10.6	8.7	4.2	0.813	652	8,945,043	7.3
Brain - malignant	Male	1	24,082	4.2	3.3	2.5	0.561	381	4,488,191	8.5
Brain - malignant	Female	4	22,981	17.4	14.5	1.7	0.179	271	4,456,852	6.1
Brain and other CNS - non-malignant	Total	9	47,063	19.1	15.3	10.1	0.882	1,538	8,945,043	17.2
Brain and other CNS - non-malignant	Male	4	24,082	16.6	13.0	3.4	0.886	496	4,488,191	11.1
Brain and other CNS - non-malignant	Female	5	22,981	21.8	17.8	6.6	0.720	1,042	4,456,852	23.4
Breast	Total	44	47,063	93.5	72.4	47.3	0.694	6,964	8,945,043	77.9
Breast	Male	1	24,082	4.2	3.0	0.5	0.761	64	4,488,191	1.4
Breast	Female	43	22,981	187.1	147.6	45.1	0.828	6,900	4,456,852	154.8
Breast - in situ	Total	13	47,063	27.6	21.4	9.2	0.283	1,356	8,945,043	15.2
Breast - in situ	Male	1	24,082	4.2	3.6	0.0	0.037 >>	3	4,488,191	0.1
Breast - in situ	Female	12	22,981	52.2	40.7	9.0	0.385	1,353	4,456,852	30.4
Cervix	Female	1	22,981	4.4	4.1	1.6	1.000	293	4,456,852	6.6
Colorectal	Total	24	47,063	51.0	39.3	24.6	1.000	3,608	8,945,043	40.3
Colorectal	Male	12	24,082	49.8	36.6	14.3	0.653	1,965	4,488,191	43.8
Colorectal	Female	12	22,981	52.2	42.2	10.5	0.716	1,643	4,456,852	36.9
Corpus Uteri	Female	5	22,981	21.8	16.8	9.0	0.229	1,349	4,456,852	30.3
Esophagus	Total	6	47,063	12.7	9.3	3.6	0.311	501	8,945,043	5.6
Esophagus	Male	6	24,082	24.9	17.4	3.2	0.222	423	4,488,191	9.4
Esophagus	Female	-	22,981	-	-	0.5	1.000	78	4,456,852	1.8
Hodgkin Lymphoma	Total	-	47,063	-	-	1.2	0.588	222	8,945,043	2.5
Hodgkin Lymphoma	Male	-	24,082	-	-	0.8	0.941	129	4,488,191	2.9
Hodgkin Lymphoma	Female	-	22,981	-	-	0.5	1.000	93	4,456,852	2.1
Kidney and Renal Pelvis	Total	22	47,063	46.7	35.6	13.3	0.036 >>	1,929	8,945,043	21.6
Kidney and Renal Pelvis	Male	17	24,082	70.6	52.0	9.4	0.033 >>	1,293	4,488,191	28.8
Kidney and Renal Pelvis	Female	5	22,981	21.8	17.2	4.2	0.802	636	4,456,852	14.3
Larynx	Total	2	47,063	4.2	3.1	1.6	0.927	218	8,945,043	2.4
Larynx	Male	2	24,082	8.3	5.8	1.3	0.720	165	4,488,191	3.7
Larynx	Female	-	22,981	-	-	0.4	1.000	53	4,456,852	1.2
Leukemia	Total	5	47,063	10.6	8.2	11.7	0.048 <<	1,722	8,945,043	19.3
Leukemia	Male	5	24,082	20.8	15.2	7.5	0.475	1,031	4,488,191	23.0
Leukemia	Female	-	22,981	-	-	4.4	0.024 <<	691	4,456,852	15.5
Liver and Bile Duct	Total	9	47,063	19.1	14.0	6.0	0.308	834	8,945,043	9.3
Liver and Bile Duct	Male	7	24,082	29.1	20.5	4.5	0.328	587	4,488,191	13.1
Liver and Bile Duct	Female	2	22,981	8.7	6.7	1.7	0.993	247	4,456,852	5.5
Lung and Bronchus	Total	41	47,063	87.1	62.7	36.0	0.441	4,918	8,945,043	55.0
Lung and Bronchus	Male	22	24,082	91.4	62.3	19.4	0.621	2,473	4,488,191	55.1
Lung and Bronchus	Female	19	22,981	82.7	62.3	16.7	0.643	2,445	4,456,852	54.9
Melanoma of the Skin	Total	7	47,063	14.9	11.7	21.0	0.001 <<	3,137	8,945,043	35.1
Melanoma of the Skin	Male	5	24,082	20.8	15.2	13.8	0.013 <<	1,890	4,488,191	42.1
Melanoma of the Skin	Female	2	22,981	8.7	7.3	7.7	0.034 <<	1,247	4,456,852	28.0
Myeloma	Total	9	47,063	19.1	14.0	5.2	0.158	719	8,945,043	8.0
Myeloma	Male	4	24,082	16.6	11.6	3.4	0.885	443	4,488,191	9.9
Myeloma	Female	5	22,981	21.8	16.5	1.9	0.084	276	4,456,852	6.2
Non-Hodgkin Lymphoma	Total	16	47,063	34.0	25.9	13.7	0.594	1,976	8,945,043	22.1
Non-Hodgkin Lymphoma	Male	9	24,082	37.4	27.5	8.3	0.898	1,137	4,488,191	25.3
Non-Hodgkin Lymphoma	Female	7	22,981	30.5	24.1	5.5	0.620	839	4,456,852	18.8
Oral Cavity and Pharynx	Total	10	47,063	21.2	15.8	9.2	0.881	1,305	8,945,043	14.6
Oral Cavity and Pharynx	Male	10	24,082	41.5	30.0	6.9	0.322	930	4,488,191	20.7
Oral Cavity and Pharynx	Female	-	22,981	-	-	2.5	0.168	375	4,456,852	8.4
Ovary	Female	5	22,981	21.8	17.4	3.5	0.559	548	4,456,852	12.3
Pancreas	Total	13	47,063	27.6	20.4	10.5	0.518	1,475	8,945,043	16.5
Pancreas	Male	7	24,082	29.1	20.4	6.3	0.876	819	4,488,191	18.2
Pancreas	Female	6	22,981	26.1	20.3	4.4	0.547	656	4,456,852	14.7
Prostate	Male	38	24,082	157.8	109.4	52.1	0.052	6,728	4,488,191	149.9
Stomach	Total	6	47,063	12.7	9.7	3.2	0.218	468	8,945,043	5.2
Stomach	Male	6	24,082	24.9	17.7	2.3	0.057	301	4,488,191	6.7
Stomach	Female	-	22,981	-	-	1.0	0.706	167	4,456,852	3.7
Testis	Male	2	24,082	8.3	9.8	1.2	0.699	272	4,488,191	6.1
Thyroid	Total	4	47,063	8.5	7.7	6.8	0.380	1,181	8,945,043	13.2
Thyroid	Male	1	24,082	4.2	3.5	2.4	0.621	371	4,488,191	8.3
Thyroid	Female	3	22,981	13.1	12.3	4.4	0.709	810	4,456,852	18.2
Pediatric Age 0 to 19	Total	3	11,400	26.3	26.6	1.9	0.599	422	2,487,924	17.0
Pediatric Age 0 to 19	Male	2	5,996	33.4	33.5	1.0	0.528	212	1,268,325	16.7
Pediatric Age 0 to 19	Female	1	5,404	18.5	18.9	0.9	1.000	210	1,219,599	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 BENEWAH COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cause of Death Cancer Site/Type	Sex	Benewah 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	667	48,266	1,381.9	1,109.6	524.0	0.000 >>	79,868	9,163,128	871.6
All Causes of Death	Male	370	24,787	1,492.7	1,094.5	311.5	0.001 >>	42,416	4,602,910	921.5
All Causes of Death	Female	297	23,479	1,265.0	1,120.2	217.7	0.000 >>	37,452	4,560,218	821.3
All Malignant Cancers	Total	121	48,266	250.7	189.8	105.1	0.139	15,112	9,163,128	164.9
All Malignant Cancers	Male	69	24,787	278.4	195.9	62.5	0.442	8,166	4,602,910	177.4
All Malignant Cancers	Female	52	23,479	221.5	178.5	44.4	0.286	6,946	4,560,218	152.3
Bladder	Total	6	48,266	12.4	9.7	3.2	0.221	479	9,163,128	5.2
Bladder	Male	6	24,787	24.2	16.8	2.9	0.140	369	4,602,910	8.0
Bladder	Female	-	23,479	-	-	0.7	1.000	110	4,560,218	2.4
Brain and Other Nervous System	Total	1	48,266	2.1	1.6	3.5	0.270	517	9,163,128	5.6
Brain and Other Nervous System	Male	-	24,787	-	-	2.1	0.253	289	4,602,910	6.3
Brain and Other Nervous System	Female	1	23,479	4.3	3.4	1.5	1.000	228	4,560,218	5.0
Breast	Total	9	48,266	18.6	14.6	7.5	0.683	1,115	9,163,128	12.2
Breast	Male	1	24,787	4.0	2.8	0.1	0.177	12	4,602,910	0.3
Breast	Female	8	23,479	34.1	28.0	6.9	0.776	1,103	4,560,218	24.2
Cervix	Female	-	23,479	-	-	0.5	1.000	88	4,560,218	1.9
Colorectal	Total	5	48,266	10.4	8.0	9.1	0.225	1,327	9,163,128	14.5
Colorectal	Male	4	24,787	16.1	11.7	5.4	0.743	728	4,602,910	15.8
Colorectal	Female	1	23,479	4.3	3.5	3.7	0.231	599	4,560,218	13.1
Corpus Uteri	Female	1	23,479	4.3	3.3	1.1	1.000	168	4,560,218	3.7
Esophagus	Total	4	48,266	8.3	6.1	3.3	0.822	457	9,163,128	5.0
Esophagus	Male	4	24,787	16.1	11.3	3.0	0.694	387	4,602,910	8.4
Esophagus	Female	-	23,479	-	-	0.4	1.000	70	4,560,218	1.5
Hodgkin Lymphoma	Total	-	48,266	-	-	0.2	1.000	25	9,163,128	0.3
Hodgkin Lymphoma	Male	-	24,787	-	-	0.1	1.000	14	4,602,910	0.3
Hodgkin Lymphoma	Female	-	23,479	-	-	0.1	1.000	11	4,560,218	0.2
Kidney	Total	3	48,266	6.2	4.7	2.7	1.000	383	9,163,128	4.2
Kidney	Male	2	24,787	8.1	5.7	1.9	1.000	244	4,602,910	5.3
Kidney	Female	1	23,479	4.3	3.4	0.9	1.000	139	4,560,218	3.0
Larynx	Total	1	48,266	2.1	1.5	0.5	0.826	75	9,163,128	0.8
Larynx	Male	1	24,787	4.0	2.8	0.5	0.781	64	4,602,910	1.4
Larynx	Female	-	23,479	-	-	0.1	1.000	11	4,560,218	0.2
Leukemia	Total	6	48,266	12.4	9.6	4.5	0.596	659	9,163,128	7.2
Leukemia	Male	4	24,787	16.1	11.5	3.0	0.697	393	4,602,910	8.5
Leukemia	Female	2	23,479	8.5	7.1	1.6	0.981	266	4,560,218	5.8
Liver and Bile Duct	Total	6	48,266	12.4	9.2	4.5	0.593	629	9,163,128	6.9
Liver and Bile Duct	Male	4	24,787	16.1	11.4	3.2	0.794	419	4,602,910	9.1
Liver and Bile Duct	Female	2	23,479	8.5	6.6	1.4	0.811	210	4,560,218	4.6
Lung and Bronchus	Total	33	48,266	68.4	50.2	20.8	0.017 >>	2,904	9,163,128	31.7
Lung and Bronchus	Male	15	24,787	60.5	41.7	11.9	0.440	1,526	4,602,910	33.2
Lung and Bronchus	Female	18	23,479	76.7	59.7	9.1	0.012 >>	1,378	4,560,218	30.2
Melanoma of the Skin	Total	-	48,266	-	-	2.1	0.256	301	9,163,128	3.3
Melanoma of the Skin	Male	-	24,787	-	-	1.5	0.446	200	4,602,910	4.3
Melanoma of the Skin	Female	-	23,479	-	-	0.6	1.000	101	4,560,218	2.2
Myeloma	Total	5	48,266	10.4	7.7	2.3	0.159	320	9,163,128	3.5
Myeloma	Male	3	24,787	12.1	8.4	1.4	0.352	185	4,602,910	4.0
Myeloma	Female	2	23,479	8.5	6.7	0.9	0.439	135	4,560,218	3.0
Non-Hodgkin Lymphoma	Total	3	48,266	6.2	4.7	3.9	0.897	565	9,163,128	6.2
Non-Hodgkin Lymphoma	Male	1	24,787	4.0	2.8	2.4	0.631	309	4,602,910	6.7
Non-Hodgkin Lymphoma	Female	2	23,479	8.5	7.0	1.6	0.949	256	4,560,218	5.6
Oral Cavity and Pharynx	Total	1	48,266	2.1	1.5	1.9	0.841	274	9,163,128	3.0
Oral Cavity and Pharynx	Male	1	24,787	4.0	2.8	1.5	1.000	191	4,602,910	4.1
Oral Cavity and Pharynx	Female	-	23,479	-	-	0.5	1.000	83	4,560,218	1.8
Ovary	Female	-	23,479	-	-	2.4	0.185	361	4,560,218	7.9
Pancreas	Total	11	48,266	22.8	16.9	8.4	0.449	1,179	9,163,128	12.9
Pancreas	Male	4	24,787	16.1	11.3	5.0	0.891	646	4,602,910	14.0
Pancreas	Female	7	23,479	29.8	23.4	3.5	0.131	533	4,560,218	11.7
Prostate	Male	8	24,787	32.3	22.3	7.7	1.000	989	4,602,910	21.5
Stomach	Total	2	48,266	4.1	3.3	1.3	0.737	192	9,163,128	2.1
Stomach	Male	2	24,787	8.1	5.8	0.9	0.440	117	4,602,910	2.5
Stomach	Female	-	23,479	-	-	0.5	1.000	75	4,560,218	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	Benewah County
<u>Access to Care</u>									
Have Health Insurance, Age < 65 (2021–2022)	90.0%	89.3%	87.8%	86.4%	92.6%	87.2%	89.1%	92.6%	92.9%
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%	9.2%
<u>Cancer Screening</u>									
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%	59.1%
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%	.
Colorectal Cancer Screening, Age 45–75 (2022)	63.3%	61.0%	62.5%	60.8%	67.2%	65.0%	60.4%	60.2%	.
<u>Tobacco Use</u>									
Current Tobacco User (2020–2022)	22.1%	24.3%	20.4%	24.8%	21.3%	22.5%	22.6%	18.1%	24.4%
<u>Other Cancer-Related</u>									
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%	31.7%
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%	72.9%
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%	22.7%
Home Ever Tested for Radon (2016, 2018, 2020)	22.9%	30.8%	18.3%	16.9%	25.2%	20.1%	23.0%	21.0%	15.3%

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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BINGHAM 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 1,094 cases of invasive cancer were diagnosed among Bingham County residents (Table 1).

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

Cancer Incidence 2017–2021	Bingham County	State of Idaho
All Sites/Types	1,094	47,333
Female Breast	136	6,943
Prostate	135	6,766
Lung & Bronchus	100	4,959
Colorectal	103	3,632

Table 3 (*Cancer Incidence 2017–2021, Comparison between Bingham 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 Bingham 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 Bingham County was 465.9 cases per 100,000 person-years per year during 2017–2021. Comparing this crude rate with the crude rate for the remainder of Idaho (528.0) gives an estimate of the relative burden of disease in Bingham County.

The age- and sex-adjusted incidence rate of invasive cancer in Bingham County, all sites combined, was 511.1 cases per 100,000 persons per year during 2017–2021. There were fewer cases of cancer in Bingham County (1,094) than expected (1,130.3) 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 362 Bingham 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 Bingham County and the State of Idaho, 2018–2022

Mortality 2018–2022	Bingham County	State of Idaho
All Deaths	2,238	80,538
Cancer Deaths	362	15,233
% of All Deaths	16.2%	18.9%
Lung & Bronchus	65	2,937
Colorectal	39	1,332
Pancreas	20	1,190
Female Breast	30	1,111
Prostate	28	997

Table 4 (*Cancer Mortality 2018–2022, Comparison between Bingham 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 Bingham 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 Bingham County, all sites combined, was 168.0 deaths per 100,000 persons per year during 2018–2022, compared with 165.7 for the remainder of the state. There were more cancer deaths in Bingham County (362) than expected (357.1) 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 BINGHAM COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cancer Site/Type	Sex	Bingham 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	1,094	234,814	465.9	511.1	1,130.3	0.287	46,239	8,757,292	528.0
All Sites Combined	Male	591	117,663	502.3	542.5	611.8	0.413	24,679	4,394,610	561.6
All Sites Combined	Female	503	117,151	429.4	475.8	522.5	0.408	21,560	4,362,682	494.2
Bladder	Total	49	234,814	20.9	23.2	52.5	0.696	2,171	8,757,292	24.8
Bladder	Male	42	117,663	35.7	38.7	42.7	0.995	1,731	4,394,610	39.4
Bladder	Female	7	117,151	6.0	6.7	10.5	0.360	440	4,362,682	10.1
Brain - malignant	Total	11	234,814	4.7	5.0	16.3	0.223	646	8,757,292	7.4
Brain - malignant	Male	4	117,663	3.4	3.6	9.6	0.076	378	4,394,610	8.6
Brain - malignant	Female	7	117,151	6.0	6.4	6.8	1.000	268	4,362,682	6.1
Brain and other CNS - non-malignant	Total	38	234,814	16.2	17.6	37.3	0.950	1,509	8,757,292	17.2
Brain and other CNS - non-malignant	Male	9	117,663	7.6	8.1	12.4	0.426	491	4,394,610	11.2
Brain and other CNS - non-malignant	Female	29	117,151	24.8	27.3	24.8	0.449	1,018	4,362,682	23.3
Breast	Total	136	234,814	57.9	63.4	168.3	0.012 <<	6,872	8,757,292	78.5
Breast	Male	-	117,663	-	-	1.6	0.398	65	4,394,610	1.5
Breast	Female	136	117,151	116.1	128.7	164.9	0.023 <<	6,807	4,362,682	156.0
Breast - in situ	Total	23	234,814	9.8	10.7	33.0	0.087	1,346	8,757,292	15.4
Breast - in situ	Male	-	117,663	-	-	0.1	1.000	4	4,394,610	0.1
Breast - in situ	Female	23	117,151	19.6	21.7	32.6	0.101	1,342	4,362,682	30.8
Cervix	Female	10	117,151	8.5	9.1	7.2	0.378	284	4,362,682	6.5
Colorectal	Total	103	234,814	43.9	48.0	86.5	0.092	3,529	8,757,292	40.3
Colorectal	Male	62	117,663	52.7	56.7	47.6	0.052	1,915	4,394,610	43.6
Colorectal	Female	41	117,151	35.0	38.8	39.1	0.799	1,614	4,362,682	37.0
Corpus Uteri	Female	38	117,151	32.4	35.9	31.9	0.323	1,316	4,362,682	30.2
Esophagus	Total	11	234,814	4.7	5.1	12.1	0.899	496	8,757,292	5.7
Esophagus	Male	9	117,663	7.6	8.2	10.5	0.805	420	4,394,610	9.6
Esophagus	Female	2	117,151	1.7	1.9	1.8	1.000	76	4,362,682	1.7
Hodgkin Lymphoma	Total	3	234,814	1.3	1.3	5.6	0.387	219	8,757,292	2.5
Hodgkin Lymphoma	Male	1	117,663	0.8	0.9	3.2	0.330	128	4,394,610	2.9
Hodgkin Lymphoma	Female	2	117,151	1.7	1.8	2.3	1.000	91	4,362,682	2.1
Kidney and Renal Pelvis	Total	57	234,814	24.3	26.6	46.3	0.143	1,894	8,757,292	21.6
Kidney and Renal Pelvis	Male	33	117,663	28.0	30.2	31.7	0.865	1,277	4,394,610	29.1
Kidney and Renal Pelvis	Female	24	117,151	20.5	22.8	14.9	0.037 >>	617	4,362,682	14.1
Larynx	Total	2	234,814	0.9	0.9	5.3	0.199	218	8,757,292	2.5
Larynx	Male	2	117,663	1.7	1.8	4.1	0.444	165	4,394,610	3.8
Larynx	Female	-	117,151	-	-	1.3	0.560	53	4,362,682	1.2
Leukemia	Total	54	234,814	23.0	24.9	41.4	0.068	1,673	8,757,292	19.1
Leukemia	Male	28	117,663	23.8	25.4	25.3	0.647	1,008	4,394,610	22.9
Leukemia	Female	26	117,151	22.2	24.4	16.2	0.030 >>	665	4,362,682	15.2
Liver and Bile Duct	Total	21	234,814	8.9	9.8	20.0	0.890	822	8,757,292	9.4
Liver and Bile Duct	Male	15	117,663	12.7	13.8	14.4	0.934	579	4,394,610	13.2
Liver and Bile Duct	Female	6	117,151	5.1	5.7	5.9	1.000	243	4,362,682	5.6
Lung and Bronchus	Total	100	234,814	42.6	47.3	117.3	0.115	4,859	8,757,292	55.5
Lung and Bronchus	Male	60	117,663	51.0	55.5	59.9	1.000	2,435	4,394,610	55.4
Lung and Bronchus	Female	40	117,151	34.1	38.6	57.6	0.019 <<	2,424	4,362,682	55.6
Melanoma of the Skin	Total	56	234,814	23.8	26.1	75.7	0.022 <<	3,088	8,757,292	35.3
Melanoma of the Skin	Male	41	117,663	34.8	37.6	46.0	0.517	1,854	4,394,610	42.2
Melanoma of the Skin	Female	15	117,151	12.8	14.0	30.2	0.003 <<	1,234	4,362,682	28.3
Myeloma	Total	15	234,814	6.4	7.1	17.3	0.690	713	8,757,292	8.1
Myeloma	Male	9	117,663	7.6	8.3	10.8	0.716	438	4,394,610	10.0
Myeloma	Female	6	117,151	5.1	5.8	6.6	1.000	275	4,362,682	6.3
Non-Hodgkin Lymphoma	Total	55	234,814	23.4	25.6	47.5	0.310	1,937	8,757,292	22.1
Non-Hodgkin Lymphoma	Male	28	117,663	23.8	25.6	27.9	1.000	1,118	4,394,610	25.4
Non-Hodgkin Lymphoma	Female	27	117,151	23.0	25.6	19.8	0.140	819	4,362,682	18.8
Oral Cavity and Pharynx	Total	24	234,814	10.2	11.2	31.6	0.197	1,291	8,757,292	14.7
Oral Cavity and Pharynx	Male	17	117,663	14.4	15.5	23.0	0.245	923	4,394,610	21.0
Oral Cavity and Pharynx	Female	7	117,151	6.0	6.7	8.9	0.678	368	4,362,682	8.4
Ovary	Female	16	117,151	13.7	15.1	13.1	0.488	537	4,362,682	12.3
Pancreas	Total	28	234,814	11.9	13.2	35.4	0.239	1,460	8,757,292	16.7
Pancreas	Male	18	117,663	15.3	16.6	20.0	0.768	808	4,394,610	18.4
Pancreas	Female	10	117,151	8.5	9.6	15.6	0.186	652	4,362,682	14.9
Prostate	Male	135	117,663	114.7	124.6	163.5	0.025 <<	6,631	4,394,610	150.9
Stomach	Total	13	234,814	5.5	6.1	11.2	0.676	461	8,757,292	5.3
Stomach	Male	8	117,663	6.8	7.3	7.4	0.924	299	4,394,610	6.8
Stomach	Female	5	117,151	4.3	4.7	3.9	0.713	162	4,362,682	3.7
Testis	Male	6	117,663	5.1	5.5	6.7	1.000	268	4,394,610	6.1
Thyroid	Total	58	234,814	24.7	26.5	28.1	0.000 >>	1,127	8,757,292	12.9
Thyroid	Male	19	117,663	16.1	17.4	8.8	0.004 >>	353	4,394,610	8.0
Thyroid	Female	39	117,151	33.3	35.6	19.4	0.000 >>	774	4,362,682	17.7
Pediatric Age 0 to 19	Total	15	77,578	19.3	19.6	13.0	0.644	410	2,421,746	16.9
Pediatric Age 0 to 19	Male	7	39,475	17.7	17.8	6.6	0.972	207	1,234,846	16.8
Pediatric Age 0 to 19	Female	8	38,103	21.0	21.5	6.4	0.617	203	1,186,900	17.1

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 BINGHAM COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cause of Death Cancer Site/Type	Sex	Bingham 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	2,238	238,849	937.0	1,030.6	1,894.9	0.000 >>	78,297	8,972,545	872.6
All Causes of Death	Male	1,208	119,875	1,007.7	1,086.9	1,025.1	0.000 >>	41,578	4,507,822	922.4
All Causes of Death	Female	1,030	118,974	865.7	969.5	873.7	0.000 >>	36,719	4,464,723	822.4
All Malignant Cancers	Total	362	238,849	151.6	168.0	357.1	0.808	14,871	8,972,545	165.7
All Malignant Cancers	Male	194	119,875	161.8	175.8	196.8	0.879	8,041	4,507,822	178.4
All Malignant Cancers	Female	168	118,974	141.2	159.2	161.5	0.628	6,830	4,464,723	153.0
Bladder	Total	15	238,849	6.3	7.0	11.3	0.330	470	8,972,545	5.2
Bladder	Male	11	119,875	9.2	9.9	8.9	0.574	364	4,507,822	8.1
Bladder	Female	4	118,974	3.4	3.8	2.5	0.477	106	4,464,723	2.4
Brain and Other Nervous System	Total	8	238,849	3.3	3.6	12.5	0.251	510	8,972,545	5.7
Brain and Other Nervous System	Male	4	119,875	3.3	3.6	7.1	0.331	285	4,507,822	6.3
Brain and Other Nervous System	Female	4	118,974	3.4	3.7	5.4	0.733	225	4,464,723	5.0
Breast	Total	30	238,849	12.6	13.8	26.4	0.535	1,094	8,972,545	12.2
Breast	Male	-	119,875	-	-	0.3	1.000	13	4,507,822	0.3
Breast	Female	30	118,974	25.2	28.2	25.7	0.448	1,081	4,464,723	24.2
Cervix	Female	5	118,974	4.2	4.5	2.0	0.114	83	4,464,723	1.9
Colorectal	Total	39	238,849	16.3	18.0	31.3	0.202	1,293	8,972,545	14.4
Colorectal	Male	23	119,875	19.2	20.7	17.5	0.236	709	4,507,822	15.7
Colorectal	Female	16	118,974	13.4	15.1	13.9	0.638	584	4,464,723	13.1
Corpus Uteri	Female	5	118,974	4.2	4.8	3.9	0.687	164	4,464,723	3.7
Esophagus	Total	10	238,849	4.2	4.6	10.8	0.963	451	8,972,545	5.0
Esophagus	Male	9	119,875	7.5	8.2	9.4	1.000	382	4,507,822	8.5
Esophagus	Female	1	118,974	0.8	1.0	1.6	1.000	69	4,464,723	1.5
Hodgkin Lymphoma	Total	-	238,849	-	-	0.6	1.000	25	8,972,545	0.3
Hodgkin Lymphoma	Male	-	119,875	-	-	0.3	1.000	14	4,507,822	0.3
Hodgkin Lymphoma	Female	-	118,974	-	-	0.3	1.000	11	4,464,723	0.2
Kidney	Total	12	238,849	5.0	5.6	9.0	0.385	374	8,972,545	4.2
Kidney	Male	9	119,875	7.5	8.2	5.8	0.264	237	4,507,822	5.3
Kidney	Female	3	118,974	2.5	2.9	3.2	1.000	137	4,464,723	3.1
Larynx	Total	-	238,849	-	-	1.8	0.319	76	8,972,545	0.8
Larynx	Male	-	119,875	-	-	1.6	0.402	65	4,507,822	1.4
Larynx	Female	-	118,974	-	-	0.3	1.000	11	4,464,723	0.2
Leukemia	Total	18	238,849	7.5	8.4	15.5	0.597	647	8,972,545	7.2
Leukemia	Male	8	119,875	6.7	7.2	9.5	0.774	389	4,507,822	8.6
Leukemia	Female	10	118,974	8.4	9.5	6.1	0.180	258	4,464,723	5.8
Liver and Bile Duct	Total	13	238,849	5.4	6.0	14.9	0.740	622	8,972,545	6.9
Liver and Bile Duct	Male	8	119,875	6.7	7.3	10.1	0.633	415	4,507,822	9.2
Liver and Bile Duct	Female	5	118,974	4.2	4.7	4.9	1.000	207	4,464,723	4.6
Lung and Bronchus	Total	65	238,849	27.2	30.4	68.5	0.734	2,872	8,972,545	32.0
Lung and Bronchus	Male	42	119,875	35.0	38.3	36.5	0.398	1,499	4,507,822	33.3
Lung and Bronchus	Female	23	118,974	19.3	22.0	32.1	0.117	1,373	4,464,723	30.8
Melanoma of the Skin	Total	1	238,849	0.4	0.5	7.3	0.012 <<	300	8,972,545	3.3
Melanoma of the Skin	Male	-	119,875	-	-	4.9	0.015 <<	200	4,507,822	4.4
Melanoma of the Skin	Female	1	118,974	0.8	0.9	2.4	0.618	100	4,464,723	2.2
Myeloma	Total	9	238,849	3.8	4.2	7.5	0.682	316	8,972,545	3.5
Myeloma	Male	6	119,875	5.0	5.5	4.4	0.569	182	4,507,822	4.0
Myeloma	Female	3	118,974	2.5	2.9	3.1	1.000	134	4,464,723	3.0
Non-Hodgkin Lymphoma	Total	13	238,849	5.4	6.0	13.3	1.000	555	8,972,545	6.2
Non-Hodgkin Lymphoma	Male	4	119,875	3.3	3.6	7.5	0.264	306	4,507,822	6.8
Non-Hodgkin Lymphoma	Female	9	118,974	7.6	8.6	5.8	0.273	249	4,464,723	5.6
Oral Cavity and Pharynx	Total	6	238,849	2.5	2.8	6.4	1.000	269	8,972,545	3.0
Oral Cavity and Pharynx	Male	4	119,875	3.3	3.6	4.6	1.000	188	4,507,822	4.2
Oral Cavity and Pharynx	Female	2	118,974	1.7	1.9	1.9	1.000	81	4,464,723	1.8
Ovary	Female	16	118,974	13.4	15.2	8.1	0.019 >>	345	4,464,723	7.7
Pancreas	Total	20	238,849	8.4	9.3	27.9	0.148	1,170	8,972,545	13.0
Pancreas	Male	13	119,875	10.8	11.9	15.5	0.637	637	4,507,822	14.1
Pancreas	Female	7	118,974	5.9	6.7	12.5	0.137	533	4,464,723	11.9
Prostate	Male	28	119,875	23.4	25.4	23.7	0.429	969	4,507,822	21.5
Stomach	Total	5	238,849	2.1	2.3	4.6	0.967	189	8,972,545	2.1
Stomach	Male	4	119,875	3.3	3.6	2.8	0.628	115	4,507,822	2.6
Stomach	Female	1	118,974	0.8	0.9	1.8	0.932	74	4,464,723	1.7

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	Bingham County
<u>Access to Care</u>									
Have Health Insurance, Age < 65 (2021–2022)	90.0%	89.3%	87.8%	86.4%	92.6%	87.2%	89.1%	92.6%	89.7%
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%	8.2%
<u>Cancer Screening</u>									
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%	57.6%
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%	50.6%
Colorectal Cancer Screening, Age 45–75 (2022)	63.3%	61.0%	62.5%	60.8%	67.2%	65.0%	60.4%	60.2%	60.5%
<u>Tobacco Use</u>									
Current Tobacco User (2020–2022)	22.1%	24.3%	20.4%	24.8%	21.3%	22.5%	22.6%	18.1%	21.6%
<u>Other Cancer-Related</u>									
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%	20.2%
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%	76.2%
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%	18.9%
Home Ever Tested for Radon (2016, 2018, 2020)	22.9%	30.8%	18.3%	16.9%	25.2%	20.1%	23.0%	21.0%	24.1%

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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BLAINE 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 711 cases of invasive cancer were diagnosed among Blaine County residents (Table 1).

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

Cancer Incidence 2017–2021	Blaine County	State of Idaho
All Sites/Types	711	47,333
Female Breast	114	6,943
Prostate	110	6,766
Lung & Bronchus	38	4,959
Colorectal	44	3,632

Table 3 (*Cancer Incidence 2017–2021, Comparison between Blaine 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 Blaine 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 Blaine County was 611.1 cases per 100,000 person-years per year during 2017–2021. Comparing this crude rate with the crude rate for the remainder of Idaho (525.3) gives an estimate of the relative burden of disease in Blaine County.

The age- and sex-adjusted incidence rate of invasive cancer in Blaine County, all sites combined, was 503.9 cases per 100,000 persons per year during 2017–2021. There were fewer cases of cancer in Blaine County (711) than expected (741.1) 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 155 Blaine 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 Blaine County and the State of Idaho, 2018–2022

Mortality 2018–2022	Blaine County	State of Idaho
All Deaths	676	80,538
Cancer Deaths	155	15,233
% of All Deaths	22.9%	18.9%
Lung & Bronchus	15	2,937
Colorectal	17	1,332
Pancreas	11	1,190
Female Breast	10	1,111
Prostate	14	997

Table 4 (*Cancer Mortality 2018–2022, Comparison between Blaine 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 Blaine 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 Blaine County, all sites combined, was 106.4 deaths per 100,000 persons per year during 2018–2022, compared with 165.8 for the remainder of the state. There were statistically significantly fewer cancer deaths in Blaine County (155) than expected (241.7) based upon rates in the remainder of the state ($p < .001$).

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 BLAINE COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cancer Site/Type	Sex	Blaine 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	711	116,342	611.1	503.9	741.1	0.276	46,622	8,875,764	525.3
All Sites Combined	Male	375	58,283	643.4	513.0	408.6	0.099	24,895	4,453,990	558.9
All Sites Combined	Female	336	58,059	578.7	489.5	337.3	0.973	21,727	4,421,774	491.4
Bladder	Total	30	116,342	25.8	21.1	35.1	0.446	2,190	8,875,764	24.7
Bladder	Male	21	58,283	36.0	28.2	29.3	0.139	1,752	4,453,990	39.3
Bladder	Female	9	58,059	15.5	13.1	6.8	0.492	438	4,421,774	9.9
Brain - malignant	Total	15	116,342	12.9	11.2	9.7	0.134	642	8,875,764	7.2
Brain - malignant	Male	8	58,283	13.7	11.8	5.7	0.436	374	4,453,990	8.4
Brain - malignant	Female	7	58,059	12.1	10.7	4.0	0.213	268	4,421,774	6.1
Brain and other CNS - non-malignant	Total	26	116,342	22.3	19.0	23.5	0.654	1,521	8,875,764	17.1
Brain and other CNS - non-malignant	Male	9	58,283	15.4	13.0	7.6	0.712	491	4,453,990	11.0
Brain and other CNS - non-malignant	Female	17	58,059	29.3	25.2	15.7	0.808	1,030	4,421,774	23.3
Breast	Total	114	116,342	98.0	80.6	109.9	0.718	6,894	8,875,764	77.7
Breast	Male	-	58,283	-	-	1.1	0.695	65	4,453,990	1.5
Breast	Female	114	58,059	196.4	162.7	108.2	0.602	6,829	4,421,774	154.4
Breast - in situ	Total	25	116,342	21.5	17.4	21.7	0.533	1,344	8,875,764	15.1
Breast - in situ	Male	-	58,283	-	-	0.1	1.000	4	4,453,990	0.1
Breast - in situ	Female	25	58,059	43.1	34.9	21.7	0.532	1,340	4,421,774	30.3
Cervix	Female	3	58,059	5.2	4.6	4.3	0.771	291	4,421,774	6.6
Colorectal	Total	44	116,342	37.8	31.4	56.6	0.099	3,588	8,875,764	40.4
Colorectal	Male	24	58,283	41.2	33.2	31.7	0.195	1,953	4,453,990	43.8
Colorectal	Female	20	58,059	34.4	29.6	24.9	0.376	1,635	4,421,774	37.0
Corpus Uteri	Female	17	58,059	29.3	23.8	21.6	0.382	1,337	4,421,774	30.2
Esophagus	Total	8	116,342	6.9	5.6	8.1	1.000	499	8,875,764	5.6
Esophagus	Male	8	58,283	13.7	10.8	7.0	0.800	421	4,453,990	9.5
Esophagus	Female	-	58,059	-	-	1.2	0.596	78	4,421,774	1.8
Hodgkin Lymphoma	Total	2	116,342	1.7	1.7	3.0	0.849	220	8,875,764	2.5
Hodgkin Lymphoma	Male	-	58,283	-	-	1.8	0.326	129	4,453,990	2.9
Hodgkin Lymphoma	Female	2	58,059	3.4	3.5	1.2	0.661	91	4,421,774	2.1
Kidney and Renal Pelvis	Total	19	116,342	16.3	13.4	30.8	0.031 <<	1,932	8,875,764	21.8
Kidney and Renal Pelvis	Male	9	58,283	15.4	12.5	21.1	0.005 <<	1,301	4,453,990	29.2
Kidney and Renal Pelvis	Female	10	58,059	17.2	14.5	9.8	1.000	631	4,421,774	14.3
Larynx	Total	2	116,342	1.7	1.4	3.5	0.631	218	8,875,764	2.5
Larynx	Male	1	58,283	1.7	1.4	2.7	0.481	166	4,453,990	3.7
Larynx	Female	1	58,059	1.7	1.4	0.9	1.000	52	4,421,774	1.2
Leukemia	Total	29	116,342	24.9	21.1	26.3	0.654	1,698	8,875,764	19.1
Leukemia	Male	19	58,283	32.6	26.7	16.3	0.559	1,017	4,453,990	22.8
Leukemia	Female	10	58,059	17.2	14.9	10.3	1.000	681	4,421,774	15.4
Liver and Bile Duct	Total	9	116,342	7.7	6.2	13.6	0.263	834	8,875,764	9.4
Liver and Bile Duct	Male	7	58,283	12.0	9.5	9.7	0.491	587	4,453,990	13.2
Liver and Bile Duct	Female	2	58,059	3.4	2.9	3.9	0.509	247	4,421,774	5.6
Lung and Bronchus	Total	38	116,342	32.7	26.4	79.8	0.000 <<	4,921	8,875,764	55.4
Lung and Bronchus	Male	21	58,283	36.0	28.0	41.7	0.001 <<	2,474	4,453,990	55.5
Lung and Bronchus	Female	17	58,059	29.3	24.5	38.5	0.000 <<	2,447	4,421,774	55.3
Melanoma of the Skin	Total	93	116,342	79.9	67.3	47.5	0.000 >>	3,051	8,875,764	34.4
Melanoma of the Skin	Male	55	58,283	94.4	76.5	29.7	0.000 >>	1,840	4,453,990	41.3
Melanoma of the Skin	Female	38	58,059	65.5	56.8	18.3	0.000 >>	1,211	4,421,774	27.4
Myeloma	Total	16	116,342	13.8	11.2	11.5	0.239	712	8,875,764	8.0
Myeloma	Male	12	58,283	20.6	16.2	7.2	0.129	435	4,453,990	9.8
Myeloma	Female	4	58,059	6.9	5.8	4.3	1.000	277	4,421,774	6.3
Non-Hodgkin Lymphoma	Total	32	116,342	27.5	22.8	31.0	0.901	1,960	8,875,764	22.1
Non-Hodgkin Lymphoma	Male	16	58,283	27.5	22.2	18.3	0.705	1,130	4,453,990	25.4
Non-Hodgkin Lymphoma	Female	16	58,059	27.6	23.4	12.8	0.441	830	4,421,774	18.8
Oral Cavity and Pharynx	Total	26	116,342	22.3	18.1	20.9	0.312	1,289	8,875,764	14.5
Oral Cavity and Pharynx	Male	19	58,283	32.6	26.0	15.1	0.378	921	4,453,990	20.7
Oral Cavity and Pharynx	Female	7	58,059	12.1	10.0	5.8	0.723	368	4,421,774	8.3
Ovary	Female	16	58,059	27.6	23.2	8.4	0.024 >>	537	4,421,774	12.1
Pancreas	Total	13	116,342	11.2	9.2	23.6	0.026 <<	1,475	8,875,764	16.6
Pancreas	Male	6	58,283	10.3	8.1	13.6	0.037 <<	820	4,453,990	18.4
Pancreas	Female	7	58,059	12.1	10.2	10.2	0.410	655	4,421,774	14.8
Prostate	Male	110	58,283	188.7	147.1	111.8	0.918	6,656	4,453,990	149.4
Stomach	Total	4	116,342	3.4	2.9	7.4	0.275	470	8,875,764	5.3
Stomach	Male	2	58,283	3.4	2.7	5.0	0.247	305	4,453,990	6.8
Stomach	Female	2	58,059	3.4	3.0	2.5	1.000	165	4,421,774	3.7
Testis	Male	4	58,283	6.9	7.3	3.3	0.851	270	4,453,990	6.1
Thyroid	Total	16	116,342	13.8	12.5	16.9	0.961	1,169	8,875,764	13.2
Thyroid	Male	8	58,283	13.7	11.8	5.5	0.386	364	4,453,990	8.2
Thyroid	Female	8	58,059	13.8	12.8	11.4	0.394	805	4,421,774	18.2
Pediatric Age 0 to 19	Total	7	27,069	25.9	26.0	4.6	0.352	418	2,472,255	16.9
Pediatric Age 0 to 19	Male	3	13,897	21.6	21.8	2.3	0.809	211	1,260,424	16.7
Pediatric Age 0 to 19	Female	4	13,172	30.4	30.3	2.3	0.384	207	1,211,831	17.1

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 BLAINE COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cause of Death Cancer Site/Type	Sex	Blaine 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	676	118,807	569.0	484.3	1,226.0	0.000 <<	79,859	9,092,587	878.3
All Causes of Death	Male	394	59,425	663.0	533.4	685.4	0.000 <<	42,392	4,568,272	928.0
All Causes of Death	Female	282	59,382	474.9	427.7	546.0	0.000 <<	37,467	4,524,315	828.1
All Malignant Cancers	Total	155	118,807	130.5	106.4	241.7	0.000 <<	15,078	9,092,587	165.8
All Malignant Cancers	Male	91	59,425	153.1	118.9	136.4	0.000 <<	8,144	4,568,272	178.3
All Malignant Cancers	Female	64	59,382	107.8	91.4	107.3	0.000 <<	6,934	4,524,315	153.3
Bladder	Total	3	118,807	2.5	2.1	7.5	0.117	482	9,092,587	5.3
Bladder	Male	2	59,425	3.4	2.6	6.2	0.107	373	4,568,272	8.2
Bladder	Female	1	59,382	1.7	1.5	1.6	1.000	109	4,524,315	2.4
Brain and Other Nervous System	Total	8	118,807	6.7	5.6	8.1	1.000	510	9,092,587	5.6
Brain and Other Nervous System	Male	5	59,425	8.4	6.8	4.6	0.967	284	4,568,272	6.2
Brain and Other Nervous System	Female	3	59,382	5.1	4.3	3.5	1.000	226	4,524,315	5.0
Breast	Total	10	118,807	8.4	6.9	17.6	0.073	1,114	9,092,587	12.3
Breast	Male	-	59,425	-	-	0.2	1.000	13	4,568,272	0.3
Breast	Female	10	59,382	16.8	14.3	17.0	0.096	1,101	4,524,315	24.3
Cervix	Female	1	59,382	1.7	1.4	1.4	1.000	87	4,524,315	1.9
Colorectal	Total	17	118,807	14.3	11.7	21.0	0.459	1,315	9,092,587	14.5
Colorectal	Male	9	59,425	15.1	11.9	11.9	0.495	723	4,568,272	15.8
Colorectal	Female	8	59,382	13.5	11.6	9.0	0.899	592	4,524,315	13.1
Corpus Uteri	Female	3	59,382	5.1	4.2	2.6	0.986	166	4,524,315	3.7
Esophagus	Total	5	118,807	4.2	3.4	7.5	0.492	456	9,092,587	5.0
Esophagus	Male	5	59,425	8.4	6.5	6.5	0.735	386	4,568,272	8.4
Esophagus	Female	-	59,382	-	-	1.1	0.675	70	4,524,315	1.5
Hodgkin Lymphoma	Total	-	118,807	-	-	0.4	1.000	25	9,092,587	0.3
Hodgkin Lymphoma	Male	-	59,425	-	-	0.2	1.000	14	4,568,272	0.3
Hodgkin Lymphoma	Female	-	59,382	-	-	0.2	1.000	11	4,524,315	0.2
Kidney	Total	2	118,807	1.7	1.4	6.2	0.109	384	9,092,587	4.2
Kidney	Male	1	59,425	1.7	1.3	4.1	0.170	245	4,568,272	5.4
Kidney	Female	1	59,382	1.7	1.4	2.1	0.747	139	4,524,315	3.1
Larynx	Total	-	118,807	-	-	1.2	0.585	76	9,092,587	0.8
Larynx	Male	-	59,425	-	-	1.1	0.670	65	4,568,272	1.4
Larynx	Female	-	59,382	-	-	0.2	1.000	11	4,524,315	0.2
Leukemia	Total	9	118,807	7.6	6.3	10.4	0.827	656	9,092,587	7.2
Leukemia	Male	4	59,425	6.7	5.3	6.5	0.440	393	4,568,272	8.6
Leukemia	Female	5	59,382	8.4	7.3	4.0	0.732	263	4,524,315	5.8
Liver and Bile Duct	Total	6	118,807	5.1	4.0	10.3	0.227	629	9,092,587	6.9
Liver and Bile Duct	Male	4	59,425	6.7	5.2	7.0	0.341	419	4,568,272	9.2
Liver and Bile Duct	Female	2	59,382	3.4	2.8	3.3	0.711	210	4,524,315	4.6
Lung and Bronchus	Total	15	118,807	12.6	10.1	47.7	0.000 <<	2,922	9,092,587	32.1
Lung and Bronchus	Male	9	59,425	15.1	11.6	26.1	0.000 <<	1,532	4,568,272	33.5
Lung and Bronchus	Female	6	59,382	10.1	8.5	21.8	0.000 <<	1,390	4,524,315	30.7
Melanoma of the Skin	Total	4	118,807	3.4	2.8	4.7	0.978	297	9,092,587	3.3
Melanoma of the Skin	Male	4	59,425	6.7	5.3	3.3	0.820	196	4,568,272	4.3
Melanoma of the Skin	Female	-	59,382	-	-	1.5	0.429	101	4,524,315	2.2
Myeloma	Total	5	118,807	4.2	3.4	5.2	1.000	320	9,092,587	3.5
Myeloma	Male	4	59,425	6.7	5.2	3.1	0.762	184	4,568,272	4.0
Myeloma	Female	1	59,382	1.7	1.4	2.1	0.764	136	4,524,315	3.0
Non-Hodgkin Lymphoma	Total	5	118,807	4.2	3.4	9.0	0.235	563	9,092,587	6.2
Non-Hodgkin Lymphoma	Male	3	59,425	5.0	3.9	5.2	0.483	307	4,568,272	6.7
Non-Hodgkin Lymphoma	Female	2	59,382	3.4	2.9	3.8	0.523	256	4,524,315	5.7
Oral Cavity and Pharynx	Total	2	118,807	1.7	1.3	4.5	0.357	273	9,092,587	3.0
Oral Cavity and Pharynx	Male	2	59,425	3.4	2.6	3.2	0.762	190	4,568,272	4.2
Oral Cavity and Pharynx	Female	-	59,382	-	-	1.3	0.539	83	4,524,315	1.8
Ovary	Female	6	59,382	10.1	8.4	5.6	0.968	355	4,524,315	7.8
Pancreas	Total	11	118,807	9.3	7.4	19.2	0.063	1,179	9,092,587	13.0
Pancreas	Male	6	59,425	10.1	7.8	10.9	0.165	644	4,568,272	14.1
Pancreas	Female	5	59,382	8.4	7.0	8.4	0.311	535	4,524,315	11.8
Prostate	Male	14	59,425	23.6	18.3	16.4	0.654	983	4,568,272	21.5
Stomach	Total	-	118,807	-	-	3.1	0.094	194	9,092,587	2.1
Stomach	Male	-	59,425	-	-	2.0	0.277	119	4,568,272	2.6
Stomach	Female	-	59,382	-	-	1.1	0.644	75	4,524,315	1.7

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	Blaine County
<u>Access to Care</u>									
Have Health Insurance, Age < 65 (2021–2022)	90.0%	89.3%	87.8%	86.4%	92.6%	87.2%	89.1%	92.6%	90.6%
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%	7.5%
<u>Cancer Screening</u>									
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%	71.9%
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%	.
Colorectal Cancer Screening, Age 45–75 (2022)	63.3%	61.0%	62.5%	60.8%	67.2%	65.0%	60.4%	60.2%	.
<u>Tobacco Use</u>									
Current Tobacco User (2020–2022)	22.1%	24.3%	20.4%	24.8%	21.3%	22.5%	22.6%	18.1%	17.5%
<u>Other Cancer-Related</u>									
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%	44.3%
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%	85.1%
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%	30.7%
Home Ever Tested for Radon (2016, 2018, 2020)	22.9%	30.8%	18.3%	16.9%	25.2%	20.1%	23.0%	21.0%	54.7%

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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BOISE 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 279 cases of invasive cancer were diagnosed among Boise County residents (Table 1).

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

Cancer Incidence 2017–2021	Boise County	State of Idaho
All Sites/Types	279	47,333
Female Breast	32	6,943
Prostate	57	6,766
Lung & Bronchus	33	4,959
Colorectal	9	3,632

Table 3 (*Cancer Incidence 2017–2021, Comparison between Boise 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 Boise 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 Boise County was 712.7 cases per 100,000 person-years per year during 2017–2021. Comparing this crude rate with the crude rate for the remainder of Idaho (525.6) gives an estimate of the relative burden of disease in Boise County.

The age- and sex-adjusted incidence rate of invasive cancer in Boise County, all sites combined, was 468.3 cases per 100,000 persons per year during 2017–2021. There were fewer cases of cancer in Boise County (279) than expected (313.1) 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 68 Boise 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 Boise County and the State of Idaho, 2018–2022

Mortality 2018–2022	Boise County	State of Idaho
All Deaths	362	80,538
Cancer Deaths	68	15,233
% of All Deaths	18.8%	18.9%
Lung & Bronchus	15	2,937
Colorectal	5	1,332
Pancreas	10	1,190
Female Breast	6	1,111
Prostate	4	997

Table 4 (*Cancer Mortality 2018–2022, Comparison between Boise 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 Boise 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 Boise County, all sites combined, was 112.9 deaths per 100,000 persons per year during 2018–2022, compared with 165.4 for the remainder of the state. There were statistically significantly fewer cancer deaths in Boise County (68) than expected (99.6) based upon rates in the remainder of the state ($p=.001$).

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 BOISE COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cancer Site/Type	Sex	Boise 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	279	39,148	712.7	468.3	313.1	0.054	47,054	8,952,958	525.6
All Sites Combined	Male	169	20,174	837.7	494.7	190.9	0.117	25,101	4,492,099	558.8
All Sites Combined	Female	110	18,974	579.7	419.7	129.0	0.098	21,953	4,460,859	492.1
Bladder	Total	21	39,148	53.6	34.6	14.9	0.158	2,199	8,952,958	24.6
Bladder	Male	19	20,174	94.2	54.2	13.7	0.201	1,754	4,492,099	39.0
Bladder	Female	2	18,974	10.5	7.5	2.7	1.000	445	4,460,859	10.0
Brain - malignant	Total	1	39,148	2.6	1.9	3.9	0.201	656	8,952,958	7.3
Brain - malignant	Male	1	20,174	5.0	3.5	2.4	0.599	381	4,492,099	8.5
Brain - malignant	Female	-	18,974	-	-	1.5	0.446	275	4,460,859	6.2
Brain and other CNS - non-malignant	Total	7	39,148	17.9	12.7	9.5	0.534	1,540	8,952,958	17.2
Brain and other CNS - non-malignant	Male	3	20,174	14.9	10.0	3.3	1.000	497	4,492,099	11.1
Brain and other CNS - non-malignant	Female	4	18,974	21.1	15.9	5.9	0.600	1,043	4,460,859	23.4
Breast	Total	32	39,148	81.7	54.3	45.9	0.039 <<	6,976	8,952,958	77.9
Breast	Male	-	20,174	-	-	0.5	1.000	65	4,492,099	1.4
Breast	Female	32	18,974	168.7	118.9	41.7	0.146	6,911	4,460,859	154.9
Breast - in situ	Total	11	39,148	28.1	18.3	9.1	0.612	1,358	8,952,958	15.2
Breast - in situ	Male	-	20,174	-	-	0.0	1.000	4	4,492,099	0.1
Breast - in situ	Female	11	18,974	58.0	39.6	8.4	0.457	1,354	4,460,859	30.4
Cervix	Female	1	18,974	5.3	4.4	1.5	1.000	293	4,460,859	6.6
Colorectal	Total	9	39,148	23.0	15.5	23.4	0.001 <<	3,623	8,952,958	40.5
Colorectal	Male	4	20,174	19.8	12.3	14.3	0.003 <<	1,973	4,492,099	43.9
Colorectal	Female	5	18,974	26.4	19.7	9.4	0.186	1,650	4,460,859	37.0
Corpus Uteri	Female	7	18,974	36.9	24.7	8.5	0.759	1,347	4,460,859	30.2
Esophagus	Total	7	39,148	17.9	11.4	3.4	0.122	500	8,952,958	5.6
Esophagus	Male	7	20,174	34.7	20.1	3.3	0.098	422	4,492,099	9.4
Esophagus	Female	-	18,974	-	-	0.5	1.000	78	4,460,859	1.7
Hodgkin Lymphoma	Total	2	39,148	5.1	4.6	1.1	0.577	220	8,952,958	2.5
Hodgkin Lymphoma	Male	-	20,174	-	-	0.7	0.999	129	4,492,099	2.9
Hodgkin Lymphoma	Female	2	18,974	10.5	10.6	0.4	0.116	91	4,460,859	2.0
Kidney and Renal Pelvis	Total	9	39,148	23.0	15.2	12.9	0.351	1,942	8,952,958	21.7
Kidney and Renal Pelvis	Male	7	20,174	34.7	21.2	9.6	0.518	1,303	4,492,099	29.0
Kidney and Renal Pelvis	Female	2	18,974	10.5	7.6	3.8	0.553	639	4,460,859	14.3
Larynx	Total	-	39,148	-	-	1.5	0.433	220	8,952,958	2.5
Larynx	Male	-	20,174	-	-	1.3	0.551	167	4,492,099	3.7
Larynx	Female	-	18,974	-	-	0.3	1.000	53	4,460,859	1.2
Leukemia	Total	12	39,148	30.7	21.2	10.8	0.801	1,715	8,952,958	19.2
Leukemia	Male	7	20,174	34.7	21.9	7.3	1.000	1,029	4,492,099	22.9
Leukemia	Female	5	18,974	26.4	20.0	3.8	0.681	686	4,460,859	15.4
Liver and Bile Duct	Total	6	39,148	15.3	9.4	6.0	1.000	837	8,952,958	9.3
Liver and Bile Duct	Male	5	20,174	24.8	14.0	4.7	1.000	589	4,492,099	13.1
Liver and Bile Duct	Female	1	18,974	5.3	3.6	1.5	1.000	248	4,460,859	5.6
Lung and Bronchus	Total	33	39,148	84.3	53.1	34.2	0.924	4,926	8,952,958	55.0
Lung and Bronchus	Male	15	20,174	74.4	41.8	19.8	0.333	2,480	4,492,099	55.2
Lung and Bronchus	Female	18	18,974	94.9	66.8	14.8	0.464	2,446	4,460,859	54.8
Melanoma of the Skin	Total	19	39,148	48.5	33.5	19.8	0.973	3,125	8,952,958	34.9
Melanoma of the Skin	Male	10	20,174	49.6	30.7	13.7	0.397	1,885	4,492,099	42.0
Melanoma of the Skin	Female	9	18,974	47.4	35.8	7.0	0.541	1,240	4,460,859	27.8
Myeloma	Total	4	39,148	10.2	6.6	4.9	0.906	724	8,952,958	8.1
Myeloma	Male	3	20,174	14.9	8.7	3.4	1.000	444	4,492,099	9.9
Myeloma	Female	1	18,974	5.3	3.7	1.7	0.988	280	4,460,859	6.3
Non-Hodgkin Lymphoma	Total	13	39,148	33.2	22.1	13.0	1.000	1,979	8,952,958	22.1
Non-Hodgkin Lymphoma	Male	5	20,174	24.8	15.2	8.4	0.320	1,141	4,492,099	25.4
Non-Hodgkin Lymphoma	Female	8	18,974	42.2	30.6	4.9	0.249	838	4,460,859	18.8
Oral Cavity and Pharynx	Total	15	39,148	38.3	24.1	9.0	0.085	1,300	8,952,958	14.5
Oral Cavity and Pharynx	Male	14	20,174	69.4	40.6	7.1	0.029 >>	926	4,492,099	20.6
Oral Cavity and Pharynx	Female	1	18,974	5.3	3.7	2.3	0.671	374	4,460,859	8.4
Ovary	Female	3	18,974	15.8	11.4	3.2	1.000	550	4,460,859	12.3
Pancreas	Total	9	39,148	23.0	14.9	10.0	0.917	1,479	8,952,958	16.5
Pancreas	Male	5	20,174	24.8	14.5	6.3	0.793	821	4,492,099	18.3
Pancreas	Female	4	18,974	21.1	15.1	3.9	1.000	658	4,460,859	14.8
Prostate	Male	57	20,174	282.5	155.4	54.8	0.800	6,709	4,492,099	149.4
Stomach	Total	5	39,148	12.8	8.6	3.1	0.389	469	8,952,958	5.2
Stomach	Male	3	20,174	14.9	8.9	2.3	0.805	304	4,492,099	6.8
Stomach	Female	2	18,974	10.5	8.1	0.9	0.468	165	4,460,859	3.7
Testis	Male	-	20,174	-	-	1.0	0.741	274	4,492,099	6.1
Thyroid	Total	8	39,148	20.4	16.8	6.3	0.587	1,177	8,952,958	13.1
Thyroid	Male	4	20,174	19.8	14.1	2.3	0.408	368	4,492,099	8.2
Thyroid	Female	4	18,974	21.1	18.2	4.0	1.000	809	4,460,859	18.1
Pediatric Age 0 to 19	Total	5	7,018	71.2	70.7	1.2	0.015 >>	420	2,492,306	16.9
Pediatric Age 0 to 19	Male	2	3,690	54.2	54.6	0.6	0.251	212	1,270,631	16.7
Pediatric Age 0 to 19	Female	3	3,328	90.1	88.3	0.6	0.042 >>	208	1,221,675	17.0

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 BOISE COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cause of Death Cancer Site/Type	Sex	Boise 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	362	40,111	902.5	655.4	482.8	0.000 <<	80,173	9,171,283	874.2
All Causes of Death	Male	230	20,632	1,114.8	712.3	298.3	0.000 <<	42,556	4,607,065	923.7
All Causes of Death	Female	132	19,479	677.7	563.2	193.2	0.000 <<	37,617	4,564,218	824.2
All Malignant Cancers	Total	68	40,111	169.5	112.9	99.6	0.001 <<	15,165	9,171,283	165.4
All Malignant Cancers	Male	36	20,632	174.5	103.0	62.2	0.000 <<	8,199	4,607,065	178.0
All Malignant Cancers	Female	32	19,479	164.3	122.9	39.7	0.247	6,966	4,564,218	152.6
Bladder	Total	3	40,111	7.5	5.3	3.0	1.000	482	9,171,283	5.3
Bladder	Male	2	20,632	9.7	5.9	2.7	0.970	373	4,607,065	8.1
Bladder	Female	1	19,479	5.1	4.2	0.6	0.868	109	4,564,218	2.4
Brain and Other Nervous System	Total	1	40,111	2.5	1.7	3.4	0.304	517	9,171,283	5.6
Brain and Other Nervous System	Male	1	20,632	4.8	3.0	2.1	0.781	288	4,607,065	6.3
Brain and Other Nervous System	Female	-	19,479	-	-	1.3	0.520	229	4,564,218	5.0
Breast	Total	6	40,111	15.0	10.2	7.2	0.852	1,118	9,171,283	12.2
Breast	Male	-	20,632	-	-	0.1	1.000	13	4,607,065	0.3
Breast	Female	6	19,479	30.8	23.1	6.3	1.000	1,105	4,564,218	24.2
Cervix	Female	1	19,479	5.1	3.9	0.5	0.772	87	4,564,218	1.9
Colorectal	Total	5	40,111	12.5	8.5	8.6	0.291	1,327	9,171,283	14.5
Colorectal	Male	3	20,632	14.5	8.8	5.4	0.435	729	4,607,065	15.8
Colorectal	Female	2	19,479	10.3	7.9	3.3	0.711	598	4,564,218	13.1
Corpus Uteri	Female	-	19,479	-	-	1.0	0.704	169	4,564,218	3.7
Esophagus	Total	4	40,111	10.0	6.3	3.1	0.769	457	9,171,283	5.0
Esophagus	Male	3	20,632	14.5	8.3	3.0	1.000	388	4,607,065	8.4
Esophagus	Female	1	19,479	5.1	3.9	0.4	0.647	69	4,564,218	1.5
Hodgkin Lymphoma	Total	-	40,111	-	-	0.2	1.000	25	9,171,283	0.3
Hodgkin Lymphoma	Male	-	20,632	-	-	0.1	1.000	14	4,607,065	0.3
Hodgkin Lymphoma	Female	-	19,479	-	-	0.1	1.000	11	4,564,218	0.2
Kidney	Total	-	40,111	-	-	2.6	0.151	386	9,171,283	4.2
Kidney	Male	-	20,632	-	-	1.9	0.301	246	4,607,065	5.3
Kidney	Female	-	19,479	-	-	0.8	0.904	140	4,564,218	3.1
Larynx	Total	-	40,111	-	-	0.5	1.000	76	9,171,283	0.8
Larynx	Male	-	20,632	-	-	0.5	1.000	65	4,607,065	1.4
Larynx	Female	-	19,479	-	-	0.1	1.000	11	4,564,218	0.2
Leukemia	Total	1	40,111	2.5	1.7	4.2	0.160	664	9,171,283	7.2
Leukemia	Male	-	20,632	-	-	2.9	0.107	397	4,607,065	8.6
Leukemia	Female	1	19,479	5.1	4.1	1.4	1.000	267	4,564,218	5.8
Liver and Bile Duct	Total	4	40,111	10.0	6.3	4.4	1.000	631	9,171,283	6.9
Liver and Bile Duct	Male	3	20,632	14.5	8.3	3.3	1.000	420	4,607,065	9.1
Liver and Bile Duct	Female	1	19,479	5.1	3.7	1.3	1.000	211	4,564,218	4.6
Lung and Bronchus	Total	15	40,111	37.4	24.1	19.9	0.328	2,922	9,171,283	31.9
Lung and Bronchus	Male	6	20,632	29.1	16.5	12.1	0.086	1,535	4,607,065	33.3
Lung and Bronchus	Female	9	19,479	46.2	34.0	8.1	0.830	1,387	4,564,218	30.4
Melanoma of the Skin	Total	2	40,111	5.0	3.4	1.9	1.000	299	9,171,283	3.3
Melanoma of the Skin	Male	2	20,632	9.7	5.9	1.5	0.858	198	4,607,065	4.3
Melanoma of the Skin	Female	-	19,479	-	-	0.6	1.000	101	4,564,218	2.2
Myeloma	Total	2	40,111	5.0	3.3	2.1	1.000	323	9,171,283	3.5
Myeloma	Male	1	20,632	4.8	2.8	1.4	1.000	187	4,607,065	4.1
Myeloma	Female	1	19,479	5.1	3.9	0.8	1.000	136	4,564,218	3.0
Non-Hodgkin Lymphoma	Total	3	40,111	7.5	5.1	3.6	1.000	565	9,171,283	6.2
Non-Hodgkin Lymphoma	Male	2	20,632	9.7	5.8	2.3	1.000	308	4,607,065	6.7
Non-Hodgkin Lymphoma	Female	1	19,479	5.1	4.1	1.4	1.000	257	4,564,218	5.6
Oral Cavity and Pharynx	Total	-	40,111	-	-	1.9	0.301	275	9,171,283	3.0
Oral Cavity and Pharynx	Male	-	20,632	-	-	1.5	0.443	192	4,607,065	4.2
Oral Cavity and Pharynx	Female	-	19,479	-	-	0.5	1.000	83	4,564,218	1.8
Ovary	Female	2	19,479	10.3	7.3	2.1	1.000	359	4,564,218	7.9
Pancreas	Total	10	40,111	24.9	16.0	8.0	0.579	1,180	9,171,283	12.9
Pancreas	Male	6	20,632	29.1	16.6	5.1	0.788	644	4,607,065	14.0
Pancreas	Female	4	19,479	20.5	14.9	3.2	0.777	536	4,564,218	11.7
Prostate	Male	4	20,632	19.4	11.7	7.4	0.284	993	4,607,065	21.6
Stomach	Total	-	40,111	-	-	1.2	0.593	194	9,171,283	2.1
Stomach	Male	-	20,632	-	-	0.9	0.842	119	4,607,065	2.6
Stomach	Female	-	19,479	-	-	0.4	1.000	75	4,564,218	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	Boise County
<u>Access to Care</u>									
Have Health Insurance, Age < 65 (2021–2022)	90.0%	89.3%	87.8%	86.4%	92.6%	87.2%	89.1%	92.6%	83.2%
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%	9.0%
<u>Cancer Screening</u>									
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%	54.8%
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%	.
Colorectal Cancer Screening, Age 45–75 (2022)	63.3%	61.0%	62.5%	60.8%	67.2%	65.0%	60.4%	60.2%	.
<u>Tobacco Use</u>									
Current Tobacco User (2020–2022)	22.1%	24.3%	20.4%	24.8%	21.3%	22.5%	22.6%	18.1%	24.0%
<u>Other Cancer-Related</u>									
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%	40.3%
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%	74.7%
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%	28.6%

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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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
<u>Access to Care</u>									
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%
<u>Cancer Screening</u>									
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%
<u>Tobacco Use</u>									
Current Tobacco User (2020–2022)	22.1%	24.3%	20.4%	24.8%	21.3%	22.5%	22.6%	18.1%	27.5%
<u>Other Cancer-Related</u>									
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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BONNEVILLE 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 2,771 cases of invasive cancer were diagnosed among Bonneville County residents (Table 1).

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

Cancer Incidence 2017–2021	Bonneville County	State of Idaho
All Sites/Types	2,771	47,333
Female Breast	398	6,943
Prostate	376	6,766
Lung & Bronchus	202	4,959
Colorectal	228	3,632

Table 3 (*Cancer Incidence 2017–2021, Comparison between Bonneville 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 Bonneville 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 Bonneville County was 461.3 cases per 100,000 person-years per year during 2017–2021. Comparing this crude rate with the crude rate for the remainder of Idaho (531.0) gives an estimate of the relative burden of disease in Bonneville County.

The age- and sex-adjusted incidence rate of invasive cancer in Bonneville County, all sites combined, was 541.7 cases per 100,000 persons per year during 2017–2021. There were more cases of cancer in Bonneville County (2,771) than expected (2,716.5) 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 826 Bonneville 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 Bonneville County and the State of Idaho, 2018–2022

Mortality 2018–2022	Bonneville County	State of Idaho
All Deaths	5,101	80,538
Cancer Deaths	826	15,233
% of All Deaths	16.2%	18.9%
Lung & Bronchus	137	2,937
Colorectal	82	1,332
Pancreas	51	1,190
Female Breast	66	1,111
Prostate	49	997

Table 4 (*Cancer Mortality 2018–2022, Comparison between Bonneville 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 Bonneville 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 Bonneville County, all sites combined, was 160.1 deaths per 100,000 persons per year during 2018–2022, compared with 167.6 for the remainder of the state. There were fewer cancer deaths in Bonneville County (826) than expected (864.5) 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 BONNEVILLE COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cancer Site/Type	Sex	Bonneville 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	2,771	600,734	461.3	541.7	2,716.5	0.301	44,562	8,391,372	531.0
All Sites Combined	Male	1,440	300,211	479.7	574.3	1,418.5	0.575	23,830	4,212,062	565.8
All Sites Combined	Female	1,331	300,523	442.9	511.7	1,290.3	0.263	20,732	4,179,310	496.1
Bladder	Total	132	600,734	22.0	26.3	124.7	0.537	2,088	8,391,372	24.9
Bladder	Male	103	300,211	34.3	41.9	97.4	0.596	1,670	4,212,062	39.6
Bladder	Female	29	300,523	9.6	11.4	25.5	0.534	418	4,179,310	10.0
Brain - malignant	Total	44	600,734	7.3	8.2	39.4	0.503	613	8,391,372	7.3
Brain - malignant	Male	24	300,211	8.0	9.0	22.7	0.832	358	4,212,062	8.5
Brain - malignant	Female	20	300,523	6.7	7.3	16.6	0.467	255	4,179,310	6.1
Brain and other CNS - non-malignant	Total	113	600,734	18.8	21.5	89.7	0.020 >>	1,434	8,391,372	17.1
Brain and other CNS - non-malignant	Male	33	300,211	11.0	12.5	29.2	0.523	467	4,212,062	11.1
Brain and other CNS - non-malignant	Female	80	300,523	26.6	30.4	61.0	0.022 >>	967	4,179,310	23.1
Breast	Total	400	600,734	66.6	77.7	405.6	0.808	6,608	8,391,372	78.7
Breast	Male	2	300,211	0.7	0.8	3.8	0.538	63	4,212,062	1.5
Breast	Female	398	300,523	132.4	153.7	405.5	0.735	6,545	4,179,310	156.6
Breast - in situ	Total	81	600,734	13.5	15.8	78.9	0.844	1,288	8,391,372	15.3
Breast - in situ	Male	-	300,211	-	-	0.3	1.000	4	4,212,062	0.1
Breast - in situ	Female	81	300,523	27.0	31.4	79.2	0.867	1,284	4,179,310	30.7
Cervix	Female	15	300,523	5.0	5.4	18.7	0.474	279	4,179,310	6.7
Colorectal	Total	228	600,734	38.0	44.4	208.5	0.191	3,404	8,391,372	40.6
Colorectal	Male	118	300,211	39.3	46.4	112.1	0.605	1,859	4,212,062	44.1
Colorectal	Female	110	300,523	36.6	42.3	96.2	0.180	1,545	4,179,310	37.0
Corpus Uteri	Female	100	300,523	33.3	39.0	77.0	0.013 >>	1,254	4,179,310	30.0
Esophagus	Total	22	600,734	3.7	4.4	29.1	0.214	485	8,391,372	5.8
Esophagus	Male	16	300,211	5.3	6.4	24.3	0.098	413	4,212,062	9.8
Esophagus	Female	6	300,523	2.0	2.4	4.4	0.556	72	4,179,310	1.7
Hodgkin Lymphoma	Total	10	600,734	1.7	1.8	14.2	0.331	212	8,391,372	2.5
Hodgkin Lymphoma	Male	9	300,211	3.0	3.3	7.9	0.776	120	4,212,062	2.8
Hodgkin Lymphoma	Female	1	300,523	0.3	0.4	6.3	0.027 <<	92	4,179,310	2.2
Kidney and Renal Pelvis	Total	124	600,734	20.6	24.1	111.8	0.270	1,827	8,391,372	21.8
Kidney and Renal Pelvis	Male	74	300,211	24.6	29.1	74.6	1.000	1,236	4,212,062	29.3
Kidney and Renal Pelvis	Female	50	300,523	16.6	19.2	36.8	0.044 >>	591	4,179,310	14.1
Larynx	Total	5	600,734	0.8	1.0	12.9	0.023 <<	215	8,391,372	2.6
Larynx	Male	4	300,211	1.3	1.6	9.7	0.072	163	4,212,062	3.9
Larynx	Female	1	300,523	0.3	0.4	3.2	0.355	52	4,179,310	1.2
Leukemia	Total	112	600,734	18.6	21.4	100.7	0.283	1,615	8,391,372	19.2
Leukemia	Male	71	300,211	23.7	27.5	59.2	0.146	965	4,212,062	22.9
Leukemia	Female	41	300,523	13.6	15.5	41.1	1.000	650	4,179,310	15.6
Liver and Bile Duct	Total	37	600,734	6.2	7.3	48.4	0.108	806	8,391,372	9.6
Liver and Bile Duct	Male	28	300,211	9.3	11.2	33.5	0.393	566	4,212,062	13.4
Liver and Bile Duct	Female	9	300,523	3.0	3.5	14.7	0.159	240	4,179,310	5.7
Lung and Bronchus	Total	202	600,734	33.6	40.5	282.9	0.000 <<	4,757	8,391,372	56.7
Lung and Bronchus	Male	101	300,211	33.6	41.3	139.0	0.001 <<	2,394	4,212,062	56.8
Lung and Bronchus	Female	101	300,523	33.6	39.8	143.4	0.000 <<	2,363	4,179,310	56.5
Melanoma of the Skin	Total	202	600,734	33.6	38.9	182.0	0.152	2,942	8,391,372	35.1
Melanoma of the Skin	Male	122	300,211	40.6	48.1	106.8	0.160	1,773	4,212,062	42.1
Melanoma of the Skin	Female	80	300,523	26.6	30.1	74.3	0.536	1,169	4,179,310	28.0
Myeloma	Total	48	600,734	8.0	9.5	40.7	0.291	680	8,391,372	8.1
Myeloma	Male	29	300,211	9.7	11.7	24.6	0.419	418	4,212,062	9.9
Myeloma	Female	19	300,523	6.3	7.5	16.0	0.511	262	4,179,310	6.3
Non-Hodgkin Lymphoma	Total	134	600,734	22.3	26.1	113.8	0.070	1,858	8,391,372	22.1
Non-Hodgkin Lymphoma	Male	72	300,211	24.0	28.3	65.0	0.414	1,074	4,212,062	25.5
Non-Hodgkin Lymphoma	Female	62	300,523	20.6	24.0	48.5	0.069	784	4,179,310	18.8
Oral Cavity and Pharynx	Total	69	600,734	11.5	13.6	75.4	0.506	1,246	8,391,372	14.8
Oral Cavity and Pharynx	Male	51	300,211	17.0	20.2	53.2	0.836	889	4,212,062	21.1
Oral Cavity and Pharynx	Female	18	300,523	6.0	7.0	22.0	0.471	357	4,179,310	8.5
Ovary	Female	27	300,523	9.0	10.4	32.8	0.354	526	4,179,310	12.6
Pancreas	Total	78	600,734	13.0	15.5	84.7	0.504	1,410	8,391,372	16.8
Pancreas	Male	39	300,211	13.0	15.7	46.4	0.311	787	4,212,062	18.7
Pancreas	Female	39	300,523	13.0	15.2	38.1	0.932	623	4,179,310	14.9
Prostate	Male	376	300,211	125.2	152.9	373.0	0.891	6,390	4,212,062	151.7
Stomach	Total	31	600,734	5.2	6.1	27.0	0.489	443	8,391,372	5.3
Stomach	Male	24	300,211	8.0	9.6	16.8	0.114	283	4,212,062	6.7
Stomach	Female	7	300,523	2.3	2.7	10.0	0.437	160	4,179,310	3.8
Testis	Male	20	300,211	6.7	6.7	17.9	0.680	254	4,212,062	6.0
Thyroid	Total	123	600,734	20.5	22.3	69.8	0.000 >>	1,062	8,391,372	12.7
Thyroid	Male	33	300,211	11.0	12.4	21.4	0.024 >>	339	4,212,062	8.0
Thyroid	Female	90	300,523	29.9	32.1	48.5	0.000 >>	723	4,179,310	17.3
Pediatric Age 0 to 19	Total	32	197,909	16.2	16.3	33.5	0.879	393	2,301,415	17.1
Pediatric Age 0 to 19	Male	20	100,908	19.8	19.8	16.7	0.482	194	1,173,413	16.5
Pediatric Age 0 to 19	Female	12	97,001	12.4	12.6	16.8	0.291	199	1,128,002	17.6

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 BONNEVILLE COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cause of Death Cancer Site/Type	Sex	Bonneville 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	5,101	615,622	828.6	969.1	4,619.1	0.000 >>	75,434	8,595,772	877.6
All Causes of Death	Male	2,620	308,161	850.2	1,009.2	2,414.2	0.000 >>	40,166	4,319,536	929.9
All Causes of Death	Female	2,481	307,461	806.9	933.0	2,193.0	0.000 >>	35,268	4,276,236	824.7
All Malignant Cancers	Total	826	615,622	134.2	160.1	864.5	0.195	14,407	8,595,772	167.6
All Malignant Cancers	Male	436	308,161	141.5	172.2	457.1	0.335	7,799	4,319,536	180.6
All Malignant Cancers	Female	390	307,461	126.8	149.0	404.4	0.492	6,608	4,276,236	154.5
Bladder	Total	30	615,622	4.9	5.8	27.3	0.655	455	8,595,772	5.3
Bladder	Male	23	308,161	7.5	9.1	20.6	0.657	352	4,319,536	8.1
Bladder	Female	7	307,461	2.3	2.7	6.3	0.888	103	4,276,236	2.4
Brain and Other Nervous System	Total	35	615,622	5.7	6.6	29.8	0.383	483	8,595,772	5.6
Brain and Other Nervous System	Male	20	308,161	6.5	7.6	16.3	0.424	269	4,319,536	6.2
Brain and Other Nervous System	Female	15	307,461	4.9	5.6	13.4	0.726	214	4,276,236	5.0
Breast	Total	68	615,622	11.0	13.0	64.0	0.654	1,056	8,595,772	12.3
Breast	Male	2	308,161	0.6	0.8	0.7	0.280	11	4,319,536	0.3
Breast	Female	66	307,461	21.5	25.1	64.2	0.854	1,045	4,276,236	24.4
Cervix	Female	4	307,461	1.3	1.5	5.4	0.749	84	4,276,236	2.0
Colorectal	Total	82	615,622	13.3	15.8	75.6	0.494	1,250	8,595,772	14.5
Colorectal	Male	42	308,161	13.6	16.3	41.1	0.928	690	4,319,536	16.0
Colorectal	Female	40	307,461	13.0	15.2	34.5	0.386	560	4,276,236	13.1
Corpus Uteri	Female	8	307,461	2.6	3.1	9.7	0.741	161	4,276,236	3.8
Esophagus	Total	25	615,622	4.1	4.9	25.9	0.961	436	8,595,772	5.1
Esophagus	Male	21	308,161	6.8	8.3	21.6	1.000	370	4,319,536	8.6
Esophagus	Female	4	307,461	1.3	1.5	4.0	1.000	66	4,276,236	1.5
Hodgkin Lymphoma	Total	3	615,622	0.5	0.6	1.3	0.297	22	8,595,772	0.3
Hodgkin Lymphoma	Male	1	308,161	0.3	0.4	0.8	1.000	13	4,319,536	0.3
Hodgkin Lymphoma	Female	2	307,461	0.7	0.8	0.6	0.215	9	4,276,236	0.2
Kidney	Total	20	615,622	3.2	3.9	21.8	0.801	366	8,595,772	4.3
Kidney	Male	13	308,161	4.2	5.1	13.7	1.000	233	4,319,536	5.4
Kidney	Female	7	307,461	2.3	2.7	8.1	0.883	133	4,276,236	3.1
Larynx	Total	3	615,622	0.5	0.6	4.4	0.731	73	8,595,772	0.8
Larynx	Male	3	308,161	1.0	1.2	3.7	1.000	62	4,319,536	1.4
Larynx	Female	-	307,461	-	-	0.7	1.000	11	4,276,236	0.3
Leukemia	Total	35	615,622	5.7	6.7	38.2	0.681	630	8,595,772	7.3
Leukemia	Male	22	308,161	7.1	8.6	22.2	1.000	375	4,319,536	8.7
Leukemia	Female	13	307,461	4.2	4.9	15.8	0.586	255	4,276,236	6.0
Liver and Bile Duct	Total	31	615,622	5.0	6.1	35.9	0.466	604	8,595,772	7.0
Liver and Bile Duct	Male	15	308,161	4.9	5.9	23.9	0.072	408	4,319,536	9.4
Liver and Bile Duct	Female	16	307,461	5.2	6.2	11.9	0.295	196	4,276,236	4.6
Lung and Bronchus	Total	137	615,622	22.3	26.9	165.9	0.024 <<	2,800	8,595,772	32.6
Lung and Bronchus	Male	79	308,161	25.6	31.6	84.5	0.596	1,462	4,319,536	33.8
Lung and Bronchus	Female	58	307,461	18.9	22.4	81.0	0.009 <<	1,338	4,276,236	31.3
Melanoma of the Skin	Total	18	615,622	2.9	3.5	17.2	0.903	283	8,595,772	3.3
Melanoma of the Skin	Male	12	308,161	3.9	4.7	11.2	0.882	188	4,319,536	4.4
Melanoma of the Skin	Female	6	307,461	2.0	2.3	5.9	1.000	95	4,276,236	2.2
Myeloma	Total	22	615,622	3.6	4.3	18.0	0.407	303	8,595,772	3.5
Myeloma	Male	12	308,161	3.9	4.8	10.2	0.656	176	4,319,536	4.1
Myeloma	Female	10	307,461	3.3	3.8	7.7	0.504	127	4,276,236	3.0
Non-Hodgkin Lymphoma	Total	38	615,622	6.2	7.4	31.9	0.317	530	8,595,772	6.2
Non-Hodgkin Lymphoma	Male	17	308,161	5.5	6.7	17.2	1.000	293	4,319,536	6.8
Non-Hodgkin Lymphoma	Female	21	307,461	6.8	8.0	14.5	0.129	237	4,276,236	5.5
Oral Cavity and Pharynx	Total	13	615,622	2.1	2.5	15.6	0.615	262	8,595,772	3.0
Oral Cavity and Pharynx	Male	8	308,161	2.6	3.2	10.7	0.513	184	4,319,536	4.3
Oral Cavity and Pharynx	Female	5	307,461	1.6	1.9	4.7	1.000	78	4,276,236	1.8
Ovary	Female	25	307,461	8.1	9.6	20.4	0.358	336	4,276,236	7.9
Pancreas	Total	51	615,622	8.3	10.0	67.8	0.041 <<	1,139	8,595,772	13.3
Pancreas	Male	25	308,161	8.1	10.0	36.4	0.061	625	4,319,536	14.5
Pancreas	Female	26	307,461	8.5	10.0	31.2	0.401	514	4,276,236	12.0
Prostate	Male	49	308,161	15.9	19.4	55.3	0.437	948	4,319,536	21.9
Stomach	Total	8	615,622	1.3	1.5	11.4	0.401	186	8,595,772	2.2
Stomach	Male	8	308,161	2.6	3.1	6.6	0.672	111	4,319,536	2.6
Stomach	Female	-	307,461	-	-	4.7	0.018 <<	75	4,276,236	1.8

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	Bonneville County
<u>Access to Care</u>									
Have Health Insurance, Age < 65 (2021–2022)	90.0%	89.3%	87.8%	86.4%	92.6%	87.2%	89.1%	92.6%	93.9%
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%	12.2%
<u>Cancer Screening</u>									
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%	63.0%
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%	68.4%
Colorectal Cancer Screening, Age 45–75 (2022)	63.3%	61.0%	62.5%	60.8%	67.2%	65.0%	60.4%	60.2%	64.3%
<u>Tobacco Use</u>									
Current Tobacco User (2020–2022)	22.1%	24.3%	20.4%	24.8%	21.3%	22.5%	22.6%	18.1%	21.7%
<u>Other Cancer-Related</u>									
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%	28.4%
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%	79.0%
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%	21.0%
Home Ever Tested for Radon (2016, 2018, 2020)	22.9%	30.8%	18.3%	16.9%	25.2%	20.1%	23.0%	21.0%	21.9%

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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BOUNDARY 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 436 cases of invasive cancer were diagnosed among Boundary County residents (Table 1).

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

Cancer Incidence 2017–2021	Boundary County	State of Idaho
All Sites/Types	436	47,333
Female Breast	57	6,943
Prostate	57	6,766
Lung & Bronchus	51	4,959
Colorectal	46	3,632

Table 3 (*Cancer Incidence 2017–2021, Comparison between Boundary 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 Boundary 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 Boundary County was 706.7 cases per 100,000 person-years per year during 2017–2021. Comparing this crude rate with the crude rate for the remainder of Idaho (525.1) gives an estimate of the relative burden of disease in Boundary County.

The age- and sex-adjusted incidence rate of invasive cancer in Boundary County, all sites combined, was 545.8 cases per 100,000 persons per year during 2017–2021. There were more cases of cancer in Boundary County (436) than expected (419.5) 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 154 Boundary 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 Boundary County and the State of Idaho, 2018–2022

Mortality 2018–2022	Boundary County	State of Idaho
All Deaths	692	80,538
Cancer Deaths	154	15,233
% of All Deaths	22.3%	18.9%
Lung & Bronchus	34	2,937
Colorectal	16	1,332
Pancreas	4	1,190
Female Breast	10	1,111
Prostate	16	997

Table 4 (*Cancer Mortality 2018–2022, Comparison between Boundary 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 Boundary 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 Boundary County, all sites combined, was 181.1 deaths per 100,000 persons per year during 2018–2022, compared with 164.8 for the remainder of the state. There were more cancer deaths in Boundary County (154) than expected (140.2) 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 BOUNDARY COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cancer Site/Type	Sex	Boundary 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	436	61,699	706.7	545.8	419.5	0.433	46,897	8,930,407	525.1
All Sites Combined	Male	238	31,115	764.9	565.8	235.0	0.860	25,032	4,481,158	558.6
All Sites Combined	Female	198	30,584	647.4	520.2	187.0	0.441	21,865	4,449,249	491.4
Bladder	Total	15	61,699	24.3	17.9	20.7	0.244	2,205	8,930,407	24.7
Bladder	Male	14	31,115	45.0	32.0	17.2	0.532	1,759	4,481,158	39.3
Bladder	Female	1	30,584	3.3	2.5	4.0	0.178	446	4,449,249	10.0
Brain - malignant	Total	7	61,699	11.3	9.5	5.4	0.583	650	8,930,407	7.3
Brain - malignant	Male	3	31,115	9.6	8.0	3.2	1.000	379	4,481,158	8.5
Brain - malignant	Female	4	30,584	13.1	11.0	2.2	0.370	271	4,449,249	6.1
Brain and other CNS - non-malignant	Total	13	61,699	21.1	17.0	13.1	1.000	1,534	8,930,407	17.2
Brain and other CNS - non-malignant	Male	4	31,115	12.9	10.4	4.3	1.000	496	4,481,158	11.1
Brain and other CNS - non-malignant	Female	9	30,584	29.4	24.1	8.7	1.000	1,038	4,449,249	23.3
Breast	Total	57	61,699	92.4	73.3	60.5	0.711	6,951	8,930,407	77.8
Breast	Male	-	31,115	-	-	0.6	1.000	65	4,481,158	1.5
Breast	Female	57	30,584	186.4	150.9	58.5	0.916	6,886	4,449,249	154.8
Breast - in situ	Total	7	61,699	11.3	9.1	11.8	0.200	1,362	8,930,407	15.3
Breast - in situ	Male	-	31,115	-	-	0.0	1.000	4	4,481,158	0.1
Breast - in situ	Female	7	30,584	22.9	18.7	11.5	0.233	1,358	4,449,249	30.5
Cervix	Female	2	30,584	6.5	6.3	2.1	1.000	292	4,449,249	6.6
Colorectal	Total	46	61,699	74.6	58.2	31.7	0.020 >>	3,586	8,930,407	40.2
Colorectal	Male	26	31,115	83.6	64.0	17.7	0.076	1,951	4,481,158	43.5
Colorectal	Female	20	30,584	65.4	52.1	14.1	0.162	1,635	4,449,249	36.7
Corpus Uteri	Female	12	30,584	39.2	31.2	11.6	0.984	1,342	4,449,249	30.2
Esophagus	Total	4	61,699	6.5	4.9	4.6	1.000	503	8,930,407	5.6
Esophagus	Male	3	31,115	9.6	7.0	4.1	0.844	426	4,481,158	9.5
Esophagus	Female	1	30,584	3.3	2.5	0.7	0.991	77	4,449,249	1.7
Hodgkin Lymphoma	Total	1	61,699	1.6	1.6	1.6	1.000	221	8,930,407	2.5
Hodgkin Lymphoma	Male	1	31,115	3.2	3.0	1.0	1.000	128	4,481,158	2.9
Hodgkin Lymphoma	Female	-	30,584	-	-	0.6	1.000	93	4,449,249	2.1
Kidney and Renal Pelvis	Total	13	61,699	21.1	16.4	17.2	0.382	1,938	8,930,407	21.7
Kidney and Renal Pelvis	Male	9	31,115	28.9	22.1	11.8	0.517	1,301	4,481,158	29.0
Kidney and Renal Pelvis	Female	4	30,584	13.1	10.4	5.5	0.721	637	4,449,249	14.3
Larynx	Total	4	61,699	6.5	4.9	2.0	0.276	216	8,930,407	2.4
Larynx	Male	2	31,115	6.4	4.8	1.5	0.916	165	4,481,158	3.7
Larynx	Female	2	30,584	6.5	5.1	0.5	0.153	51	4,449,249	1.1
Leukemia	Total	19	61,699	30.8	24.0	15.2	0.384	1,708	8,930,407	19.1
Leukemia	Male	12	31,115	38.6	29.3	9.4	0.469	1,024	4,481,158	22.9
Leukemia	Female	7	30,584	22.9	18.2	5.9	0.754	684	4,449,249	15.4
Liver and Bile Duct	Total	3	61,699	4.9	3.6	7.8	0.100	840	8,930,407	9.4
Liver and Bile Duct	Male	1	31,115	3.2	2.3	5.6	0.047 <<	593	4,481,158	13.2
Liver and Bile Duct	Female	2	30,584	6.5	5.0	2.2	1.000	247	4,449,249	5.6
Lung and Bronchus	Total	51	61,699	82.7	60.7	46.2	0.514	4,908	8,930,407	55.0
Lung and Bronchus	Male	32	31,115	102.8	72.7	24.2	0.147	2,463	4,481,158	55.0
Lung and Bronchus	Female	19	30,584	62.1	47.3	22.1	0.599	2,445	4,449,249	55.0
Melanoma of the Skin	Total	31	61,699	50.2	40.1	27.0	0.485	3,113	8,930,407	34.9
Melanoma of the Skin	Male	14	31,115	45.0	34.3	17.2	0.537	1,881	4,481,158	42.0
Melanoma of the Skin	Female	17	30,584	55.6	46.7	10.1	0.057	1,232	4,449,249	27.7
Myeloma	Total	10	61,699	16.2	12.1	6.6	0.266	718	8,930,407	8.0
Myeloma	Male	8	31,115	25.7	18.8	4.2	0.125	439	4,481,158	9.8
Myeloma	Female	2	30,584	6.5	5.0	2.5	1.000	279	4,449,249	6.3
Non-Hodgkin Lymphoma	Total	22	61,699	35.7	27.7	17.5	0.342	1,970	8,930,407	22.1
Non-Hodgkin Lymphoma	Male	15	31,115	48.2	36.6	10.3	0.205	1,131	4,481,158	25.2
Non-Hodgkin Lymphoma	Female	7	30,584	22.9	18.0	7.3	1.000	839	4,449,249	18.9
Oral Cavity and Pharynx	Total	11	61,699	17.8	13.7	11.8	0.980	1,304	8,930,407	14.6
Oral Cavity and Pharynx	Male	8	31,115	25.7	19.3	8.6	1.000	932	4,481,158	20.8
Oral Cavity and Pharynx	Female	3	30,584	9.8	7.7	3.3	1.000	372	4,449,249	8.4
Ovary	Female	5	30,584	16.3	13.2	4.7	0.993	548	4,449,249	12.3
Pancreas	Total	9	61,699	14.6	10.9	13.7	0.252	1,479	8,930,407	16.6
Pancreas	Male	7	31,115	22.5	16.4	7.8	0.958	819	4,481,158	18.3
Pancreas	Female	2	30,584	6.5	5.0	5.9	0.132	660	4,449,249	14.8
Prostate	Male	57	31,115	183.2	130.6	65.3	0.332	6,709	4,481,158	149.7
Stomach	Total	6	61,699	9.7	7.5	4.2	0.498	468	8,930,407	5.2
Stomach	Male	3	31,115	9.6	7.1	2.9	1.000	304	4,481,158	6.8
Stomach	Female	3	30,584	9.8	7.8	1.4	0.340	164	4,449,249	3.7
Testis	Male	2	31,115	6.4	7.6	1.6	0.944	272	4,481,158	6.1
Thyroid	Total	7	61,699	11.3	10.6	8.7	0.717	1,178	8,930,407	13.2
Thyroid	Male	3	31,115	9.6	8.3	3.0	1.000	369	4,481,158	8.2
Thyroid	Female	4	30,584	13.1	12.7	5.7	0.643	809	4,449,249	18.2
Pediatric Age 0 to 19	Total	5	15,725	31.8	31.7	2.7	0.266	420	2,483,599	16.9
Pediatric Age 0 to 19	Male	3	8,242	36.4	36.2	1.4	0.324	211	1,266,079	16.7
Pediatric Age 0 to 19	Female	2	7,483	26.7	26.6	1.3	0.741	209	1,217,520	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 BOUNDARY COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cause of Death Cancer Site/Type	Sex	Boundary 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	692	63,049	1,097.6	821.6	735.1	0.114	79,843	9,148,345	872.8
All Causes of Death	Male	378	31,845	1,187.0	898.4	388.2	0.625	42,408	4,595,852	922.7
All Causes of Death	Female	314	31,204	1,006.3	739.1	349.3	0.059	37,435	4,552,493	822.3
All Malignant Cancers	Total	154	63,049	244.3	181.1	140.2	0.261	15,079	9,148,345	164.8
All Malignant Cancers	Male	84	31,845	263.8	191.8	77.7	0.501	8,151	4,595,852	177.4
All Malignant Cancers	Female	70	31,204	224.3	169.4	62.9	0.400	6,928	4,552,493	152.2
Bladder	Total	3	63,049	4.8	3.4	4.6	0.642	482	9,148,345	5.3
Bladder	Male	3	31,845	9.4	6.8	3.6	1.000	372	4,595,852	8.1
Bladder	Female	-	31,204	-	-	1.0	0.706	110	4,552,493	2.4
Brain and Other Nervous System	Total	5	63,049	7.9	6.3	4.5	0.929	513	9,148,345	5.6
Brain and Other Nervous System	Male	2	31,845	6.3	4.9	2.6	1.000	287	4,595,852	6.2
Brain and Other Nervous System	Female	3	31,204	9.6	7.6	2.0	0.622	226	4,552,493	5.0
Breast	Total	10	63,049	15.9	12.0	10.1	1.000	1,114	9,148,345	12.2
Breast	Male	-	31,845	-	-	0.1	1.000	13	4,595,852	0.3
Breast	Female	10	31,204	32.0	24.4	9.9	1.000	1,101	4,552,493	24.2
Cervix	Female	1	31,204	3.2	2.8	0.7	0.993	87	4,552,493	1.9
Colorectal	Total	16	63,049	25.4	19.2	12.0	0.310	1,316	9,148,345	14.4
Colorectal	Male	6	31,845	18.8	14.2	6.7	0.999	726	4,595,852	15.8
Colorectal	Female	10	31,204	32.0	24.1	5.4	0.094	590	4,552,493	13.0
Corpus Uteri	Female	1	31,204	3.2	2.4	1.5	1.000	168	4,552,493	3.7
Esophagus	Total	3	63,049	4.8	3.5	4.3	0.771	458	9,148,345	5.0
Esophagus	Male	2	31,845	6.3	4.6	3.7	0.565	389	4,595,852	8.5
Esophagus	Female	1	31,204	3.2	2.4	0.6	0.925	69	4,552,493	1.5
Hodgkin Lymphoma	Total	1	63,049	1.6	1.2	0.2	0.392	24	9,148,345	0.3
Hodgkin Lymphoma	Male	1	31,845	3.1	2.3	0.1	0.230	13	4,595,852	0.3
Hodgkin Lymphoma	Female	-	31,204	-	-	0.1	1.000	11	4,552,493	0.2
Kidney	Total	5	63,049	7.9	5.8	3.6	0.589	381	9,148,345	4.2
Kidney	Male	4	31,845	12.6	9.1	2.3	0.408	242	4,595,852	5.3
Kidney	Female	1	31,204	3.2	2.3	1.3	1.000	139	4,552,493	3.1
Larynx	Total	-	63,049	-	-	0.7	0.990	76	9,148,345	0.8
Larynx	Male	-	31,845	-	-	0.6	1.000	65	4,595,852	1.4
Larynx	Female	-	31,204	-	-	0.1	1.000	11	4,552,493	0.2
Leukemia	Total	6	63,049	9.5	7.1	6.1	1.000	659	9,148,345	7.2
Leukemia	Male	4	31,845	12.6	9.2	3.7	1.000	393	4,595,852	8.6
Leukemia	Female	2	31,204	6.4	4.9	2.4	1.000	266	4,552,493	5.8
Liver and Bile Duct	Total	3	63,049	4.8	3.5	5.9	0.324	632	9,148,345	6.9
Liver and Bile Duct	Male	-	31,845	-	-	4.1	0.035 <<	423	4,595,852	9.2
Liver and Bile Duct	Female	3	31,204	9.6	7.3	1.9	0.585	209	4,552,493	4.6
Lung and Bronchus	Total	34	63,049	53.9	39.4	27.4	0.248	2,903	9,148,345	31.7
Lung and Bronchus	Male	23	31,845	72.2	51.4	14.8	0.057	1,518	4,595,852	33.0
Lung and Bronchus	Female	11	31,204	35.3	26.3	12.7	0.769	1,385	4,552,493	30.4
Melanoma of the Skin	Total	1	63,049	1.6	1.2	2.7	0.494	300	9,148,345	3.3
Melanoma of the Skin	Male	1	31,845	3.1	2.4	1.8	0.902	199	4,595,852	4.3
Melanoma of the Skin	Female	-	31,204	-	-	0.9	0.822	101	4,552,493	2.2
Myeloma	Total	2	63,049	3.2	2.3	3.1	0.819	323	9,148,345	3.5
Myeloma	Male	1	31,845	3.1	2.2	1.8	0.912	187	4,595,852	4.1
Myeloma	Female	1	31,204	3.2	2.4	1.2	1.000	136	4,552,493	3.0
Non-Hodgkin Lymphoma	Total	11	63,049	17.4	12.9	5.2	0.035 >>	557	9,148,345	6.1
Non-Hodgkin Lymphoma	Male	7	31,845	22.0	16.0	2.9	0.055	303	4,595,852	6.6
Non-Hodgkin Lymphoma	Female	4	31,204	12.8	9.5	2.4	0.422	254	4,552,493	5.6
Oral Cavity and Pharynx	Total	2	63,049	3.2	2.4	2.5	1.000	273	9,148,345	3.0
Oral Cavity and Pharynx	Male	1	31,845	3.1	2.3	1.8	0.913	191	4,595,852	4.2
Oral Cavity and Pharynx	Female	1	31,204	3.2	2.4	0.7	1.000	82	4,552,493	1.8
Ovary	Female	7	31,204	22.4	17.0	3.2	0.090	354	4,552,493	7.8
Pancreas	Total	4	63,049	6.3	4.7	11.1	0.028 <<	1,186	9,148,345	13.0
Pancreas	Male	4	31,845	12.6	9.0	6.2	0.514	646	4,595,852	14.1
Pancreas	Female	-	31,204	-	-	4.9	0.015 <<	540	4,552,493	11.9
Prostate	Male	16	31,845	50.2	35.9	9.5	0.068	981	4,595,852	21.3
Stomach	Total	3	63,049	4.8	3.7	1.7	0.487	191	9,148,345	2.1
Stomach	Male	1	31,845	3.1	2.4	1.1	1.000	118	4,595,852	2.6
Stomach	Female	2	31,204	6.4	5.1	0.6	0.259	73	4,552,493	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	Boundary County
<u>Access to Care</u>									
Have Health Insurance, Age < 65 (2021–2022)	90.0%	89.3%	87.8%	86.4%	92.6%	87.2%	89.1%	92.6%	.
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%	3.3%
<u>Cancer Screening</u>									
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%	45.8%
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%	.
Colorectal Cancer Screening, Age 45–75 (2022)	63.3%	61.0%	62.5%	60.8%	67.2%	65.0%	60.4%	60.2%	.
<u>Tobacco Use</u>									
Current Tobacco User (2020–2022)	22.1%	24.3%	20.4%	24.8%	21.3%	22.5%	22.6%	18.1%	19.1%
<u>Other Cancer-Related</u>									
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%	27.5%
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%	79.4%
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%	21.0%
Home Ever Tested for Radon (2016, 2018, 2020)	22.9%	30.8%	18.3%	16.9%	25.2%	20.1%	23.0%	21.0%	17.1%

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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BUTTE 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 91 cases of invasive cancer were diagnosed among Butte County residents (Table 1).

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

Cancer Incidence 2017–2021	Butte County	State of Idaho
All Sites/Types	91	47,333
Female Breast	10	6,943
Prostate	7	6,766
Lung & Bronchus	17	4,959
Colorectal	8	3,632

Table 3 (*Cancer Incidence 2017–2021, Comparison between Butte 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 Butte 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 Butte County was 695.2 cases per 100,000 person-years per year during 2017–2021. Comparing this crude rate with the crude rate for the remainder of Idaho (526.1) gives an estimate of the relative burden of disease in Butte County.

The age- and sex-adjusted incidence rate of invasive cancer in Butte County, all sites combined, was 511.2 cases per 100,000 persons per year during 2017–2021. There were fewer cases of cancer in Butte County (91) than expected (93.7) 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 36 Butte 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 Butte County and the State of Idaho, 2018–2022

Mortality 2018–2022	Butte County	State of Idaho
All Deaths	188	80,538
Cancer Deaths	36	15,233
% of All Deaths	19.1%	18.9%
Lung & Bronchus	11	2,937
Colorectal	3	1,332
Pancreas	0	1,190
Female Breast	3	1,111
Prostate	0	997

Table 4 (*Cancer Mortality 2018–2022, Comparison between Butte 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 Butte 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 Butte County, all sites combined, was 186.7 deaths per 100,000 persons per year during 2018–2022, compared with 165.2 for the remainder of the state. There were more cancer deaths in Butte County (36) than expected (31.9) 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 BUTTE COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cancer Site/Type	Sex	Butte 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	91	13,090	695.2	511.2	93.7	0.837	47,242	8,979,016	526.1
All Sites Combined	Male	50	6,657	751.1	515.9	54.2	0.623	25,220	4,505,616	559.7
All Sites Combined	Female	41	6,433	637.3	500.1	40.4	0.961	22,022	4,473,400	492.3
Bladder	Total	4	13,090	30.6	20.7	4.8	0.960	2,216	8,979,016	24.7
Bladder	Male	4	6,657	60.1	38.3	4.1	1.000	1,769	4,505,616	39.3
Bladder	Female	-	6,433	-	-	0.9	0.820	447	4,473,400	10.0
Brain - malignant	Total	3	13,090	22.9	18.5	1.2	0.233	654	8,979,016	7.3
Brain - malignant	Male	1	6,657	15.0	11.9	0.7	1.000	381	4,505,616	8.5
Brain - malignant	Female	2	6,433	31.1	25.3	0.5	0.170	273	4,473,400	6.1
Brain and other CNS - non-malignant	Total	3	13,090	22.9	17.7	2.9	1.000	1,544	8,979,016	17.2
Brain and other CNS - non-malignant	Male	1	6,657	15.0	11.3	1.0	1.000	499	4,505,616	11.1
Brain and other CNS - non-malignant	Female	2	6,433	31.1	24.7	1.9	1.000	1,045	4,473,400	23.4
Breast	Total	10	13,090	76.4	58.9	13.2	0.466	6,998	8,979,016	77.9
Breast	Male	-	6,657	-	-	0.1	1.000	65	4,505,616	1.4
Breast	Female	10	6,433	155.4	125.2	12.4	0.617	6,933	4,473,400	155.0
Breast - in situ	Total	3	13,090	22.9	18.2	2.5	0.915	1,366	8,979,016	15.2
Breast - in situ	Male	-	6,657	-	-	0.0	1.000	4	4,505,616	0.1
Breast - in situ	Female	3	6,433	46.6	38.7	2.4	0.840	1,362	4,473,400	30.4
Cervix	Female	1	6,433	15.5	15.4	0.4	0.693	293	4,473,400	6.5
Colorectal	Total	8	13,090	61.1	45.4	7.1	0.834	3,624	8,979,016	40.4
Colorectal	Male	4	6,657	60.1	43.3	4.0	1.000	1,973	4,505,616	43.8
Colorectal	Female	4	6,433	62.2	47.5	3.1	0.753	1,651	4,473,400	36.9
Corpus Uteri	Female	2	6,433	31.1	24.6	2.5	1.000	1,352	4,473,400	30.2
Esophagus	Total	1	13,090	7.6	5.4	1.0	1.000	506	8,979,016	5.6
Esophagus	Male	1	6,657	15.0	10.2	0.9	1.000	428	4,505,616	9.5
Esophagus	Female	-	6,433	-	-	0.2	1.000	78	4,473,400	1.7
Hodgkin Lymphoma	Total	-	13,090	-	-	0.3	1.000	222	8,979,016	2.5
Hodgkin Lymphoma	Male	-	6,657	-	-	0.2	1.000	129	4,505,616	2.9
Hodgkin Lymphoma	Female	-	6,433	-	-	0.1	1.000	93	4,473,400	2.1
Kidney and Renal Pelvis	Total	3	13,090	22.9	17.1	3.8	0.946	1,948	8,979,016	21.7
Kidney and Renal Pelvis	Male	2	6,657	30.0	21.5	2.7	0.985	1,308	4,505,616	29.0
Kidney and Renal Pelvis	Female	1	6,433	15.5	12.1	1.2	1.000	640	4,473,400	14.3
Larynx	Total	-	13,090	-	-	0.5	1.000	220	8,979,016	2.5
Larynx	Male	-	6,657	-	-	0.4	1.000	167	4,505,616	3.7
Larynx	Female	-	6,433	-	-	0.1	1.000	53	4,473,400	1.2
Leukemia	Total	5	13,090	38.2	28.0	3.4	0.521	1,722	8,979,016	19.2
Leukemia	Male	2	6,657	30.0	21.0	2.2	1.000	1,034	4,505,616	22.9
Leukemia	Female	3	6,433	46.6	35.8	1.3	0.281	688	4,473,400	15.4
Liver and Bile Duct	Total	1	13,090	7.6	5.5	1.7	0.981	842	8,979,016	9.4
Liver and Bile Duct	Male	1	6,657	15.0	10.3	1.3	1.000	593	4,505,616	13.2
Liver and Bile Duct	Female	-	6,433	-	-	0.5	1.000	249	4,473,400	5.6
Lung and Bronchus	Total	17	13,090	129.9	88.5	10.6	0.083	4,942	8,979,016	55.0
Lung and Bronchus	Male	10	6,657	150.2	96.1	5.7	0.134	2,485	4,505,616	55.2
Lung and Bronchus	Female	7	6,433	108.8	78.7	4.9	0.443	2,457	4,473,400	54.9
Melanoma of the Skin	Total	9	13,090	68.8	52.4	6.0	0.305	3,135	8,979,016	34.9
Melanoma of the Skin	Male	5	6,657	75.1	52.9	4.0	0.728	1,890	4,505,616	41.9
Melanoma of the Skin	Female	4	6,433	62.2	51.7	2.2	0.343	1,245	4,473,400	27.8
Myeloma	Total	5	13,090	38.2	26.8	1.5	0.037 >>	723	8,979,016	8.1
Myeloma	Male	4	6,657	60.1	40.1	1.0	0.036 >>	443	4,505,616	9.8
Myeloma	Female	1	6,433	15.5	11.5	0.5	0.840	280	4,473,400	6.3
Non-Hodgkin Lymphoma	Total	3	13,090	22.9	16.9	3.9	0.890	1,989	8,979,016	22.2
Non-Hodgkin Lymphoma	Male	1	6,657	15.0	10.6	2.4	0.620	1,145	4,505,616	25.4
Non-Hodgkin Lymphoma	Female	2	6,433	31.1	23.5	1.6	0.953	844	4,473,400	18.9
Oral Cavity and Pharynx	Total	3	13,090	22.9	17.0	2.6	0.952	1,312	8,979,016	14.6
Oral Cavity and Pharynx	Male	3	6,657	45.1	32.4	1.9	0.606	937	4,505,616	20.8
Oral Cavity and Pharynx	Female	-	6,433	-	-	0.7	0.988	375	4,473,400	8.4
Ovary	Female	2	6,433	31.1	24.9	1.0	0.522	551	4,473,400	12.3
Pancreas	Total	-	13,090	-	-	3.1	0.088	1,488	8,979,016	16.6
Pancreas	Male	-	6,657	-	-	1.8	0.315	826	4,505,616	18.3
Pancreas	Female	-	6,433	-	-	1.3	0.543	662	4,473,400	14.8
Prostate	Male	7	6,657	105.2	70.5	14.9	0.038 <<	6,759	4,505,616	150.0
Stomach	Total	1	13,090	7.6	5.5	1.0	1.000	473	8,979,016	5.3
Stomach	Male	-	6,657	-	-	0.7	1.000	307	4,505,616	6.8
Stomach	Female	1	6,433	15.5	11.8	0.3	0.539	166	4,473,400	3.7
Testis	Male	-	6,657	-	-	0.3	1.000	274	4,505,616	6.1
Thyroid	Total	1	13,090	7.6	7.2	1.8	0.900	1,184	8,979,016	13.2
Thyroid	Male	1	6,657	15.0	12.3	0.7	0.976	371	4,505,616	8.2
Thyroid	Female	-	6,433	-	-	1.2	0.619	813	4,473,400	18.2
Pediatric Age 0 to 19	Total	1	3,383	29.6	30.0	0.6	0.865	424	2,495,941	17.0
Pediatric Age 0 to 19	Male	-	1,727	-	-	0.3	1.000	214	1,272,594	16.8
Pediatric Age 0 to 19	Female	1	1,656	60.4	61.9	0.3	0.485	210	1,223,347	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 BUTTE COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cause of Death Cancer Site/Type	Sex	Butte 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	188	13,192	1,425.1	977.8	168.0	0.135	80,347	9,198,202	873.5
All Causes of Death	Male	115	6,696	1,717.4	1,169.4	90.8	0.016 >>	42,671	4,621,001	923.4
All Causes of Death	Female	73	6,496	1,123.8	766.8	78.4	0.592	37,676	4,577,201	823.1
All Malignant Cancers	Total	36	13,192	272.9	186.7	31.9	0.507	15,197	9,198,202	165.2
All Malignant Cancers	Male	22	6,696	328.6	214.3	18.2	0.436	8,213	4,621,001	177.7
All Malignant Cancers	Female	14	6,496	215.5	154.3	13.8	1.000	6,984	4,577,201	152.6
Bladder	Total	3	13,192	22.7	14.7	1.1	0.187	482	9,198,202	5.2
Bladder	Male	3	6,696	44.8	28.4	0.9	0.110	372	4,621,001	8.1
Bladder	Female	-	6,496	-	-	0.2	1.000	110	4,577,201	2.4
Brain and Other Nervous System	Total	1	13,192	7.6	5.7	1.0	1.000	517	9,198,202	5.6
Brain and Other Nervous System	Male	1	6,696	14.9	10.9	0.6	0.873	288	4,621,001	6.2
Brain and Other Nervous System	Female	-	6,496	-	-	0.4	1.000	229	4,577,201	5.0
Breast	Total	3	13,192	22.7	16.1	2.3	0.792	1,121	9,198,202	12.2
Breast	Male	-	6,696	-	-	0.0	1.000	13	4,621,001	0.3
Breast	Female	3	6,496	46.2	33.8	2.1	0.727	1,108	4,577,201	24.2
Cervix	Female	-	6,496	-	-	0.1	1.000	88	4,577,201	1.9
Colorectal	Total	3	13,192	22.7	16.1	2.7	1.000	1,329	9,198,202	14.4
Colorectal	Male	2	6,696	29.9	20.7	1.5	0.903	730	4,621,001	15.8
Colorectal	Female	1	6,496	15.4	11.0	1.2	1.000	599	4,577,201	13.1
Corpus Uteri	Female	-	6,496	-	-	0.3	1.000	169	4,577,201	3.7
Esophagus	Total	-	13,192	-	-	1.0	0.767	461	9,198,202	5.0
Esophagus	Male	-	6,696	-	-	0.9	0.846	391	4,621,001	8.5
Esophagus	Female	-	6,496	-	-	0.1	1.000	70	4,577,201	1.5
Hodgkin Lymphoma	Total	-	13,192	-	-	0.1	1.000	25	9,198,202	0.3
Hodgkin Lymphoma	Male	-	6,696	-	-	0.0	1.000	14	4,621,001	0.3
Hodgkin Lymphoma	Female	-	6,496	-	-	0.0	1.000	11	4,577,201	0.2
Kidney	Total	1	13,192	7.6	5.1	0.8	1.000	385	9,198,202	4.2
Kidney	Male	1	6,696	14.9	9.7	0.5	0.842	245	4,621,001	5.3
Kidney	Female	-	6,496	-	-	0.3	1.000	140	4,577,201	3.1
Larynx	Total	-	13,192	-	-	0.2	1.000	76	9,198,202	0.8
Larynx	Male	-	6,696	-	-	0.1	1.000	65	4,621,001	1.4
Larynx	Female	-	6,496	-	-	0.0	1.000	11	4,577,201	0.2
Leukemia	Total	2	13,192	15.2	10.2	1.4	0.822	663	9,198,202	7.2
Leukemia	Male	-	6,696	-	-	0.9	0.822	397	4,621,001	8.6
Leukemia	Female	2	6,496	30.8	21.8	0.5	0.201	266	4,577,201	5.8
Liver and Bile Duct	Total	3	13,192	22.7	15.8	1.3	0.286	632	9,198,202	6.9
Liver and Bile Duct	Male	3	6,696	44.8	29.9	0.9	0.130	420	4,621,001	9.1
Liver and Bile Duct	Female	-	6,496	-	-	0.4	1.000	212	4,577,201	4.6
Lung and Bronchus	Total	11	13,192	83.4	55.9	6.3	0.108	2,926	9,198,202	31.8
Lung and Bronchus	Male	7	6,696	104.5	66.5	3.5	0.130	1,534	4,621,001	33.2
Lung and Bronchus	Female	4	6,496	61.6	43.4	2.8	0.618	1,392	4,577,201	30.4
Melanoma of the Skin	Total	1	13,192	7.6	5.3	0.6	0.915	300	9,198,202	3.3
Melanoma of the Skin	Male	-	6,696	-	-	0.4	1.000	200	4,621,001	4.3
Melanoma of the Skin	Female	1	6,496	15.4	11.3	0.2	0.351	100	4,577,201	2.2
Myeloma	Total	1	13,192	7.6	5.0	0.7	1.000	324	9,198,202	3.5
Myeloma	Male	1	6,696	14.9	9.4	0.4	0.698	187	4,621,001	4.0
Myeloma	Female	-	6,496	-	-	0.3	1.000	137	4,577,201	3.0
Non-Hodgkin Lymphoma	Total	2	13,192	15.2	10.2	1.2	0.682	566	9,198,202	6.2
Non-Hodgkin Lymphoma	Male	1	6,696	14.9	9.7	0.7	0.995	309	4,621,001	6.7
Non-Hodgkin Lymphoma	Female	1	6,496	15.4	10.4	0.5	0.832	257	4,577,201	5.6
Oral Cavity and Pharynx	Total	-	13,192	-	-	0.6	1.000	275	9,198,202	3.0
Oral Cavity and Pharynx	Male	-	6,696	-	-	0.4	1.000	192	4,621,001	4.2
Oral Cavity and Pharynx	Female	-	6,496	-	-	0.2	1.000	83	4,577,201	1.8
Ovary	Female	1	6,496	15.4	11.1	0.7	1.000	360	4,577,201	7.9
Pancreas	Total	-	13,192	-	-	2.5	0.164	1,190	9,198,202	12.9
Pancreas	Male	-	6,696	-	-	1.5	0.466	650	4,621,001	14.1
Pancreas	Female	-	6,496	-	-	1.1	0.685	540	4,577,201	11.8
Prostate	Male	-	6,696	-	-	2.3	0.198	997	4,621,001	21.6
Stomach	Total	-	13,192	-	-	0.4	1.000	194	9,198,202	2.1
Stomach	Male	-	6,696	-	-	0.3	1.000	119	4,621,001	2.6
Stomach	Female	-	6,496	-	-	0.1	1.000	75	4,577,201	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	Butte 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%	.
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%	10.8%
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%	.
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%	.
Colorectal Cancer Screening, Age 45–75 (2022)	63.3%	61.0%	62.5%	60.8%	67.2%	65.0%	60.4%	60.2%	.
Tobacco Use									
Current Tobacco User (2020–2022)	22.1%	24.3%	20.4%	24.8%	21.3%	22.5%	22.6%	18.1%	19.9%
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%	31.9%
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%	76.2%
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%	17.3%
Home Ever Tested for Radon (2016, 2018, 2020)	22.9%	30.8%	18.3%	16.9%	25.2%	20.1%	23.0%	21.0%	40.2%

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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CAMAS 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 28 cases of invasive cancer were diagnosed among Camas County residents (Table 1).

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

Cancer Incidence 2017–2021	Camas County	State of Idaho
All Sites/Types	28	47,333
Female Breast	1	6,943
Prostate	7	6,766
Lung & Bronchus	5	4,959
Colorectal	2	3,632

Table 3 (*Cancer Incidence 2017–2021, Comparison between Camas 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 Camas 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 Camas County was 505.4 cases per 100,000 person-years per year during 2017–2021. Comparing this crude rate with the crude rate for the remainder of Idaho (526.4) gives an estimate of the relative burden of disease in Camas County.

The age- and sex-adjusted incidence rate of invasive cancer in Camas County, all sites combined, was 383.1 cases per 100,000 persons per year during 2017–2021. There were fewer cases of cancer in Camas County (28) than expected (38.5) 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 13 Camas 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 Camas County and the State of Idaho, 2018–2022

Mortality 2018–2022	Camas County	State of Idaho
All Deaths	51	80,538
Cancer Deaths	13	15,233
% of All Deaths	25.5%	18.9%
Lung & Bronchus	3	2,937
Colorectal	1	1,332
Pancreas	0	1,190
Female Breast	0	1,111
Prostate	3	997

Table 4 (*Cancer Mortality 2018–2022, Comparison between Camas 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 Camas 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 Camas County, all sites combined, was 177.6 deaths per 100,000 persons per year during 2018–2022, compared with 165.3 for the remainder of the state. There were more cancer deaths in Camas County (13) than expected (12.1) 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 CAMAS COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cancer Site/Type	Sex	Camas 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	28	5,540	505.4	383.1	38.5	0.097	47,305	8,986,566	526.4
All Sites Combined	Male	16	2,864	558.7	379.3	23.6	0.130	25,254	4,509,409	560.0
All Sites Combined	Female	12	2,676	448.4	376.6	15.7	0.428	22,051	4,477,157	492.5
Bladder	Total	1	5,540	18.1	13.4	1.8	0.897	2,219	8,986,566	24.7
Bladder	Male	1	2,864	34.9	23.2	1.7	0.991	1,772	4,509,409	39.3
Bladder	Female	-	2,676	-	-	0.3	1.000	447	4,477,157	10.0
Brain - malignant	Total	-	5,540	-	-	0.5	1.000	657	8,986,566	7.3
Brain - malignant	Male	-	2,864	-	-	0.3	1.000	382	4,509,409	8.5
Brain - malignant	Female	-	2,676	-	-	0.2	1.000	275	4,477,157	6.1
Brain and other CNS - non-malignant	Total	2	5,540	36.1	28.7	1.2	0.673	1,545	8,986,566	17.2
Brain and other CNS - non-malignant	Male	1	2,864	34.9	26.2	0.4	0.688	499	4,509,409	11.1
Brain and other CNS - non-malignant	Female	1	2,676	37.4	32.0	0.7	1.000	1,046	4,477,157	23.4
Breast	Total	1	5,540	18.1	13.8	5.7	0.046 <<	7,007	8,986,566	78.0
Breast	Male	-	2,864	-	-	0.1	1.000	65	4,509,409	1.4
Breast	Female	1	2,676	37.4	30.9	5.0	0.080	6,942	4,477,157	155.1
Breast - in situ	Total	-	5,540	-	-	1.1	0.654	1,369	8,986,566	15.2
Breast - in situ	Male	-	2,864	-	-	0.0	1.000	4	4,509,409	0.1
Breast - in situ	Female	-	2,676	-	-	1.0	0.737	1,365	4,477,157	30.5
Cervix	Female	-	2,676	-	-	0.2	1.000	294	4,477,157	6.6
Colorectal	Total	2	5,540	36.1	27.9	2.9	0.895	3,630	8,986,566	40.4
Colorectal	Male	2	2,864	69.8	49.6	1.8	1.000	1,975	4,509,409	43.8
Colorectal	Female	-	2,676	-	-	1.2	0.621	1,655	4,477,157	37.0
Corpus Uteri	Female	-	2,676	-	-	1.0	0.739	1,354	4,477,157	30.2
Esophagus	Total	-	5,540	-	-	0.4	1.000	507	8,986,566	5.6
Esophagus	Male	-	2,864	-	-	0.4	1.000	429	4,509,409	9.5
Esophagus	Female	-	2,676	-	-	0.1	1.000	78	4,477,157	1.7
Hodgkin Lymphoma	Total	-	5,540	-	-	0.1	1.000	222	8,986,566	2.5
Hodgkin Lymphoma	Male	-	2,864	-	-	0.1	1.000	129	4,509,409	2.9
Hodgkin Lymphoma	Female	-	2,676	-	-	0.1	1.000	93	4,477,157	2.1
Kidney and Renal Pelvis	Total	1	5,540	18.1	13.8	1.6	1.000	1,950	8,986,566	21.7
Kidney and Renal Pelvis	Male	-	2,864	-	-	1.2	0.607	1,310	4,509,409	29.1
Kidney and Renal Pelvis	Female	1	2,676	37.4	31.4	0.5	0.731	640	4,477,157	14.3
Larynx	Total	-	5,540	-	-	0.2	1.000	220	8,986,566	2.4
Larynx	Male	-	2,864	-	-	0.2	1.000	167	4,509,409	3.7
Larynx	Female	-	2,676	-	-	0.0	1.000	53	4,477,157	1.2
Leukemia	Total	1	5,540	18.1	14.1	1.4	1.000	1,726	8,986,566	19.2
Leukemia	Male	-	2,864	-	-	0.9	0.795	1,036	4,509,409	23.0
Leukemia	Female	1	2,676	37.4	32.0	0.5	0.764	690	4,477,157	15.4
Liver and Bile Duct	Total	2	5,540	36.1	26.2	0.7	0.323	841	8,986,566	9.4
Liver and Bile Duct	Male	1	2,864	34.9	22.7	0.6	0.879	593	4,509,409	13.2
Liver and Bile Duct	Female	1	2,676	37.4	30.5	0.2	0.332	248	4,477,157	5.5
Lung and Bronchus	Total	5	5,540	90.3	66.0	4.2	0.810	4,954	8,986,566	55.1
Lung and Bronchus	Male	1	2,864	34.9	22.7	2.4	0.600	2,494	4,509,409	55.3
Lung and Bronchus	Female	4	2,676	149.5	123.9	1.8	0.209	2,460	4,477,157	54.9
Melanoma of the Skin	Total	1	5,540	18.1	14.1	2.5	0.582	3,143	8,986,566	35.0
Melanoma of the Skin	Male	1	2,864	34.9	24.5	1.7	0.979	1,894	4,509,409	42.0
Melanoma of the Skin	Female	-	2,676	-	-	0.9	0.839	1,249	4,477,157	27.9
Myeloma	Total	-	5,540	-	-	0.6	1.000	728	8,986,566	8.1
Myeloma	Male	-	2,864	-	-	0.4	1.000	447	4,509,409	9.9
Myeloma	Female	-	2,676	-	-	0.2	1.000	281	4,477,157	6.3
Non-Hodgkin Lymphoma	Total	1	5,540	18.1	13.8	1.6	1.000	1,991	8,986,566	22.2
Non-Hodgkin Lymphoma	Male	-	2,864	-	-	1.0	0.701	1,146	4,509,409	25.4
Non-Hodgkin Lymphoma	Female	1	2,676	37.4	31.5	0.6	0.901	845	4,477,157	18.9
Oral Cavity and Pharynx	Total	1	5,540	18.1	13.4	1.1	1.000	1,314	8,986,566	14.6
Oral Cavity and Pharynx	Male	1	2,864	34.9	23.7	0.9	1.000	939	4,509,409	20.8
Oral Cavity and Pharynx	Female	-	2,676	-	-	0.3	1.000	375	4,477,157	8.4
Ovary	Female	-	2,676	-	-	0.4	1.000	553	4,477,157	12.4
Pancreas	Total	-	5,540	-	-	1.2	0.583	1,488	8,986,566	16.6
Pancreas	Male	-	2,864	-	-	0.8	0.920	826	4,509,409	18.3
Pancreas	Female	-	2,676	-	-	0.5	1.000	662	4,477,157	14.8
Prostate	Male	7	2,864	244.4	156.5	6.7	1.000	6,759	4,509,409	149.9
Stomach	Total	-	5,540	-	-	0.4	1.000	474	8,986,566	5.3
Stomach	Male	-	2,864	-	-	0.3	1.000	307	4,509,409	6.8
Stomach	Female	-	2,676	-	-	0.1	1.000	167	4,477,157	3.7
Testis	Male	-	2,864	-	-	0.1	1.000	274	4,509,409	6.1
Thyroid	Total	2	5,540	36.1	32.4	0.8	0.391	1,183	8,986,566	13.2
Thyroid	Male	-	2,864	-	-	0.3	1.000	372	4,509,409	8.2
Thyroid	Female	2	2,676	74.7	72.1	0.5	0.182	811	4,477,157	18.1
Pediatric Age 0 to 19	Total	-	1,349	-	-	0.2	1.000	425	2,497,975	17.0
Pediatric Age 0 to 19	Male	-	640	-	-	0.1	1.000	214	1,273,681	16.8
Pediatric Age 0 to 19	Female	-	709	-	-	0.1	1.000	211	1,224,294	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, depend 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 CAMAS COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cause of Death Cancer Site/Type	Sex	Camas 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	51	5,601	910.6	732.9	60.8	0.227	80,484	9,205,793	874.3
All Causes of Death	Male	34	2,911	1,168.0	878.3	35.8	0.851	42,752	4,624,786	924.4
All Causes of Death	Female	17	2,690	632.0	536.5	26.1	0.079	37,732	4,581,007	823.7
All Malignant Cancers	Total	13	5,601	232.1	177.6	12.1	0.871	15,220	9,205,793	165.3
All Malignant Cancers	Male	8	2,911	274.8	192.2	7.4	0.922	8,227	4,624,786	177.9
All Malignant Cancers	Female	5	2,690	185.9	155.4	4.9	1.000	6,993	4,581,007	152.7
Bladder	Total	-	5,601	-	-	0.4	1.000	485	9,205,793	5.3
Bladder	Male	-	2,911	-	-	0.3	1.000	375	4,624,786	8.1
Bladder	Female	-	2,690	-	-	0.1	1.000	110	4,581,007	2.4
Brain and Other Nervous System	Total	-	5,601	-	-	0.4	1.000	518	9,205,793	5.6
Brain and Other Nervous System	Male	-	2,911	-	-	0.3	1.000	289	4,624,786	6.2
Brain and Other Nervous System	Female	-	2,690	-	-	0.2	1.000	229	4,581,007	5.0
Breast	Total	-	5,601	-	-	0.9	0.828	1,124	9,205,793	12.2
Breast	Male	-	2,911	-	-	0.0	1.000	13	4,624,786	0.3
Breast	Female	-	2,690	-	-	0.8	0.912	1,111	4,581,007	24.3
Cervix	Female	-	2,690	-	-	0.1	1.000	88	4,581,007	1.9
Colorectal	Total	1	5,601	17.9	13.9	1.0	1.000	1,331	9,205,793	14.5
Colorectal	Male	1	2,911	34.4	24.5	0.6	0.952	731	4,624,786	15.8
Colorectal	Female	-	2,690	-	-	0.4	1.000	600	4,581,007	13.1
Corpus Uteri	Female	-	2,690	-	-	0.1	1.000	169	4,581,007	3.7
Esophagus	Total	-	5,601	-	-	0.4	1.000	461	9,205,793	5.0
Esophagus	Male	-	2,911	-	-	0.4	1.000	391	4,624,786	8.5
Esophagus	Female	-	2,690	-	-	0.0	1.000	70	4,581,007	1.5
Hodgkin Lymphoma	Total	-	5,601	-	-	0.0	1.000	25	9,205,793	0.3
Hodgkin Lymphoma	Male	-	2,911	-	-	0.0	1.000	14	4,624,786	0.3
Hodgkin Lymphoma	Female	-	2,690	-	-	0.0	1.000	11	4,581,007	0.2
Kidney	Total	-	5,601	-	-	0.3	1.000	386	9,205,793	4.2
Kidney	Male	-	2,911	-	-	0.2	1.000	246	4,624,786	5.3
Kidney	Female	-	2,690	-	-	0.1	1.000	140	4,581,007	3.1
Larynx	Total	1	5,601	17.9	13.7	0.1	0.115	75	9,205,793	0.8
Larynx	Male	1	2,911	34.4	24.7	0.1	0.109	64	4,624,786	1.4
Larynx	Female	-	2,690	-	-	0.0	1.000	11	4,581,007	0.2
Leukemia	Total	1	5,601	17.9	14.0	0.5	0.804	664	9,205,793	7.2
Leukemia	Male	-	2,911	-	-	0.3	1.000	397	4,624,786	8.6
Leukemia	Female	1	2,690	37.2	31.8	0.2	0.335	267	4,581,007	5.8
Liver and Bile Duct	Total	-	5,601	-	-	0.5	1.000	635	9,205,793	6.9
Liver and Bile Duct	Male	-	2,911	-	-	0.4	1.000	423	4,624,786	9.1
Liver and Bile Duct	Female	-	2,690	-	-	0.2	1.000	212	4,581,007	4.6
Lung and Bronchus	Total	3	5,601	53.6	40.1	2.4	0.851	2,934	9,205,793	31.9
Lung and Bronchus	Male	1	2,911	34.4	23.1	1.4	1.000	1,540	4,624,786	33.3
Lung and Bronchus	Female	2	2,690	74.3	62.3	1.0	0.512	1,394	4,581,007	30.4
Melanoma of the Skin	Total	-	5,601	-	-	0.2	1.000	301	9,205,793	3.3
Melanoma of the Skin	Male	-	2,911	-	-	0.2	1.000	200	4,624,786	4.3
Melanoma of the Skin	Female	-	2,690	-	-	0.1	1.000	101	4,581,007	2.2
Myeloma	Total	-	5,601	-	-	0.3	1.000	325	9,205,793	3.5
Myeloma	Male	-	2,911	-	-	0.2	1.000	188	4,624,786	4.1
Myeloma	Female	-	2,690	-	-	0.1	1.000	137	4,581,007	3.0
Non-Hodgkin Lymphoma	Total	1	5,601	17.9	14.1	0.4	0.709	567	9,205,793	6.2
Non-Hodgkin Lymphoma	Male	-	2,911	-	-	0.3	1.000	310	4,624,786	6.7
Non-Hodgkin Lymphoma	Female	1	2,690	37.2	31.8	0.2	0.324	257	4,581,007	5.6
Oral Cavity and Pharynx	Total	-	5,601	-	-	0.2	1.000	275	9,205,793	3.0
Oral Cavity and Pharynx	Male	-	2,911	-	-	0.2	1.000	192	4,624,786	4.2
Oral Cavity and Pharynx	Female	-	2,690	-	-	0.1	1.000	83	4,581,007	1.8
Ovary	Female	1	2,690	37.2	30.5	0.3	0.454	360	4,581,007	7.9
Pancreas	Total	-	5,601	-	-	1.0	0.756	1,190	9,205,793	12.9
Pancreas	Male	-	2,911	-	-	0.6	1.000	650	4,624,786	14.1
Pancreas	Female	-	2,690	-	-	0.4	1.000	540	4,581,007	11.8
Prostate	Male	3	2,911	103.1	75.1	0.9	0.112	994	4,624,786	21.5
Stomach	Total	-	5,601	-	-	0.1	1.000	194	9,205,793	2.1
Stomach	Male	-	2,911	-	-	0.1	1.000	119	4,624,786	2.6
Stomach	Female	-	2,690	-	-	0.1	1.000	75	4,581,007	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	Camas County
<u>Access to Care</u>									
Have Health Insurance, Age < 65 (2021–2022)	90.0%	89.3%	87.8%	86.4%	92.6%	87.2%	89.1%	92.6%	.
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%	.
<u>Cancer Screening</u>									
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%	.
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%	.
Colorectal Cancer Screening, Age 45–75 (2022)	63.3%	61.0%	62.5%	60.8%	67.2%	65.0%	60.4%	60.2%	.
<u>Tobacco Use</u>									
Current Tobacco User (2020–2022)	22.1%	24.3%	20.4%	24.8%	21.3%	22.5%	22.6%	18.1%	.
<u>Other Cancer-Related</u>									
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%	.
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%	.
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%	.
Home Ever Tested for Radon (2016, 2018, 2020)	22.9%	30.8%	18.3%	16.9%	25.2%	20.1%	23.0%	21.0%	.

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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CANYON 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 5,568 cases of invasive cancer were diagnosed among Canyon County residents (Table 1).

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

Cancer Incidence 2017–2021	Canyon County	State of Idaho
All Sites/Types	5,568	47,333
Female Breast	867	6,943
Prostate	770	6,766
Lung & Bronchus	602	4,959
Colorectal	420	3,632

Table 3 (*Cancer Incidence 2017–2021, Comparison between Canyon 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 Canyon 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 Canyon County was 483.5 cases per 100,000 person-years per year during 2017–2021. Comparing this crude rate with the crude rate for the remainder of Idaho (532.7) gives an estimate of the relative burden of disease in Canyon County.

The age- and sex-adjusted incidence rate of invasive cancer in Canyon County, all sites combined, was 549.2 cases per 100,000 persons per year during 2017–2021. There were statistically significantly more cases of cancer in Canyon County (5,568) than expected (5,400.3) based upon rates in the remainder of the state ($p=.023$).

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 1,802 Canyon 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 Canyon County and the State of Idaho, 2018–2022

Mortality 2018–2022	Canyon County	State of Idaho
All Deaths	9,406	80,538
Cancer Deaths	1,802	15,233
% of All Deaths	19.2%	18.9%
Lung & Bronchus	358	2,937
Colorectal	167	1,332
Pancreas	134	1,190
Female Breast	145	1,111
Prostate	96	997

Table 4 (*Cancer Mortality 2018–2022, Comparison between Canyon 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 Canyon 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 Canyon County, all sites combined, was 177.6 deaths per 100,000 persons per year during 2018–2022, compared with 167.3 for the remainder of the state. There were statistically significantly more cancer deaths in Canyon County (1,802) than expected (1,698.2) based upon rates in the remainder of the state ($p=.013$).

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 CANYON COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cancer Site/Type	Sex	Canyon 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	5,568	1,151,652	483.5	549.2	5,400.3	0.023 >>	41,765	7,840,454	532.7
All Sites Combined	Male	2,915	572,328	509.3	589.5	2,805.5	0.040 >>	22,355	3,939,945	567.4
All Sites Combined	Female	2,653	579,324	457.9	511.5	2,580.8	0.159	19,410	3,900,509	497.6
Bladder	Total	264	1,151,652	22.9	26.8	245.9	0.264	1,956	7,840,454	24.9
Bladder	Male	211	572,328	36.9	43.7	191.6	0.175	1,562	3,939,945	39.6
Bladder	Female	53	579,324	9.1	10.6	50.7	0.784	394	3,900,509	10.1
Brain - malignant	Total	73	1,151,652	6.3	6.9	78.5	0.580	584	7,840,454	7.4
Brain - malignant	Male	43	572,328	7.5	8.3	44.7	0.875	339	3,939,945	8.6
Brain - malignant	Female	30	579,324	5.2	5.6	33.5	0.624	245	3,900,509	6.3
Brain and other CNS - non-malignant	Total	220	1,151,652	19.1	21.2	175.3	0.001 >>	1,327	7,840,454	16.9
Brain and other CNS - non-malignant	Male	75	572,328	13.1	14.5	55.6	0.015 >>	425	3,939,945	10.8
Brain and other CNS - non-malignant	Female	145	579,324	25.0	27.7	120.9	0.036 >>	902	3,900,509	23.1
Breast	Total	872	1,151,652	75.7	84.7	805.5	0.022 >>	6,136	7,840,454	78.3
Breast	Male	5	572,328	0.9	1.0	7.5	0.485	60	3,939,945	1.5
Breast	Female	867	579,324	149.7	166.1	813.3	0.064	6,076	3,900,509	155.8
Breast - in situ	Total	166	1,151,652	14.4	16.0	159.5	0.627	1,203	7,840,454	15.3
Breast - in situ	Male	-	572,328	-	-	0.5	1.000	4	3,939,945	0.1
Breast - in situ	Female	166	579,324	28.7	31.5	162.0	0.772	1,199	3,900,509	30.7
Cervix	Female	46	579,324	7.9	8.2	35.7	0.111	248	3,900,509	6.4
Colorectal	Total	420	1,151,652	36.5	41.3	416.5	0.876	3,212	7,840,454	41.0
Colorectal	Male	229	572,328	40.0	45.7	222.5	0.681	1,748	3,939,945	44.4
Colorectal	Female	191	579,324	33.0	37.1	193.0	0.922	1,464	3,900,509	37.5
Corpus Uteri	Female	181	579,324	31.2	35.0	155.7	0.051	1,173	3,900,509	30.1
Esophagus	Total	57	1,151,652	4.9	5.7	57.2	1.000	450	7,840,454	5.7
Esophagus	Male	48	572,328	8.4	9.8	47.3	0.960	381	3,939,945	9.7
Esophagus	Female	9	579,324	1.6	1.8	8.9	1.000	69	3,900,509	1.8
Hodgkin Lymphoma	Total	32	1,151,652	2.8	2.9	27.0	0.380	190	7,840,454	2.4
Hodgkin Lymphoma	Male	16	572,328	2.8	3.0	15.5	0.976	113	3,939,945	2.9
Hodgkin Lymphoma	Female	16	579,324	2.8	2.8	11.3	0.223	77	3,900,509	2.0
Kidney and Renal Pelvis	Total	260	1,151,652	22.6	25.5	220.1	0.010 >>	1,691	7,840,454	21.6
Kidney and Renal Pelvis	Male	163	572,328	28.5	32.5	146.1	0.179	1,147	3,939,945	29.1
Kidney and Renal Pelvis	Female	97	579,324	16.7	18.7	72.3	0.006 >>	544	3,900,509	13.9
Larynx	Total	26	1,151,652	2.3	2.6	24.5	0.822	194	7,840,454	2.5
Larynx	Male	21	572,328	3.7	4.3	18.0	0.541	146	3,939,945	3.7
Larynx	Female	5	579,324	0.9	1.0	6.3	0.807	48	3,900,509	1.2
Leukemia	Total	205	1,151,652	17.8	20.1	198.3	0.653	1,522	7,840,454	19.4
Leukemia	Male	117	572,328	20.4	23.2	117.4	1.000	919	3,939,945	23.3
Leukemia	Female	88	579,324	15.2	17.0	79.9	0.392	603	3,900,509	15.5
Liver and Bile Duct	Total	109	1,151,652	9.5	10.9	93.8	0.133	734	7,840,454	9.4
Liver and Bile Duct	Male	79	572,328	13.8	16.1	64.3	0.083	515	3,939,945	13.1
Liver and Bile Duct	Female	30	579,324	5.2	5.9	28.6	0.844	219	3,900,509	5.6
Lung and Bronchus	Total	602	1,151,652	52.3	60.9	549.2	0.027 >>	4,357	7,840,454	55.6
Lung and Bronchus	Male	315	572,328	55.0	65.0	268.0	0.006 >>	2,180	3,939,945	55.3
Lung and Bronchus	Female	287	579,324	49.5	57.1	280.4	0.710	2,177	3,900,509	55.8
Melanoma of the Skin	Total	317	1,151,652	27.5	30.9	370.1	0.005 <<	2,827	7,840,454	36.1
Melanoma of the Skin	Male	193	572,328	33.7	38.7	215.6	0.128	1,702	3,939,945	43.2
Melanoma of the Skin	Female	124	579,324	21.4	23.4	152.7	0.019 <<	1,125	3,900,509	28.8
Myeloma	Total	90	1,151,652	7.8	9.0	81.2	0.354	638	7,840,454	8.1
Myeloma	Male	44	572,328	7.7	9.0	50.1	0.430	403	3,939,945	10.2
Myeloma	Female	46	579,324	7.9	9.1	30.5	0.011 >>	235	3,900,509	6.0
Non-Hodgkin Lymphoma	Total	231	1,151,652	20.1	22.8	228.0	0.860	1,761	7,840,454	22.5
Non-Hodgkin Lymphoma	Male	139	572,328	24.3	27.7	128.1	0.358	1,007	3,939,945	25.6
Non-Hodgkin Lymphoma	Female	92	579,324	15.9	18.0	99.0	0.521	754	3,900,509	19.3
Oral Cavity and Pharynx	Total	145	1,151,652	12.6	14.4	150.6	0.685	1,170	7,840,454	14.9
Oral Cavity and Pharynx	Male	107	572,328	18.7	21.5	105.1	0.877	833	3,939,945	21.1
Oral Cavity and Pharynx	Female	38	579,324	6.6	7.4	44.2	0.393	337	3,900,509	8.6
Ovary	Female	66	579,324	11.4	12.7	65.1	0.941	487	3,900,509	12.5
Pancreas	Total	153	1,151,652	13.3	15.4	169.3	0.223	1,335	7,840,454	17.0
Pancreas	Male	82	572,328	14.3	16.8	92.2	0.311	744	3,939,945	18.9
Pancreas	Female	71	579,324	12.3	14.1	76.5	0.576	591	3,900,509	15.2
Prostate	Male	770	572,328	134.5	157.9	742.2	0.316	5,996	3,939,945	152.2
Stomach	Total	63	1,151,652	5.5	6.3	52.6	0.180	411	7,840,454	5.2
Stomach	Male	39	572,328	6.8	7.9	33.6	0.389	268	3,939,945	6.8
Stomach	Female	24	579,324	4.1	4.7	18.7	0.269	143	3,900,509	3.7
Testis	Male	30	572,328	5.2	5.3	35.3	0.429	244	3,939,945	6.2
Thyroid	Total	105	1,151,652	9.1	9.6	150.7	0.000 <<	1,080	7,840,454	13.8
Thyroid	Male	28	572,328	4.9	5.3	45.9	0.006 <<	344	3,939,945	8.7
Thyroid	Female	77	579,324	13.3	13.7	105.9	0.004 <<	736	3,900,509	18.9
Pediatric Age 0 to 19	Total	56	352,913	15.9	15.9	60.4	0.626	369	2,146,411	17.2
Pediatric Age 0 to 19	Male	29	180,490	16.1	16.1	30.5	0.882	185	1,093,831	16.9
Pediatric Age 0 to 19	Female	27	172,423	15.7	15.8	29.9	0.682	184	1,052,580	17.5

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 CANYON COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cause of Death Cancer Site/Type	Sex	Canyon 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	9,406	1,185,680	793.3	927.5	8,988.2	0.000 >>	71,129	8,025,714	886.3
All Causes of Death	Male	5,007	590,340	848.2	993.8	4,714.4	0.000 >>	37,779	4,037,357	935.7
All Causes of Death	Female	4,399	595,340	738.9	866.6	4,244.8	0.019 >>	33,350	3,988,357	836.2
All Malignant Cancers	Total	1,802	1,185,680	152.0	177.6	1,698.2	0.013 >>	13,431	8,025,714	167.3
All Malignant Cancers	Male	974	590,340	165.0	195.6	895.6	0.010 >>	7,261	4,037,357	179.8
All Malignant Cancers	Female	828	595,340	139.1	160.7	797.1	0.282	6,170	3,988,357	154.7
Bladder	Total	46	1,185,680	3.9	4.6	54.1	0.299	439	8,025,714	5.5
Bladder	Male	37	590,340	6.3	7.6	40.7	0.635	338	4,037,357	8.4
Bladder	Female	9	595,340	1.5	1.8	12.7	0.370	101	3,988,357	2.5
Brain and Other Nervous System	Total	57	1,185,680	4.8	5.4	60.5	0.712	461	8,025,714	5.7
Brain and Other Nervous System	Male	28	590,340	4.7	5.4	33.6	0.379	261	4,037,357	6.5
Brain and Other Nervous System	Female	29	595,340	4.9	5.5	26.7	0.701	200	3,988,357	5.0
Breast	Total	145	1,185,680	12.2	14.2	124.9	0.084	979	8,025,714	12.2
Breast	Male	-	590,340	-	-	1.6	0.400	13	4,037,357	0.3
Breast	Female	145	595,340	24.4	27.9	125.7	0.098	966	3,988,357	24.2
Cervix	Female	20	595,340	3.4	3.6	9.5	0.004 >>	68	3,988,357	1.7
Colorectal	Total	167	1,185,680	14.1	16.3	148.7	0.149	1,165	8,025,714	14.5
Colorectal	Male	98	590,340	16.6	19.3	79.7	0.052	634	4,037,357	15.7
Colorectal	Female	69	595,340	11.6	13.4	68.6	0.992	531	3,988,357	13.3
Corpus Uteri	Female	23	595,340	3.9	4.4	18.9	0.406	146	3,988,357	3.7
Esophagus	Total	56	1,185,680	4.7	5.5	51.4	0.555	405	8,025,714	5.0
Esophagus	Male	46	590,340	7.8	9.2	42.8	0.661	345	4,037,357	8.5
Esophagus	Female	10	595,340	1.7	1.9	7.7	0.500	60	3,988,357	1.5
Hodgkin Lymphoma	Total	5	1,185,680	0.4	0.5	2.6	0.240	20	8,025,714	0.2
Hodgkin Lymphoma	Male	3	590,340	0.5	0.6	1.4	0.323	11	4,037,357	0.3
Hodgkin Lymphoma	Female	2	595,340	0.3	0.4	1.2	0.664	9	3,988,357	0.2
Kidney	Total	50	1,185,680	4.2	5.0	42.2	0.260	336	8,025,714	4.2
Kidney	Male	29	590,340	4.9	5.8	26.8	0.715	217	4,037,357	5.4
Kidney	Female	21	595,340	3.5	4.2	15.1	0.171	119	3,988,357	3.0
Larynx	Total	13	1,185,680	1.1	1.3	7.9	0.121	63	8,025,714	0.8
Larynx	Male	11	590,340	1.9	2.2	6.6	0.144	54	4,037,357	1.3
Larynx	Female	2	595,340	0.3	0.4	1.2	0.676	9	3,988,357	0.2
Leukemia	Total	88	1,185,680	7.4	8.7	73.0	0.096	577	8,025,714	7.2
Leukemia	Male	57	590,340	9.7	11.4	42.1	0.032 >>	340	4,037,357	8.4
Leukemia	Female	31	595,340	5.2	6.0	30.5	0.978	237	3,988,357	5.9
Liver and Bile Duct	Total	80	1,185,680	6.7	7.8	70.7	0.296	555	8,025,714	6.9
Liver and Bile Duct	Male	51	590,340	8.6	10.2	46.3	0.525	372	4,037,357	9.2
Liver and Bile Duct	Female	29	595,340	4.9	5.6	23.8	0.332	183	3,988,357	4.6
Lung and Bronchus	Total	358	1,185,680	30.2	35.5	324.3	0.068	2,579	8,025,714	32.1
Lung and Bronchus	Male	202	590,340	34.2	40.7	164.5	0.005 >>	1,339	4,037,357	33.2
Lung and Bronchus	Female	156	595,340	26.2	30.5	159.0	0.852	1,240	3,988,357	31.1
Melanoma of the Skin	Total	32	1,185,680	2.7	3.1	34.3	0.773	269	8,025,714	3.4
Melanoma of the Skin	Male	24	590,340	4.1	4.8	21.9	0.703	176	4,037,357	4.4
Melanoma of the Skin	Female	8	595,340	1.3	1.5	12.2	0.284	93	3,988,357	2.3
Myeloma	Total	36	1,185,680	3.0	3.6	36.1	1.000	289	8,025,714	3.6
Myeloma	Male	19	590,340	3.2	3.9	20.6	0.834	169	4,037,357	4.2
Myeloma	Female	17	595,340	2.9	3.3	15.3	0.731	120	3,988,357	3.0
Non-Hodgkin Lymphoma	Total	71	1,185,680	6.0	7.0	62.4	0.304	497	8,025,714	6.2
Non-Hodgkin Lymphoma	Male	35	590,340	5.9	7.0	34.0	0.908	275	4,037,357	6.8
Non-Hodgkin Lymphoma	Female	36	595,340	6.0	7.1	28.1	0.172	222	3,988,357	5.6
Oral Cavity and Pharynx	Total	30	1,185,680	2.5	2.9	31.1	0.936	245	8,025,714	3.1
Oral Cavity and Pharynx	Male	17	590,340	2.9	3.4	21.7	0.365	175	4,037,357	4.3
Oral Cavity and Pharynx	Female	13	595,340	2.2	2.5	9.0	0.253	70	3,988,357	1.8
Ovary	Female	32	595,340	5.4	6.2	42.6	0.111	329	3,988,357	8.2
Pancreas	Total	134	1,185,680	11.3	13.2	133.6	0.998	1,056	8,025,714	13.2
Pancreas	Male	73	590,340	12.4	14.6	71.4	0.880	577	4,037,357	14.3
Pancreas	Female	61	595,340	10.2	11.9	61.8	0.987	479	3,988,357	12.0
Prostate	Male	96	590,340	16.3	19.8	108.2	0.260	901	4,037,357	22.3
Stomach	Total	38	1,185,680	3.2	3.7	20.0	0.000 >>	156	8,025,714	1.9
Stomach	Male	22	590,340	3.7	4.3	12.2	0.014 >>	97	4,037,357	2.4
Stomach	Female	16	595,340	2.7	3.1	7.8	0.013 >>	59	3,988,357	1.5

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	Canyon County
<u>Access to Care</u>									
Have Health Insurance, Age < 65 (2021–2022)	90.0%	89.3%	87.8%	86.4%	92.6%	87.2%	89.1%	92.6%	86.2%
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%	10.4%
<u>Cancer Screening</u>									
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%	61.5%
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%	72.3%
Colorectal Cancer Screening, Age 45–75 (2022)	63.3%	61.0%	62.5%	60.8%	67.2%	65.0%	60.4%	60.2%	58.7%
<u>Tobacco Use</u>									
Current Tobacco User (2020–2022)	22.1%	24.3%	20.4%	24.8%	21.3%	22.5%	22.6%	18.1%	23.8%
<u>Other Cancer-Related</u>									
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%	26.6%
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%	75.7%
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%	20.7%
Home Ever Tested for Radon (2016, 2018, 2020)	22.9%	30.8%	18.3%	16.9%	25.2%	20.1%	23.0%	21.0%	17.0%

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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CARIBOU 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 201 cases of invasive cancer were diagnosed among Caribou County residents (Table 1).

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

Cancer Incidence 2017–2021	Caribou County	State of Idaho
All Sites/Types	201	47,333
Female Breast	26	6,943
Prostate	33	6,766
Lung & Bronchus	18	4,959
Colorectal	14	3,632

Table 3 (*Cancer Incidence 2017–2021, Comparison between Caribou 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 Caribou 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 Caribou County was 568.1 cases per 100,000 person-years per year during 2017–2021. Comparing this crude rate with the crude rate for the remainder of Idaho (526.2) gives an estimate of the relative burden of disease in Caribou County.

The age- and sex-adjusted incidence rate of invasive cancer in Caribou County, all sites combined, was 540.8 cases per 100,000 persons per year during 2017–2021. There were more cases of cancer in Caribou County (201) than expected (195.6) 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 55 Caribou 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 Caribou County and the State of Idaho, 2018–2022

Mortality 2018–2022	Caribou County	State of Idaho
All Deaths	365	80,538
Cancer Deaths	55	15,233
% of All Deaths	15.1%	18.9%
Lung & Bronchus	11	2,937
Colorectal	3	1,332
Pancreas	2	1,190
Female Breast	3	1,111
Prostate	1	997

Table 4 (*Cancer Mortality 2018–2022, Comparison between Caribou 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 Caribou 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 Caribou County, all sites combined, was 143.9 deaths per 100,000 persons per year during 2018–2022, compared with 165.4 for the remainder of the state. There were fewer cancer deaths in Caribou County (55) than expected (63.2) 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 CARIBOU COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cancer Site/Type	Sex	Caribou 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	201	35,381	568.1	540.8	195.6	0.717	47,132	8,956,725	526.2
All Sites Combined	Male	121	17,960	673.7	644.6	105.0	0.137	25,149	4,494,313	559.6
All Sites Combined	Female	80	17,421	459.2	436.9	90.2	0.306	21,983	4,462,412	492.6
Bladder	Total	8	35,381	22.6	20.8	9.5	0.786	2,212	8,956,725	24.7
Bladder	Male	8	17,960	44.5	42.0	7.5	0.947	1,765	4,494,313	39.3
Bladder	Female	-	17,421	-	-	1.9	0.295	447	4,462,412	10.0
Brain - malignant	Total	2	35,381	5.7	5.5	2.7	0.999	655	8,956,725	7.3
Brain - malignant	Male	1	17,960	5.6	5.4	1.6	1.000	381	4,494,313	8.5
Brain - malignant	Female	1	17,421	5.7	5.5	1.1	1.000	274	4,462,412	6.1
Brain and other CNS - non-malignant	Total	13	35,381	36.7	35.3	6.3	0.026 >>	1,534	8,956,725	17.1
Brain and other CNS - non-malignant	Male	3	17,960	16.7	16.3	2.0	0.665	497	4,494,313	11.1
Brain and other CNS - non-malignant	Female	10	17,421	57.4	54.4	4.3	0.025 >>	1,037	4,462,412	23.2
Breast	Total	26	35,381	73.5	71.2	28.5	0.731	6,982	8,956,725	78.0
Breast	Male	-	17,960	-	-	0.3	1.000	65	4,494,313	1.4
Breast	Female	26	17,421	149.2	144.3	27.9	0.810	6,917	4,462,412	155.0
Breast - in situ	Total	2	35,381	5.7	5.6	5.5	0.178	1,367	8,956,725	15.3
Breast - in situ	Male	-	17,960	-	-	0.0	1.000	4	4,494,313	0.1
Breast - in situ	Female	2	17,421	11.5	11.3	5.4	0.190	1,363	4,462,412	30.5
Cervix	Female	1	17,421	5.7	5.9	1.1	1.000	293	4,462,412	6.6
Colorectal	Total	14	35,381	39.6	37.7	15.0	0.927	3,618	8,956,725	40.4
Colorectal	Male	7	17,960	39.0	37.7	8.1	0.869	1,970	4,494,313	43.8
Colorectal	Female	7	17,421	40.2	37.5	6.9	1.000	1,648	4,462,412	36.9
Corpus Uteri	Female	8	17,421	45.9	44.8	5.4	0.354	1,346	4,462,412	30.2
Esophagus	Total	1	35,381	2.8	2.7	2.1	0.746	506	8,956,725	5.6
Esophagus	Male	1	17,960	5.6	5.3	1.8	0.925	428	4,494,313	9.5
Esophagus	Female	-	17,421	-	-	0.3	1.000	78	4,462,412	1.7
Hodgkin Lymphoma	Total	3	35,381	8.5	8.8	0.8	0.105	219	8,956,725	2.4
Hodgkin Lymphoma	Male	1	17,960	5.6	5.7	0.5	0.791	128	4,494,313	2.8
Hodgkin Lymphoma	Female	2	17,421	11.5	12.2	0.3	0.090	91	4,462,412	2.0
Kidney and Renal Pelvis	Total	8	35,381	22.6	21.6	8.0	1.000	1,943	8,956,725	21.7
Kidney and Renal Pelvis	Male	7	17,960	39.0	37.7	5.4	0.591	1,303	4,494,313	29.0
Kidney and Renal Pelvis	Female	1	17,421	5.7	5.4	2.7	0.514	640	4,462,412	14.3
Larynx	Total	2	35,381	5.7	5.4	0.9	0.460	218	8,956,725	2.4
Larynx	Male	2	17,960	11.1	10.7	0.7	0.303	165	4,494,313	3.7
Larynx	Female	-	17,421	-	-	0.2	1.000	53	4,462,412	1.2
Leukemia	Total	10	35,381	28.3	26.5	7.2	0.385	1,717	8,956,725	19.2
Leukemia	Male	5	17,960	27.8	26.6	4.3	0.865	1,031	4,494,313	22.9
Leukemia	Female	5	17,421	28.7	26.6	2.9	0.333	686	4,462,412	15.4
Liver and Bile Duct	Total	3	35,381	8.5	8.1	3.5	1.000	840	8,956,725	9.4
Liver and Bile Duct	Male	2	17,960	11.1	10.6	2.5	1.000	592	4,494,313	13.2
Liver and Bile Duct	Female	1	17,421	5.7	5.4	1.0	1.000	248	4,462,412	5.6
Lung and Bronchus	Total	18	35,381	50.9	47.2	21.0	0.597	4,941	8,956,725	55.2
Lung and Bronchus	Male	12	17,960	66.8	63.0	10.5	0.728	2,483	4,494,313	55.2
Lung and Bronchus	Female	6	17,421	34.4	31.5	10.5	0.205	2,458	4,462,412	55.1
Melanoma of the Skin	Total	16	35,381	45.2	43.4	12.9	0.452	3,128	8,956,725	34.9
Melanoma of the Skin	Male	10	17,960	55.7	53.5	7.8	0.527	1,885	4,494,313	41.9
Melanoma of the Skin	Female	6	17,421	34.4	33.5	5.0	0.766	1,243	4,462,412	27.9
Myeloma	Total	7	35,381	19.8	18.5	3.0	0.071	721	8,956,725	8.0
Myeloma	Male	5	17,960	27.8	26.5	1.9	0.081	442	4,494,313	9.8
Myeloma	Female	2	17,421	11.5	10.7	1.2	0.654	279	4,462,412	6.3
Non-Hodgkin Lymphoma	Total	9	35,381	25.4	24.2	8.2	0.882	1,983	8,956,725	22.1
Non-Hodgkin Lymphoma	Male	6	17,960	33.4	32.1	4.7	0.679	1,140	4,494,313	25.4
Non-Hodgkin Lymphoma	Female	3	17,421	17.2	16.1	3.5	1.000	843	4,462,412	18.9
Oral Cavity and Pharynx	Total	6	35,381	17.0	16.3	5.4	0.902	1,309	8,956,725	14.6
Oral Cavity and Pharynx	Male	4	17,960	22.3	21.4	3.9	1.000	936	4,494,313	20.8
Oral Cavity and Pharynx	Female	2	17,421	11.5	10.9	1.5	0.910	373	4,462,412	8.4
Ovary	Female	-	17,421	-	-	2.2	0.214	553	4,462,412	12.4
Pancreas	Total	4	35,381	11.3	10.5	6.3	0.497	1,484	8,956,725	16.6
Pancreas	Male	3	17,960	16.7	15.9	3.5	1.000	823	4,494,313	18.3
Pancreas	Female	1	17,421	5.7	5.3	2.8	0.457	661	4,462,412	14.8
Prostate	Male	33	17,960	183.7	174.9	28.3	0.419	6,733	4,494,313	149.8
Stomach	Total	1	35,381	2.8	2.7	2.0	0.821	473	8,956,725	5.3
Stomach	Male	1	17,960	5.6	5.3	1.3	1.000	306	4,494,313	6.8
Stomach	Female	-	17,421	-	-	0.7	0.988	167	4,462,412	3.7
Testis	Male	2	17,960	11.1	12.2	1.0	0.526	272	4,494,313	6.1
Thyroid	Total	3	35,381	8.5	8.7	4.6	0.665	1,182	8,956,725	13.2
Thyroid	Male	3	17,960	16.7	16.6	1.5	0.375	369	4,494,313	8.2
Thyroid	Female	-	17,421	-	-	3.0	0.096	813	4,462,412	18.2
Pediatric Age 0 to 19	Total	1	10,941	9.1	9.2	1.8	0.898	424	2,488,383	17.0
Pediatric Age 0 to 19	Male	-	5,621	-	-	0.9	0.777	214	1,268,700	16.9
Pediatric Age 0 to 19	Female	1	5,320	18.8	19.2	0.9	1.000	210	1,219,683	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 CARIBOU COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cause of Death Cancer Site/Type	Sex	Caribou 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	365	35,591	1,025.5	939.5	339.4	0.176	80,170	9,175,803	873.7
All Causes of Death	Male	184	18,057	1,019.0	975.5	174.3	0.483	42,602	4,609,640	924.2
All Causes of Death	Female	181	17,534	1,032.3	902.7	165.0	0.229	37,568	4,566,163	822.7
All Malignant Cancers	Total	55	35,591	154.5	143.9	63.2	0.332	15,178	9,175,803	165.4
All Malignant Cancers	Male	31	18,057	171.7	163.7	33.7	0.723	8,204	4,609,640	178.0
All Malignant Cancers	Female	24	17,534	136.9	125.2	29.3	0.381	6,974	4,566,163	152.7
Bladder	Total	2	35,591	5.6	5.1	2.1	1.000	483	9,175,803	5.3
Bladder	Male	2	18,057	11.1	10.4	1.6	0.918	373	4,609,640	8.1
Bladder	Female	-	17,534	-	-	0.5	1.000	110	4,566,163	2.4
Brain and Other Nervous System	Total	1	35,591	2.8	2.7	2.1	0.771	517	9,175,803	5.6
Brain and Other Nervous System	Male	-	18,057	-	-	1.2	0.625	289	4,609,640	6.3
Brain and Other Nervous System	Female	1	17,534	5.7	5.5	0.9	1.000	228	4,566,163	5.0
Breast	Total	3	35,591	8.4	7.9	4.6	0.638	1,121	9,175,803	12.2
Breast	Male	-	18,057	-	-	0.1	1.000	13	4,609,640	0.3
Breast	Female	3	17,534	17.1	15.8	4.6	0.649	1,108	4,566,163	24.3
Cervix	Female	-	17,534	-	-	0.3	1.000	88	4,566,163	1.9
Colorectal	Total	3	35,591	8.4	7.9	5.5	0.407	1,329	9,175,803	14.5
Colorectal	Male	1	18,057	5.5	5.3	3.0	0.406	731	4,609,640	15.9
Colorectal	Female	2	17,534	11.4	10.4	2.5	1.000	598	4,566,163	13.1
Corpus Uteri	Female	1	17,534	5.7	5.4	0.7	0.993	168	4,566,163	3.7
Esophagus	Total	3	35,591	8.4	8.0	1.9	0.581	458	9,175,803	5.0
Esophagus	Male	3	18,057	16.6	15.9	1.6	0.426	388	4,609,640	8.4
Esophagus	Female	-	17,534	-	-	0.3	1.000	70	4,566,163	1.5
Hodgkin Lymphoma	Total	-	35,591	-	-	0.1	1.000	25	9,175,803	0.3
Hodgkin Lymphoma	Male	-	18,057	-	-	0.1	1.000	14	4,609,640	0.3
Hodgkin Lymphoma	Female	-	17,534	-	-	0.0	1.000	11	4,566,163	0.2
Kidney	Total	-	35,591	-	-	1.6	0.396	386	9,175,803	4.2
Kidney	Male	-	18,057	-	-	1.0	0.725	246	4,609,640	5.3
Kidney	Female	-	17,534	-	-	0.6	1.000	140	4,566,163	3.1
Larynx	Total	-	35,591	-	-	0.3	1.000	76	9,175,803	0.8
Larynx	Male	-	18,057	-	-	0.3	1.000	65	4,609,640	1.4
Larynx	Female	-	17,534	-	-	0.0	1.000	11	4,566,163	0.2
Leukemia	Total	4	35,591	11.2	10.3	2.8	0.610	661	9,175,803	7.2
Leukemia	Male	3	18,057	16.6	15.9	1.6	0.441	394	4,609,640	8.5
Leukemia	Female	1	17,534	5.7	5.1	1.2	1.000	267	4,566,163	5.8
Liver and Bile Duct	Total	2	35,591	5.6	5.3	2.6	1.000	633	9,175,803	6.9
Liver and Bile Duct	Male	1	18,057	5.5	5.3	1.7	0.970	422	4,609,640	9.2
Liver and Bile Duct	Female	1	17,534	5.7	5.3	0.9	1.000	211	4,566,163	4.6
Lung and Bronchus	Total	11	35,591	30.9	28.8	12.2	0.878	2,926	9,175,803	31.9
Lung and Bronchus	Male	6	18,057	33.2	31.6	6.3	1.000	1,535	4,609,640	33.3
Lung and Bronchus	Female	5	17,534	28.5	26.0	5.9	0.935	1,391	4,566,163	30.5
Melanoma of the Skin	Total	-	35,591	-	-	1.2	0.577	301	9,175,803	3.3
Melanoma of the Skin	Male	-	18,057	-	-	0.8	0.883	200	4,609,640	4.3
Melanoma of the Skin	Female	-	17,534	-	-	0.4	1.000	101	4,566,163	2.2
Myeloma	Total	4	35,591	11.2	10.4	1.4	0.097	321	9,175,803	3.5
Myeloma	Male	4	18,057	22.2	21.1	0.8	0.015 >>	184	4,609,640	4.0
Myeloma	Female	-	17,534	-	-	0.6	1.000	137	4,566,163	3.0
Non-Hodgkin Lymphoma	Total	2	35,591	5.6	5.2	2.4	1.000	566	9,175,803	6.2
Non-Hodgkin Lymphoma	Male	2	18,057	11.1	10.7	1.3	0.714	308	4,609,640	6.7
Non-Hodgkin Lymphoma	Female	-	17,534	-	-	1.1	0.655	258	4,566,163	5.7
Oral Cavity and Pharynx	Total	1	35,591	2.8	2.7	1.1	1.000	274	9,175,803	3.0
Oral Cavity and Pharynx	Male	1	18,057	5.5	5.3	0.8	1.000	191	4,609,640	4.1
Oral Cavity and Pharynx	Female	-	17,534	-	-	0.3	1.000	83	4,566,163	1.8
Ovary	Female	1	17,534	5.7	5.3	1.5	1.000	360	4,566,163	7.9
Pancreas	Total	2	35,591	5.6	5.3	4.9	0.264	1,188	9,175,803	12.9
Pancreas	Male	1	18,057	5.5	5.3	2.7	0.513	649	4,609,640	14.1
Pancreas	Female	1	17,534	5.7	5.2	2.3	0.684	539	4,566,163	11.8
Prostate	Male	1	18,057	5.5	5.2	4.1	0.162	996	4,609,640	21.6
Stomach	Total	-	35,591	-	-	0.8	0.904	194	9,175,803	2.1
Stomach	Male	-	18,057	-	-	0.5	1.000	119	4,609,640	2.6
Stomach	Female	-	17,534	-	-	0.3	1.000	75	4,566,163	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	Caribou 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%	80.2%
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%	13.1%
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%	43.1%
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%	.
Colorectal Cancer Screening, Age 45–75 (2022)	63.3%	61.0%	62.5%	60.8%	67.2%	65.0%	60.4%	60.2%	.
Tobacco Use									
Current Tobacco User (2020–2022)	22.1%	24.3%	20.4%	24.8%	21.3%	22.5%	22.6%	18.1%	20.1%
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%	19.9%
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%	76.7%
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%	17.7%
Home Ever Tested for Radon (2016, 2018, 2020)	22.9%	30.8%	18.3%	16.9%	25.2%	20.1%	23.0%	21.0%	16.6%

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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CASSIA 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 527 cases of invasive cancer were diagnosed among Cassia County residents (Table 1).

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

Cancer Incidence 2017–2021	Cassia County	State of Idaho
All Sites/Types	527	47,333
Female Breast	84	6,943
Prostate	59	6,766
Lung & Bronchus	39	4,959
Colorectal	48	3,632

Table 3 (*Cancer Incidence 2017–2021, Comparison between Cassia 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 Cassia 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 Cassia County was 435.5 cases per 100,000 person-years per year during 2017–2021. Comparing this crude rate with the crude rate for the remainder of Idaho (527.6) gives an estimate of the relative burden of disease in Cassia County.

The age- and sex-adjusted incidence rate of invasive cancer in Cassia County, all sites combined, was 484.6 cases per 100,000 persons per year during 2017–2021. There were fewer cases of cancer in Cassia County (527) than expected (573.8) 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 171 Cassia 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 Cassia County and the State of Idaho, 2018–2022

Mortality 2018–2022	Cassia County	State of Idaho
All Deaths	1,127	80,538
Cancer Deaths	171	15,233
% of All Deaths	15.2%	18.9%
Lung & Bronchus	17	2,937
Colorectal	16	1,332
Pancreas	13	1,190
Female Breast	11	1,111
Prostate	15	997

Table 4 (*Cancer Mortality 2018–2022, Comparison between Cassia 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 Cassia 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 Cassia County, all sites combined, was 153.1 deaths per 100,000 persons per year during 2018–2022, compared with 165.7 for the remainder of the state. There were fewer cancer deaths in Cassia County (171) than expected (185.1) 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 CASSIA COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cancer Site/Type	Sex	Cassia 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	527	121,008	435.5	484.6	573.8	0.051	46,806	8,871,098	527.6
All Sites Combined	Male	257	61,911	415.1	468.9	308.0	0.003 <<	25,013	4,450,362	562.0
All Sites Combined	Female	270	59,097	456.9	501.7	265.3	0.789	21,793	4,420,736	493.0
Bladder	Total	31	121,008	25.6	28.2	27.1	0.500	2,189	8,871,098	24.7
Bladder	Male	22	61,911	35.5	40.1	21.6	0.983	1,751	4,450,362	39.3
Bladder	Female	9	59,097	15.2	16.5	5.4	0.194	438	4,420,736	9.9
Brain - malignant	Total	8	121,008	6.6	7.1	8.2	1.000	649	8,871,098	7.3
Brain - malignant	Male	5	61,911	8.1	8.8	4.8	1.000	377	4,450,362	8.5
Brain - malignant	Female	3	59,097	5.1	5.4	3.4	1.000	272	4,420,736	6.2
Brain and other CNS - non-malignant	Total	35	121,008	28.9	31.7	18.8	0.001 >>	1,512	8,871,098	17.0
Brain and other CNS - non-malignant	Male	9	61,911	14.5	16.0	6.2	0.349	491	4,450,362	11.0
Brain and other CNS - non-malignant	Female	26	59,097	44.0	47.8	12.6	0.001 >>	1,021	4,420,736	23.1
Breast	Total	86	121,008	71.1	79.8	84.1	0.863	6,922	8,871,098	78.0
Breast	Male	2	61,911	3.2	3.6	0.8	0.368	63	4,450,362	1.4
Breast	Female	84	59,097	142.1	158.6	82.2	0.869	6,859	4,420,736	155.2
Breast - in situ	Total	11	121,008	9.1	10.3	16.3	0.226	1,358	8,871,098	15.3
Breast - in situ	Male	-	61,911	-	-	0.1	1.000	4	4,450,362	0.1
Breast - in situ	Female	11	59,097	18.6	21.1	15.9	0.259	1,354	4,420,736	30.6
Cervix	Female	3	59,097	5.1	5.6	3.5	1.000	291	4,420,736	6.6
Colorectal	Total	48	121,008	39.7	43.9	44.2	0.605	3,584	8,871,098	40.4
Colorectal	Male	22	61,911	35.5	40.0	24.1	0.761	1,955	4,450,362	43.9
Colorectal	Female	26	59,097	44.0	47.6	20.1	0.235	1,629	4,420,736	36.8
Corpus Uteri	Female	14	59,097	23.7	26.7	15.9	0.753	1,340	4,420,736	30.3
Esophagus	Total	3	121,008	2.5	2.8	6.2	0.271	504	8,871,098	5.7
Esophagus	Male	3	61,911	4.8	5.5	5.2	0.466	426	4,450,362	9.6
Esophagus	Female	-	59,097	-	-	1.0	0.766	78	4,420,736	1.8
Hodgkin Lymphoma	Total	4	121,008	3.3	3.5	2.8	0.616	218	8,871,098	2.5
Hodgkin Lymphoma	Male	3	61,911	4.8	5.2	1.6	0.449	126	4,450,362	2.8
Hodgkin Lymphoma	Female	1	59,097	1.7	1.8	1.2	1.000	92	4,420,736	2.1
Kidney and Renal Pelvis	Total	21	121,008	17.4	19.3	23.6	0.683	1,930	8,871,098	21.8
Kidney and Renal Pelvis	Male	13	61,911	21.0	23.7	16.0	0.549	1,297	4,450,362	29.1
Kidney and Renal Pelvis	Female	8	59,097	13.5	14.8	7.7	1.000	633	4,420,736	14.3
Larynx	Total	1	121,008	0.8	0.9	2.7	0.504	219	8,871,098	2.5
Larynx	Male	-	61,911	-	-	2.1	0.253	167	4,450,362	3.8
Larynx	Female	1	59,097	1.7	1.9	0.6	0.923	52	4,420,736	1.2
Leukemia	Total	17	121,008	14.0	15.2	21.5	0.391	1,710	8,871,098	19.3
Leukemia	Male	10	61,911	16.2	17.8	12.9	0.513	1,026	4,450,362	23.1
Leukemia	Female	7	59,097	11.8	12.6	8.6	0.753	684	4,420,736	15.5
Liver and Bile Duct	Total	8	121,008	6.6	7.4	10.1	0.640	835	8,871,098	9.4
Liver and Bile Duct	Male	6	61,911	9.7	11.0	7.2	0.845	588	4,450,362	13.2
Liver and Bile Duct	Female	2	59,097	3.4	3.7	3.0	0.846	247	4,420,736	5.6
Lung and Bronchus	Total	39	121,008	32.2	35.9	60.3	0.005 <<	4,920	8,871,098	55.5
Lung and Bronchus	Male	22	61,911	35.5	40.4	30.3	0.147	2,473	4,450,362	55.6
Lung and Bronchus	Female	17	59,097	28.8	31.4	30.0	0.015 <<	2,447	4,420,736	55.4
Melanoma of the Skin	Total	43	121,008	35.5	39.4	38.2	0.474	3,101	8,871,098	35.0
Melanoma of the Skin	Male	24	61,911	38.8	43.6	23.1	0.910	1,871	4,450,362	42.0
Melanoma of the Skin	Female	19	59,097	32.2	35.3	15.0	0.357	1,230	4,420,736	27.8
Myeloma	Total	9	121,008	7.4	8.3	8.8	1.000	719	8,871,098	8.1
Myeloma	Male	7	61,911	11.3	12.8	5.4	0.602	440	4,450,362	9.9
Myeloma	Female	2	59,097	3.4	3.7	3.4	0.683	279	4,420,736	6.3
Non-Hodgkin Lymphoma	Total	20	121,008	16.5	18.3	24.3	0.444	1,972	8,871,098	22.2
Non-Hodgkin Lymphoma	Male	13	61,911	21.0	23.5	14.1	0.909	1,133	4,450,362	25.5
Non-Hodgkin Lymphoma	Female	7	59,097	11.8	12.9	10.3	0.389	839	4,420,736	19.0
Oral Cavity and Pharynx	Total	17	121,008	14.0	15.8	15.7	0.815	1,298	8,871,098	14.6
Oral Cavity and Pharynx	Male	10	61,911	16.2	18.3	11.4	0.826	930	4,450,362	20.9
Oral Cavity and Pharynx	Female	7	59,097	11.8	13.1	4.5	0.326	368	4,420,736	8.3
Ovary	Female	4	59,097	6.8	7.5	6.7	0.411	549	4,420,736	12.4
Pancreas	Total	16	121,008	13.2	14.6	18.1	0.725	1,472	8,871,098	16.6
Pancreas	Male	6	61,911	9.7	10.9	10.1	0.248	820	4,450,362	18.4
Pancreas	Female	10	59,097	16.9	18.4	8.0	0.576	652	4,420,736	14.7
Prostate	Male	59	61,911	95.3	109.3	81.4	0.011 <<	6,707	4,450,362	150.7
Stomach	Total	5	121,008	4.1	4.6	5.8	0.961	469	8,871,098	5.3
Stomach	Male	1	61,911	1.6	1.8	3.8	0.220	306	4,450,362	6.9
Stomach	Female	4	59,097	6.8	7.3	2.0	0.296	163	4,420,736	3.7
Testis	Male	4	61,911	6.5	6.9	3.5	0.930	270	4,450,362	6.1
Thyroid	Total	17	121,008	14.0	15.5	14.5	0.574	1,168	8,871,098	13.2
Thyroid	Male	5	61,911	8.1	9.0	4.6	0.971	367	4,450,362	8.2
Thyroid	Female	12	59,097	20.3	22.3	9.8	0.551	801	4,420,736	18.1
Pediatric Age 0 to 19	Total	10	41,420	24.1	24.2	7.0	0.332	415	2,457,904	16.9
Pediatric Age 0 to 19	Male	6	21,500	27.9	27.9	3.6	0.302	208	1,252,821	16.6
Pediatric Age 0 to 19	Female	4	19,920	20.1	20.3	3.4	0.878	207	1,205,083	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 CASSIA COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cause of Death Cancer Site/Type	Sex	Cassia 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	1,127	123,002	916.2	981.2	1,003.6	0.000 >>	79,408	9,088,392	873.7
All Causes of Death	Male	582	63,020	923.5	1,030.5	522.2	0.011 >>	42,204	4,564,677	924.6
All Causes of Death	Female	545	59,982	908.6	929.8	482.1	0.005 >>	37,204	4,523,715	822.4
All Malignant Cancers	Total	171	123,002	139.0	153.1	185.1	0.318	15,062	9,088,392	165.7
All Malignant Cancers	Male	96	63,020	152.3	172.6	99.2	0.802	8,139	4,564,677	178.3
All Malignant Cancers	Female	75	59,982	125.0	134.3	85.4	0.281	6,923	4,523,715	153.0
Bladder	Total	8	123,002	6.5	7.0	6.0	0.520	477	9,088,392	5.2
Bladder	Male	5	63,020	7.9	8.9	4.5	0.954	370	4,564,677	8.1
Bladder	Female	3	59,982	5.0	5.1	1.4	0.323	107	4,523,715	2.4
Brain and Other Nervous System	Total	7	123,002	5.7	6.3	6.2	0.866	511	9,088,392	5.6
Brain and Other Nervous System	Male	5	63,020	7.9	8.9	3.5	0.548	284	4,564,677	6.2
Brain and Other Nervous System	Female	2	59,982	3.3	3.6	2.8	0.960	227	4,523,715	5.0
Breast	Total	11	123,002	8.9	9.8	13.7	0.573	1,113	9,088,392	12.2
Breast	Male	-	63,020	-	-	0.2	1.000	13	4,564,677	0.3
Breast	Female	11	59,982	18.3	19.7	13.5	0.601	1,100	4,523,715	24.3
Cervix	Female	-	59,982	-	-	1.1	0.698	88	4,523,715	1.9
Colorectal	Total	16	123,002	13.0	14.3	16.2	1.000	1,316	9,088,392	14.5
Colorectal	Male	3	63,020	4.8	5.4	8.9	0.046 <<	729	4,564,677	16.0
Colorectal	Female	13	59,982	21.7	23.0	7.3	0.073	587	4,523,715	13.0
Corpus Uteri	Female	-	59,982	-	-	2.0	0.264	169	4,523,715	3.7
Esophagus	Total	2	123,002	1.6	1.8	5.5	0.171	459	9,088,392	5.1
Esophagus	Male	2	63,020	3.2	3.6	4.7	0.304	389	4,564,677	8.5
Esophagus	Female	-	59,982	-	-	0.9	0.844	70	4,523,715	1.5
Hodgkin Lymphoma	Total	-	123,002	-	-	0.3	1.000	25	9,088,392	0.3
Hodgkin Lymphoma	Male	-	63,020	-	-	0.2	1.000	14	4,564,677	0.3
Hodgkin Lymphoma	Female	-	59,982	-	-	0.1	1.000	11	4,523,715	0.2
Kidney	Total	4	123,002	3.3	3.6	4.7	0.993	382	9,088,392	4.2
Kidney	Male	2	63,020	3.2	3.6	3.0	0.862	244	4,564,677	5.3
Kidney	Female	2	59,982	3.3	3.5	1.7	1.000	138	4,523,715	3.1
Larynx	Total	1	123,002	0.8	0.9	0.9	1.000	75	9,088,392	0.8
Larynx	Male	-	63,020	-	-	0.8	0.904	65	4,564,677	1.4
Larynx	Female	1	59,982	1.7	1.9	0.1	0.219	10	4,523,715	0.2
Leukemia	Total	4	123,002	3.3	3.5	8.2	0.172	661	9,088,392	7.3
Leukemia	Male	3	63,020	4.8	5.3	4.9	0.573	394	4,564,677	8.6
Leukemia	Female	1	59,982	1.7	1.8	3.4	0.300	267	4,523,715	5.9
Liver and Bile Duct	Total	9	123,002	7.3	8.2	7.5	0.682	626	9,088,392	6.9
Liver and Bile Duct	Male	7	63,020	11.1	12.7	5.0	0.477	416	4,564,677	9.1
Liver and Bile Duct	Female	2	59,982	3.3	3.7	2.5	1.000	210	4,523,715	4.6
Lung and Bronchus	Total	17	123,002	13.8	15.4	35.5	0.001 <<	2,920	9,088,392	32.1
Lung and Bronchus	Male	12	63,020	19.0	21.8	18.5	0.151	1,529	4,564,677	33.5
Lung and Bronchus	Female	5	59,982	8.3	9.0	17.0	0.001 <<	1,391	4,523,715	30.7
Melanoma of the Skin	Total	7	123,002	5.7	6.3	3.6	0.150	294	9,088,392	3.2
Melanoma of the Skin	Male	3	63,020	4.8	5.4	2.4	0.867	197	4,564,677	4.3
Melanoma of the Skin	Female	4	59,982	6.7	7.1	1.2	0.068	97	4,523,715	2.1
Myeloma	Total	9	123,002	7.3	8.0	3.9	0.037 >>	316	9,088,392	3.5
Myeloma	Male	5	63,020	7.9	9.0	2.2	0.151	183	4,564,677	4.0
Myeloma	Female	4	59,982	6.7	7.1	1.6	0.172	133	4,523,715	2.9
Non-Hodgkin Lymphoma	Total	7	123,002	5.7	6.2	7.0	1.000	561	9,088,392	6.2
Non-Hodgkin Lymphoma	Male	6	63,020	9.5	10.8	3.7	0.344	304	4,564,677	6.7
Non-Hodgkin Lymphoma	Female	1	59,982	1.7	1.7	3.2	0.330	257	4,523,715	5.7
Oral Cavity and Pharynx	Total	4	123,002	3.3	3.6	3.3	0.825	271	9,088,392	3.0
Oral Cavity and Pharynx	Male	3	63,020	4.8	5.4	2.3	0.798	189	4,564,677	4.1
Oral Cavity and Pharynx	Female	1	59,982	1.7	1.8	1.0	1.000	82	4,523,715	1.8
Ovary	Female	2	59,982	3.3	3.7	4.3	0.384	359	4,523,715	7.9
Pancreas	Total	13	123,002	10.6	11.8	14.3	0.871	1,177	9,088,392	13.0
Pancreas	Male	6	63,020	9.5	10.9	7.8	0.682	644	4,564,677	14.1
Pancreas	Female	7	59,982	11.7	12.7	6.5	0.949	533	4,523,715	11.8
Prostate	Male	15	63,020	23.8	26.7	12.1	0.468	982	4,564,677	21.5
Stomach	Total	2	123,002	1.6	1.8	2.4	1.000	192	9,088,392	2.1
Stomach	Male	2	63,020	3.2	3.6	1.4	0.835	117	4,564,677	2.6
Stomach	Female	-	59,982	-	-	0.9	0.790	75	4,523,715	1.7

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	Cassia County
<u>Access to Care</u>									
Have Health Insurance, Age < 65 (2021–2022)	90.0%	89.3%	87.8%	86.4%	92.6%	87.2%	89.1%	92.6%	88.8%
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%	11.2%
<u>Cancer Screening</u>									
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%	53.7%
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%	.
Colorectal Cancer Screening, Age 45–75 (2022)	63.3%	61.0%	62.5%	60.8%	67.2%	65.0%	60.4%	60.2%	.
<u>Tobacco Use</u>									
Current Tobacco User (2020–2022)	22.1%	24.3%	20.4%	24.8%	21.3%	22.5%	22.6%	18.1%	19.3%
<u>Other Cancer-Related</u>									
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%	29.0%
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%	70.7%
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%	14.1%
Home Ever Tested for Radon (2016, 2018, 2020)	22.9%	30.8%	18.3%	16.9%	25.2%	20.1%	23.0%	21.0%	8.7%

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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CLARK 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 16 cases of invasive cancer were diagnosed among Clark County residents (Table 1).

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

Cancer Incidence 2017–2021	Clark County	State of Idaho
All Sites/Types	16	47,333
Female Breast	2	6,943
Prostate	1	6,766
Lung & Bronchus	1	4,959
Colorectal	0	3,632

Table 3 (*Cancer Incidence 2017–2021, Comparison between Clark 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 Clark 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 Clark County was 380.4 cases per 100,000 person-years per year during 2017–2021. Comparing this crude rate with the crude rate for the remainder of Idaho (526.5) gives an estimate of the relative burden of disease in Clark County.

The age- and sex-adjusted incidence rate of invasive cancer in Clark County, all sites combined, was 349.9 cases per 100,000 persons per year during 2017–2021. There were fewer cases of cancer in Clark County (16) than expected (24.1) 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 6 Clark 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 Clark County and the State of Idaho, 2018–2022

Mortality 2018–2022	Clark County	State of Idaho
All Deaths	30	80,538
Cancer Deaths	6	15,233
% of All Deaths	20.0%	18.9%
Lung & Bronchus	0	2,937
Colorectal	0	1,332
Pancreas	1	1,190
Female Breast	0	1,111
Prostate	0	997

Table 4 (*Cancer Mortality 2018–2022, Comparison between Clark 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 Clark 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 Clark County, all sites combined, was 123.1 deaths per 100,000 persons per year during 2018–2022, compared with 165.4 for the remainder of the state. There were fewer cancer deaths in Clark County (6) than expected (8.1) 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 CLARK COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cancer Site/Type	Sex	Clark 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	16	4,206	380.4	349.9	24.1	0.109	47,317	8,987,900	526.5
All Sites Combined	Male	7	2,173	322.1	270.9	14.5	0.049 <<	25,263	4,510,100	560.1
All Sites Combined	Female	9	2,033	442.7	440.5	10.1	0.900	22,054	4,477,800	492.5
Bladder	Total	-	4,206	-	-	1.2	0.613	2,220	8,987,900	24.7
Bladder	Male	-	2,173	-	-	1.1	0.679	1,773	4,510,100	39.3
Bladder	Female	-	2,033	-	-	0.2	1.000	447	4,477,800	10.0
Brain - malignant	Total	-	4,206	-	-	0.3	1.000	657	8,987,900	7.3
Brain - malignant	Male	-	2,173	-	-	0.2	1.000	382	4,510,100	8.5
Brain - malignant	Female	-	2,033	-	-	0.1	1.000	275	4,477,800	6.1
Brain and other CNS - non-malignant	Total	-	4,206	-	-	0.8	0.911	1,547	8,987,900	17.2
Brain and other CNS - non-malignant	Male	-	2,173	-	-	0.3	1.000	500	4,510,100	11.1
Brain and other CNS - non-malignant	Female	-	2,033	-	-	0.5	1.000	1,047	4,477,800	23.4
Breast	Total	2	4,206	47.6	44.7	3.5	0.646	7,006	8,987,900	77.9
Breast	Male	-	2,173	-	-	0.0	1.000	65	4,510,100	1.4
Breast	Female	2	2,033	98.4	99.1	3.1	0.790	6,941	4,477,800	155.0
Breast - in situ	Total	-	4,206	-	-	0.7	1.000	1,369	8,987,900	15.2
Breast - in situ	Male	-	2,173	-	-	0.0	1.000	4	4,510,100	0.1
Breast - in situ	Female	-	2,033	-	-	0.6	1.000	1,365	4,477,800	30.5
Cervix	Female	-	2,033	-	-	0.1	1.000	294	4,477,800	6.6
Colorectal	Total	-	4,206	-	-	1.9	0.306	3,632	8,987,900	40.4
Colorectal	Male	-	2,173	-	-	1.1	0.642	1,977	4,510,100	43.8
Colorectal	Female	-	2,033	-	-	0.8	0.926	1,655	4,477,800	37.0
Corpus Uteri	Female	2	2,033	98.4	100.9	0.6	0.243	1,352	4,477,800	30.2
Esophagus	Total	-	4,206	-	-	0.3	1.000	507	8,987,900	5.6
Esophagus	Male	-	2,173	-	-	0.3	1.000	429	4,510,100	9.5
Esophagus	Female	-	2,033	-	-	0.0	1.000	78	4,477,800	1.7
Hodgkin Lymphoma	Total	-	4,206	-	-	0.1	1.000	222	8,987,900	2.5
Hodgkin Lymphoma	Male	-	2,173	-	-	0.1	1.000	129	4,510,100	2.9
Hodgkin Lymphoma	Female	-	2,033	-	-	0.0	1.000	93	4,477,800	2.1
Kidney and Renal Pelvis	Total	-	4,206	-	-	1.0	0.746	1,951	8,987,900	21.7
Kidney and Renal Pelvis	Male	-	2,173	-	-	0.7	0.959	1,310	4,510,100	29.0
Kidney and Renal Pelvis	Female	-	2,033	-	-	0.3	1.000	641	4,477,800	14.3
Larynx	Total	-	4,206	-	-	0.1	1.000	220	8,987,900	2.4
Larynx	Male	-	2,173	-	-	0.1	1.000	167	4,510,100	3.7
Larynx	Female	-	2,033	-	-	0.0	1.000	53	4,477,800	1.2
Leukemia	Total	1	4,206	23.8	21.5	0.9	1.000	1,726	8,987,900	19.2
Leukemia	Male	-	2,173	-	-	0.6	1.000	1,036	4,510,100	23.0
Leukemia	Female	1	2,033	49.2	47.8	0.3	0.551	690	4,477,800	15.4
Liver and Bile Duct	Total	-	4,206	-	-	0.4	1.000	843	8,987,900	9.4
Liver and Bile Duct	Male	-	2,173	-	-	0.3	1.000	594	4,510,100	13.2
Liver and Bile Duct	Female	-	2,033	-	-	0.1	1.000	249	4,477,800	5.6
Lung and Bronchus	Total	1	4,206	23.8	21.3	2.6	0.539	4,958	8,987,900	55.2
Lung and Bronchus	Male	1	2,173	46.0	37.7	1.5	1.000	2,494	4,510,100	55.3
Lung and Bronchus	Female	-	2,033	-	-	1.1	0.638	2,464	4,477,800	55.0
Melanoma of the Skin	Total	2	4,206	47.6	43.8	1.6	0.947	3,142	8,987,900	35.0
Melanoma of the Skin	Male	2	2,173	92.0	76.5	1.1	0.600	1,893	4,510,100	42.0
Melanoma of the Skin	Female	-	2,033	-	-	0.6	1.000	1,249	4,477,800	27.9
Myeloma	Total	1	4,206	23.8	21.4	0.4	0.630	727	8,987,900	8.1
Myeloma	Male	1	2,173	46.0	37.4	0.3	0.464	446	4,510,100	9.9
Myeloma	Female	-	2,033	-	-	0.1	1.000	281	4,477,800	6.3
Non-Hodgkin Lymphoma	Total	2	4,206	47.6	43.6	1.0	0.540	1,990	8,987,900	22.1
Non-Hodgkin Lymphoma	Male	1	2,173	46.0	39.5	0.6	0.948	1,145	4,510,100	25.4
Non-Hodgkin Lymphoma	Female	1	2,033	49.2	48.4	0.4	0.645	845	4,477,800	18.9
Oral Cavity and Pharynx	Total	-	4,206	-	-	0.7	1.000	1,315	8,987,900	14.6
Oral Cavity and Pharynx	Male	-	2,173	-	-	0.5	1.000	940	4,510,100	20.8
Oral Cavity and Pharynx	Female	-	2,033	-	-	0.2	1.000	375	4,477,800	8.4
Ovary	Female	-	2,033	-	-	0.2	1.000	553	4,477,800	12.3
Pancreas	Total	1	4,206	23.8	21.2	0.8	1.000	1,487	8,987,900	16.5
Pancreas	Male	-	2,173	-	-	0.5	1.000	826	4,510,100	18.3
Pancreas	Female	1	2,033	49.2	48.0	0.3	0.529	661	4,477,800	14.8
Prostate	Male	1	2,173	46.0	39.7	3.8	0.219	6,765	4,510,100	150.0
Stomach	Total	1	4,206	23.8	21.3	0.2	0.439	473	8,987,900	5.3
Stomach	Male	-	2,173	-	-	0.2	1.000	307	4,510,100	6.8
Stomach	Female	1	2,033	49.2	47.3	0.1	0.151	166	4,477,800	3.7
Testis	Male	-	2,173	-	-	0.1	1.000	274	4,510,100	6.1
Thyroid	Total	1	4,206	23.8	23.4	0.6	0.861	1,184	8,987,900	13.2
Thyroid	Male	-	2,173	-	-	0.2	1.000	372	4,510,100	8.2
Thyroid	Female	1	2,033	49.2	50.2	0.4	0.607	812	4,477,800	18.1
Pediatric Age 0 to 19	Total	-	1,123	-	-	0.2	1.000	425	2,498,201	17.0
Pediatric Age 0 to 19	Male	-	538	-	-	0.1	1.000	214	1,273,783	16.8
Pediatric Age 0 to 19	Female	-	585	-	-	0.1	1.000	211	1,224,418	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 CLARK COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cause of Death Cancer Site/Type	Sex	Clark 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	30	4,134	725.7	583.9	44.9	0.024 <<	80,505	9,207,260	874.4
All Causes of Death	Male	14	2,144	653.0	480.1	27.0	0.009 <<	42,772	4,625,553	924.7
All Causes of Death	Female	16	1,990	804.0	707.2	18.6	0.642	37,733	4,581,707	823.6
All Malignant Cancers	Total	6	4,134	145.1	123.1	8.1	0.612	15,227	9,207,260	165.4
All Malignant Cancers	Male	1	2,144	46.6	35.6	5.0	0.080	8,234	4,625,553	178.0
All Malignant Cancers	Female	5	1,990	251.3	234.1	3.3	0.460	6,993	4,581,707	152.6
Bladder	Total	-	4,134	-	-	0.3	1.000	485	9,207,260	5.3
Bladder	Male	-	2,144	-	-	0.3	1.000	375	4,625,553	8.1
Bladder	Female	-	1,990	-	-	0.1	1.000	110	4,581,707	2.4
Brain and Other Nervous System	Total	-	4,134	-	-	0.3	1.000	518	9,207,260	5.6
Brain and Other Nervous System	Male	-	2,144	-	-	0.2	1.000	289	4,625,553	6.2
Brain and Other Nervous System	Female	-	1,990	-	-	0.1	1.000	229	4,581,707	5.0
Breast	Total	-	4,134	-	-	0.6	1.000	1,124	9,207,260	12.2
Breast	Male	-	2,144	-	-	0.0	1.000	13	4,625,553	0.3
Breast	Female	-	1,990	-	-	0.5	1.000	1,111	4,581,707	24.2
Cervix	Female	-	1,990	-	-	0.0	1.000	88	4,581,707	1.9
Colorectal	Total	-	4,134	-	-	0.7	0.988	1,332	9,207,260	14.5
Colorectal	Male	-	2,144	-	-	0.4	1.000	732	4,625,553	15.8
Colorectal	Female	-	1,990	-	-	0.3	1.000	600	4,581,707	13.1
Corpus Uteri	Female	-	1,990	-	-	0.1	1.000	169	4,581,707	3.7
Esophagus	Total	-	4,134	-	-	0.2	1.000	461	9,207,260	5.0
Esophagus	Male	-	2,144	-	-	0.2	1.000	391	4,625,553	8.5
Esophagus	Female	-	1,990	-	-	0.0	1.000	70	4,581,707	1.5
Hodgkin Lymphoma	Total	-	4,134	-	-	0.0	1.000	25	9,207,260	0.3
Hodgkin Lymphoma	Male	-	2,144	-	-	0.0	1.000	14	4,625,553	0.3
Hodgkin Lymphoma	Female	-	1,990	-	-	0.0	1.000	11	4,581,707	0.2
Kidney	Total	1	4,134	24.2	20.5	0.2	0.369	385	9,207,260	4.2
Kidney	Male	1	2,144	46.6	36.3	0.1	0.272	245	4,625,553	5.3
Kidney	Female	-	1,990	-	-	0.1	1.000	140	4,581,707	3.1
Larynx	Total	-	4,134	-	-	0.0	1.000	76	9,207,260	0.8
Larynx	Male	-	2,144	-	-	0.0	1.000	65	4,625,553	1.4
Larynx	Female	-	1,990	-	-	0.0	1.000	11	4,581,707	0.2
Leukemia	Total	-	4,134	-	-	0.4	1.000	665	9,207,260	7.2
Leukemia	Male	-	2,144	-	-	0.2	1.000	397	4,625,553	8.6
Leukemia	Female	-	1,990	-	-	0.1	1.000	268	4,581,707	5.8
Liver and Bile Duct	Total	-	4,134	-	-	0.3	1.000	635	9,207,260	6.9
Liver and Bile Duct	Male	-	2,144	-	-	0.2	1.000	423	4,625,553	9.1
Liver and Bile Duct	Female	-	1,990	-	-	0.1	1.000	212	4,581,707	4.6
Lung and Bronchus	Total	-	4,134	-	-	1.5	0.431	2,937	9,207,260	31.9
Lung and Bronchus	Male	-	2,144	-	-	0.9	0.807	1,541	4,625,553	33.3
Lung and Bronchus	Female	-	1,990	-	-	0.6	1.000	1,396	4,581,707	30.5
Melanoma of the Skin	Total	-	4,134	-	-	0.2	1.000	301	9,207,260	3.3
Melanoma of the Skin	Male	-	2,144	-	-	0.1	1.000	200	4,625,553	4.3
Melanoma of the Skin	Female	-	1,990	-	-	0.0	1.000	101	4,581,707	2.2
Myeloma	Total	-	4,134	-	-	0.2	1.000	325	9,207,260	3.5
Myeloma	Male	-	2,144	-	-	0.1	1.000	188	4,625,553	4.1
Myeloma	Female	-	1,990	-	-	0.1	1.000	137	4,581,707	3.0
Non-Hodgkin Lymphoma	Total	-	4,134	-	-	0.3	1.000	568	9,207,260	6.2
Non-Hodgkin Lymphoma	Male	-	2,144	-	-	0.2	1.000	310	4,625,553	6.7
Non-Hodgkin Lymphoma	Female	-	1,990	-	-	0.1	1.000	258	4,581,707	5.6
Oral Cavity and Pharynx	Total	-	4,134	-	-	0.1	1.000	275	9,207,260	3.0
Oral Cavity and Pharynx	Male	-	2,144	-	-	0.1	1.000	192	4,625,553	4.2
Oral Cavity and Pharynx	Female	-	1,990	-	-	0.0	1.000	83	4,581,707	1.8
Ovary	Female	-	1,990	-	-	0.2	1.000	361	4,581,707	7.9
Pancreas	Total	1	4,134	24.2	21.1	0.6	0.915	1,189	9,207,260	12.9
Pancreas	Male	-	2,144	-	-	0.4	1.000	650	4,625,553	14.1
Pancreas	Female	1	1,990	50.3	47.4	0.2	0.440	539	4,581,707	11.8
Prostate	Male	-	2,144	-	-	0.7	1.000	997	4,625,553	21.6
Stomach	Total	1	4,134	24.2	20.4	0.1	0.195	193	9,207,260	2.1
Stomach	Male	-	2,144	-	-	0.1	1.000	119	4,625,553	2.6
Stomach	Female	1	1,990	50.3	46.7	0.0	0.068	74	4,581,707	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	Clark County
<u>Access to Care</u>									
Have Health Insurance, Age < 65 (2021–2022)	90.0%	89.3%	87.8%	86.4%	92.6%	87.2%	89.1%	92.6%	.
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%	.
<u>Cancer Screening</u>									
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%	.
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%	.
Colorectal Cancer Screening, Age 45–75 (2022)	63.3%	61.0%	62.5%	60.8%	67.2%	65.0%	60.4%	60.2%	.
<u>Tobacco Use</u>									
Current Tobacco User (2020–2022)	22.1%	24.3%	20.4%	24.8%	21.3%	22.5%	22.6%	18.1%	.
<u>Other Cancer-Related</u>									
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%	.
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%	.
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%	.
Home Ever Tested for Radon (2016, 2018, 2020)	22.9%	30.8%	18.3%	16.9%	25.2%	20.1%	23.0%	21.0%	.

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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CLEARWATER 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 364 cases of invasive cancer were diagnosed among Clearwater County residents (Table 1).

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

Cancer Incidence 2017–2021	Clearwater County	State of Idaho
All Sites/Types	364	47,333
Female Breast	39	6,943
Prostate	56	6,766
Lung & Bronchus	60	4,959
Colorectal	36	3,632

Table 3 (*Cancer Incidence 2017–2021, Comparison between Clearwater 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 Clearwater 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 Clearwater County was 828.5 cases per 100,000 person-years per year during 2017–2021. Comparing this crude rate with the crude rate for the remainder of Idaho (524.9) gives an estimate of the relative burden of disease in Clearwater County.

The age- and sex-adjusted incidence rate of invasive cancer in Clearwater County, all sites combined, was 539.4 cases per 100,000 persons per year during 2017–2021. There were more cases of cancer in Clearwater County (364) than expected (354.2) 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 140 Clearwater 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 Clearwater County and the State of Idaho, 2018–2022

Mortality 2018–2022	Clearwater County	State of Idaho
All Deaths	598	80,538
Cancer Deaths	140	15,233
% of All Deaths	23.4%	18.9%
Lung & Bronchus	40	2,937
Colorectal	16	1,332
Pancreas	6	1,190
Female Breast	5	1,111
Prostate	6	997

Table 4 (*Cancer Mortality 2018–2022, Comparison between Clearwater 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 Clearwater 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 Clearwater County, all sites combined, was 188.9 deaths per 100,000 persons per year during 2018–2022, compared with 164.6 for the remainder of the state. There were more cancer deaths in Clearwater County (140) than expected (122.0) 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 CLEARWATER COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cancer Site/Type	Sex	Clearwater 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	364	43,934	828.5	539.4	354.2	0.617	46,969	8,948,172	524.9
All Sites Combined	Male	206	24,286	848.2	545.7	210.8	0.773	25,064	4,487,987	558.5
All Sites Combined	Female	158	19,648	804.2	526.6	147.4	0.401	21,905	4,460,185	491.1
Bladder	Total	22	43,934	50.1	29.8	18.1	0.417	2,198	8,948,172	24.6
Bladder	Male	19	24,286	78.2	46.7	15.9	0.498	1,754	4,487,987	39.1
Bladder	Female	3	19,648	15.3	9.1	3.3	1.000	444	4,460,185	10.0
Brain - malignant	Total	2	43,934	4.6	3.4	4.4	0.378	655	8,948,172	7.3
Brain - malignant	Male	2	24,286	8.2	6.2	2.7	0.964	380	4,487,987	8.5
Brain - malignant	Female	-	19,648	-	-	1.7	0.363	275	4,460,185	6.2
Brain and other CNS - non-malignant	Total	12	43,934	27.3	18.7	11.0	0.839	1,535	8,948,172	17.2
Brain and other CNS - non-malignant	Male	4	24,286	16.5	11.7	3.8	1.000	496	4,487,987	11.1
Brain and other CNS - non-malignant	Female	8	19,648	40.7	27.2	6.9	0.759	1,039	4,460,185	23.3
Breast	Total	39	43,934	88.8	60.4	50.3	0.118	6,969	8,948,172	77.9
Breast	Male	-	24,286	-	-	0.6	1.000	65	4,487,987	1.4
Breast	Female	39	19,648	198.5	132.7	45.5	0.377	6,904	4,460,185	154.8
Breast - in situ	Total	5	43,934	11.4	7.9	9.6	0.169	1,364	8,948,172	15.2
Breast - in situ	Male	-	24,286	-	-	0.0	1.000	4	4,487,987	0.1
Breast - in situ	Female	5	19,648	25.4	17.5	8.7	0.266	1,360	4,460,185	30.5
Cervix	Female	-	19,648	-	-	1.5	0.459	294	4,460,185	6.6
Colorectal	Total	36	43,934	81.9	53.6	27.0	0.111	3,596	8,948,172	40.2
Colorectal	Male	23	24,286	94.7	63.0	15.9	0.110	1,954	4,487,987	43.5
Colorectal	Female	13	19,648	66.2	42.2	11.3	0.697	1,642	4,460,185	36.8
Corpus Uteri	Female	7	19,648	35.6	23.5	9.0	0.648	1,347	4,460,185	30.2
Esophagus	Total	10	43,934	22.8	14.2	3.9	0.014 >>	497	8,948,172	5.6
Esophagus	Male	9	24,286	37.1	23.4	3.6	0.023 >>	420	4,487,987	9.4
Esophagus	Female	1	19,648	5.1	3.0	0.6	0.867	77	4,460,185	1.7
Hodgkin Lymphoma	Total	-	43,934	-	-	1.2	0.600	222	8,948,172	2.5
Hodgkin Lymphoma	Male	-	24,286	-	-	0.8	0.890	129	4,487,987	2.9
Hodgkin Lymphoma	Female	-	19,648	-	-	0.4	1.000	93	4,460,185	2.1
Kidney and Renal Pelvis	Total	14	43,934	31.9	21.0	14.4	1.000	1,937	8,948,172	21.6
Kidney and Renal Pelvis	Male	10	24,286	41.2	27.5	10.5	1.000	1,300	4,487,987	29.0
Kidney and Renal Pelvis	Female	4	19,648	20.4	13.2	4.3	1.000	637	4,460,185	14.3
Larynx	Total	4	43,934	9.1	5.7	1.7	0.182	216	8,948,172	2.4
Larynx	Male	2	24,286	8.2	5.2	1.4	0.820	165	4,487,987	3.7
Larynx	Female	2	19,648	10.2	6.4	0.4	0.102	51	4,460,185	1.1
Leukemia	Total	16	43,934	36.4	23.9	12.8	0.438	1,711	8,948,172	19.1
Leukemia	Male	10	24,286	41.2	27.3	8.4	0.664	1,026	4,487,987	22.9
Leukemia	Female	6	19,648	30.5	19.6	4.7	0.660	685	4,460,185	15.4
Liver and Bile Duct	Total	6	43,934	13.7	8.7	6.4	1.000	837	8,948,172	9.4
Liver and Bile Duct	Male	6	24,286	24.7	16.0	4.9	0.738	588	4,487,987	13.1
Liver and Bile Duct	Female	-	19,648	-	-	1.8	0.343	249	4,460,185	5.6
Lung and Bronchus	Total	60	43,934	136.6	82.2	40.0	0.004 >>	4,899	8,948,172	54.7
Lung and Bronchus	Male	22	24,286	90.6	54.6	22.2	1.000	2,473	4,487,987	55.1
Lung and Bronchus	Female	38	19,648	193.4	114.5	18.0	0.000 >>	2,426	4,460,185	54.4
Melanoma of the Skin	Total	17	43,934	38.7	26.1	22.8	0.263	3,127	8,948,172	34.9
Melanoma of the Skin	Male	9	24,286	37.1	24.3	15.6	0.106	1,886	4,487,987	42.0
Melanoma of the Skin	Female	8	19,648	40.7	28.7	7.7	1.000	1,241	4,460,185	27.8
Myeloma	Total	1	43,934	2.3	1.4	5.8	0.042 <<	727	8,948,172	8.1
Myeloma	Male	-	24,286	-	-	3.9	0.041 <<	447	4,487,987	10.0
Myeloma	Female	1	19,648	5.1	3.1	2.0	0.802	280	4,460,185	6.3
Non-Hodgkin Lymphoma	Total	15	43,934	34.1	22.3	14.8	1.000	1,977	8,948,172	22.1
Non-Hodgkin Lymphoma	Male	8	24,286	32.9	21.9	9.3	0.845	1,138	4,487,987	25.4
Non-Hodgkin Lymphoma	Female	7	19,648	35.6	22.4	5.9	0.745	839	4,460,185	18.8
Oral Cavity and Pharynx	Total	17	43,934	38.7	25.3	9.7	0.043 >>	1,298	8,948,172	14.5
Oral Cavity and Pharynx	Male	9	24,286	37.1	24.8	7.5	0.685	931	4,487,987	20.7
Oral Cavity and Pharynx	Female	8	19,648	40.7	25.8	2.5	0.009 >>	367	4,460,185	8.2
Ovary	Female	2	19,648	10.2	6.8	3.6	0.601	551	4,460,185	12.4
Pancreas	Total	11	43,934	25.0	15.4	11.8	0.969	1,477	8,948,172	16.5
Pancreas	Male	6	24,286	24.7	15.3	7.2	0.854	820	4,487,987	18.3
Pancreas	Female	5	19,648	25.4	15.3	4.8	1.000	657	4,460,185	14.7
Prostate	Male	56	24,286	230.6	145.5	57.5	0.907	6,710	4,487,987	149.5
Stomach	Total	5	43,934	11.4	7.2	3.6	0.601	469	8,948,172	5.2
Stomach	Male	2	24,286	8.2	5.2	2.6	1.000	305	4,487,987	6.8
Stomach	Female	3	19,648	15.3	9.7	1.1	0.214	164	4,460,185	3.7
Testis	Male	-	24,286	-	-	1.4	0.488	274	4,487,987	6.1
Thyroid	Total	2	43,934	4.6	3.8	6.9	0.063	1,183	8,948,172	13.2
Thyroid	Male	2	24,286	8.2	6.3	2.6	1.000	370	4,487,987	8.2
Thyroid	Female	-	19,648	-	-	4.0	0.036 <<	813	4,460,185	18.2
Pediatric Age 0 to 19	Total	1	7,491	13.3	13.2	1.3	1.000	424	2,491,833	17.0
Pediatric Age 0 to 19	Male	-	4,226	-	-	0.7	0.980	214	1,270,095	16.8
Pediatric Age 0 to 19	Female	1	3,265	30.6	30.6	0.6	0.859	210	1,221,738	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 CLEARWATER COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cause of Death Cancer Site/Type	Sex	Clearwater 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	598	44,298	1,349.9	804.0	648.5	0.047 <<	79,937	9,167,096	872.0
All Causes of Death	Male	340	24,507	1,387.4	848.2	369.6	0.127	42,446	4,603,190	922.1
All Causes of Death	Female	258	19,791	1,303.6	737.6	287.3	0.085	37,491	4,563,906	821.5
All Malignant Cancers	Total	140	44,298	316.0	188.9	122.0	0.119	15,093	9,167,096	164.6
All Malignant Cancers	Male	75	24,507	306.0	182.8	72.7	0.823	8,160	4,603,190	177.3
All Malignant Cancers	Female	65	19,791	328.4	193.2	51.1	0.068	6,933	4,563,906	151.9
Bladder	Total	2	44,298	4.5	2.5	4.2	0.426	483	9,167,096	5.3
Bladder	Male	2	24,507	8.2	4.6	3.5	0.624	373	4,603,190	8.1
Bladder	Female	-	19,791	-	-	0.9	0.834	110	4,563,906	2.4
Brain and Other Nervous System	Total	2	44,298	4.5	3.0	3.7	0.564	516	9,167,096	5.6
Brain and Other Nervous System	Male	2	24,507	8.2	5.6	2.2	1.000	287	4,603,190	6.2
Brain and Other Nervous System	Female	-	19,791	-	-	1.5	0.432	229	4,563,906	5.0
Breast	Total	6	44,298	13.5	8.3	8.8	0.453	1,118	9,167,096	12.2
Breast	Male	1	24,507	4.1	2.4	0.1	0.203	12	4,603,190	0.3
Breast	Female	5	19,791	25.3	15.2	8.0	0.388	1,106	4,563,906	24.2
Cervix	Female	-	19,791	-	-	0.5	1.000	88	4,563,906	1.9
Colorectal	Total	16	44,298	36.1	22.3	10.3	0.122	1,316	9,167,096	14.4
Colorectal	Male	7	24,507	28.6	18.1	6.1	0.816	725	4,603,190	15.7
Colorectal	Female	9	19,791	45.5	26.7	4.4	0.068	591	4,563,906	12.9
Corpus Uteri	Female	2	19,791	10.1	6.0	1.2	0.686	167	4,563,906	3.7
Esophagus	Total	9	44,298	20.3	12.3	3.6	0.024 >>	452	9,167,096	4.9
Esophagus	Male	9	24,507	36.7	22.5	3.3	0.014 >>	382	4,603,190	8.3
Esophagus	Female	-	19,791	-	-	0.5	1.000	70	4,563,906	1.5
Hodgkin Lymphoma	Total	-	44,298	-	-	0.2	1.000	25	9,167,096	0.3
Hodgkin Lymphoma	Male	-	24,507	-	-	0.1	1.000	14	4,603,190	0.3
Hodgkin Lymphoma	Female	-	19,791	-	-	0.1	1.000	11	4,563,906	0.2
Kidney	Total	6	44,298	13.5	7.9	3.1	0.195	380	9,167,096	4.1
Kidney	Male	3	24,507	12.2	7.3	2.2	0.737	243	4,603,190	5.3
Kidney	Female	3	19,791	15.2	8.5	1.1	0.181	137	4,563,906	3.0
Larynx	Total	-	44,298	-	-	0.6	1.000	76	9,167,096	0.8
Larynx	Male	-	24,507	-	-	0.6	1.000	65	4,603,190	1.4
Larynx	Female	-	19,791	-	-	0.1	1.000	11	4,563,906	0.2
Leukemia	Total	3	44,298	6.8	4.0	5.4	0.421	662	9,167,096	7.2
Leukemia	Male	2	24,507	8.2	4.8	3.6	0.622	395	4,603,190	8.6
Leukemia	Female	1	19,791	5.1	2.9	2.0	0.813	267	4,563,906	5.9
Liver and Bile Duct	Total	5	44,298	11.3	6.9	5.0	1.000	630	9,167,096	6.9
Liver and Bile Duct	Male	5	24,507	20.4	12.7	3.6	0.582	418	4,603,190	9.1
Liver and Bile Duct	Female	-	19,791	-	-	1.5	0.427	212	4,563,906	4.6
Lung and Bronchus	Total	40	44,298	90.3	52.9	23.9	0.003 >>	2,897	9,167,096	31.6
Lung and Bronchus	Male	15	24,507	61.2	36.0	13.8	0.817	1,526	4,603,190	33.2
Lung and Bronchus	Female	25	19,791	126.3	72.4	10.4	0.000 >>	1,371	4,563,906	30.0
Melanoma of the Skin	Total	1	44,298	2.3	1.4	2.3	0.641	300	9,167,096	3.3
Melanoma of the Skin	Male	1	24,507	4.1	2.5	1.7	0.975	199	4,603,190	4.3
Melanoma of the Skin	Female	-	19,791	-	-	0.7	0.981	101	4,563,906	2.2
Myeloma	Total	1	44,298	2.3	1.3	2.7	0.489	324	9,167,096	3.5
Myeloma	Male	-	24,507	-	-	1.7	0.351	188	4,603,190	4.1
Myeloma	Female	1	19,791	5.1	2.9	1.0	1.000	136	4,563,906	3.0
Non-Hodgkin Lymphoma	Total	6	44,298	13.5	7.9	4.6	0.644	562	9,167,096	6.1
Non-Hodgkin Lymphoma	Male	4	24,507	16.3	9.8	2.7	0.583	306	4,603,190	6.6
Non-Hodgkin Lymphoma	Female	2	19,791	10.1	5.6	2.0	1.000	256	4,563,906	5.6
Oral Cavity and Pharynx	Total	6	44,298	13.5	8.3	2.1	0.043 >>	269	9,167,096	2.9
Oral Cavity and Pharynx	Male	5	24,507	20.4	12.5	1.6	0.050 >>	187	4,603,190	4.1
Oral Cavity and Pharynx	Female	1	19,791	5.1	3.0	0.6	0.900	82	4,563,906	1.8
Ovary	Female	3	19,791	15.2	9.0	2.6	0.967	358	4,563,906	7.8
Pancreas	Total	6	44,298	13.5	8.1	9.6	0.320	1,184	9,167,096	12.9
Pancreas	Male	3	24,507	12.2	7.4	5.7	0.355	647	4,603,190	14.1
Pancreas	Female	3	19,791	15.2	8.9	4.0	0.877	537	4,563,906	11.8
Prostate	Male	6	24,507	24.5	13.6	9.5	0.332	991	4,603,190	21.5
Stomach	Total	3	44,298	6.8	4.3	1.5	0.367	191	9,167,096	2.1
Stomach	Male	1	24,507	4.1	2.5	1.0	1.000	118	4,603,190	2.6
Stomach	Female	2	19,791	10.1	6.5	0.5	0.176	73	4,563,906	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	Clearwater County
<u>Access to Care</u>									
Have Health Insurance, Age < 65 (2021–2022)	90.0%	89.3%	87.8%	86.4%	92.6%	87.2%	89.1%	92.6%	82.7%
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%	18.0%
<u>Cancer Screening</u>									
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%	53.6%
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%	.
Colorectal Cancer Screening, Age 45–75 (2022)	63.3%	61.0%	62.5%	60.8%	67.2%	65.0%	60.4%	60.2%	.
<u>Tobacco Use</u>									
Current Tobacco User (2020–2022)	22.1%	24.3%	20.4%	24.8%	21.3%	22.5%	22.6%	18.1%	18.1%
<u>Other Cancer-Related</u>									
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%	29.9%
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%	71.1%
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%	16.4%
Home Ever Tested for Radon (2016, 2018, 2020)	22.9%	30.8%	18.3%	16.9%	25.2%	20.1%	23.0%	21.0%	20.0%

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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CUSTER 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 158 cases of invasive cancer were diagnosed among Custer County residents (Table 1).

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

Cancer Incidence 2017–2021	Custer County	State of Idaho
All Sites/Types	158	47,333
Female Breast	16	6,943
Prostate	30	6,766
Lung & Bronchus	17	4,959
Colorectal	16	3,632

Table 3 (*Cancer Incidence 2017–2021, Comparison between Custer 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 Custer 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 Custer County was 741.4 cases per 100,000 person-years per year during 2017–2021. Comparing this crude rate with the crude rate for the remainder of Idaho (525.9) gives an estimate of the relative burden of disease in Custer County.

The age- and sex-adjusted incidence rate of invasive cancer in Custer County, all sites combined, was 465.2 cases per 100,000 persons per year during 2017–2021. There were fewer cases of cancer in Custer County (158) than expected (178.6) 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 64 Custer 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 Custer County and the State of Idaho, 2018–2022

Mortality 2018–2022	Custer County	State of Idaho
All Deaths	276	80,538
Cancer Deaths	64	15,233
% of All Deaths	23.2%	18.9%
Lung & Bronchus	13	2,937
Colorectal	7	1,332
Pancreas	6	1,190
Female Breast	7	1,111
Prostate	4	997

Table 4 (*Cancer Mortality 2018–2022, Comparison between Custer 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 Custer 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 Custer County, all sites combined, was 178.2 deaths per 100,000 persons per year during 2018–2022, compared with 165.1 for the remainder of the state. There were more cancer deaths in Custer County (64) than expected (59.3) 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 CUSTER COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cancer Site/Type	Sex	Custer 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	158	21,310	741.4	465.2	178.6	0.128	47,175	8,970,796	525.9
All Sites Combined	Male	103	11,106	927.4	536.1	107.4	0.715	25,167	4,501,167	559.1
All Sites Combined	Female	55	10,204	539.0	365.9	74.0	0.026 <<	22,008	4,469,629	492.4
Bladder	Total	12	21,310	56.3	32.7	9.0	0.398	2,208	8,970,796	24.6
Bladder	Male	9	11,106	81.0	44.2	8.0	0.807	1,764	4,501,167	39.2
Bladder	Female	3	10,204	29.4	18.3	1.6	0.449	444	4,469,629	9.9
Brain - malignant	Total	2	21,310	9.4	6.7	2.2	1.000	655	8,970,796	7.3
Brain - malignant	Male	2	11,106	18.0	12.5	1.3	0.780	380	4,501,167	8.4
Brain - malignant	Female	-	10,204	-	-	0.9	0.853	275	4,469,629	6.2
Brain and other CNS - non-malignant	Total	5	21,310	23.5	15.8	5.4	1.000	1,542	8,970,796	17.2
Brain and other CNS - non-malignant	Male	3	11,106	27.0	17.9	1.8	0.564	497	4,501,167	11.0
Brain and other CNS - non-malignant	Female	2	10,204	19.6	13.6	3.4	0.669	1,045	4,469,629	23.4
Breast	Total	16	21,310	75.1	49.1	25.4	0.064	6,992	8,970,796	77.9
Breast	Male	-	11,106	-	-	0.3	1.000	65	4,501,167	1.4
Breast	Female	16	10,204	156.8	107.7	23.0	0.162	6,927	4,469,629	155.0
Breast - in situ	Total	4	21,310	18.8	12.4	4.9	0.918	1,365	8,970,796	15.2
Breast - in situ	Male	-	11,106	-	-	0.0	1.000	4	4,501,167	0.1
Breast - in situ	Female	4	10,204	39.2	27.2	4.5	1.000	1,361	4,469,629	30.4
Cervix	Female	-	10,204	-	-	0.7	0.949	294	4,469,629	6.6
Colorectal	Total	16	21,310	75.1	48.3	13.3	0.536	3,616	8,970,796	40.3
Colorectal	Male	10	11,106	90.0	55.4	7.9	0.538	1,967	4,501,167	43.7
Colorectal	Female	6	10,204	58.8	39.5	5.6	0.976	1,649	4,469,629	36.9
Corpus Uteri	Female	5	10,204	49.0	32.9	4.6	0.969	1,349	4,469,629	30.2
Esophagus	Total	2	21,310	9.4	5.7	2.0	1.000	505	8,970,796	5.6
Esophagus	Male	2	11,106	18.0	10.3	1.8	1.000	427	4,501,167	9.5
Esophagus	Female	-	10,204	-	-	0.3	1.000	78	4,469,629	1.7
Hodgkin Lymphoma	Total	-	21,310	-	-	0.6	1.000	222	8,970,796	2.5
Hodgkin Lymphoma	Male	-	11,106	-	-	0.4	1.000	129	4,501,167	2.9
Hodgkin Lymphoma	Female	-	10,204	-	-	0.2	1.000	93	4,469,629	2.1
Kidney and Renal Pelvis	Total	7	21,310	32.8	20.9	7.2	1.000	1,944	8,970,796	21.7
Kidney and Renal Pelvis	Male	5	11,106	45.0	27.4	5.3	1.000	1,305	4,501,167	29.0
Kidney and Renal Pelvis	Female	2	10,204	19.6	13.1	2.2	1.000	639	4,469,629	14.3
Larynx	Total	-	21,310	-	-	0.9	0.848	220	8,970,796	2.5
Larynx	Male	-	11,106	-	-	0.7	0.983	167	4,501,167	3.7
Larynx	Female	-	10,204	-	-	0.2	1.000	53	4,469,629	1.2
Leukemia	Total	2	21,310	9.4	6.0	6.4	0.094	1,725	8,970,796	19.2
Leukemia	Male	1	11,106	9.0	5.5	4.2	0.157	1,035	4,501,167	23.0
Leukemia	Female	1	10,204	9.8	6.6	2.3	0.646	690	4,469,629	15.4
Liver and Bile Duct	Total	2	21,310	9.4	5.6	3.3	0.700	841	8,970,796	9.4
Liver and Bile Duct	Male	1	11,106	9.0	5.0	2.6	0.530	593	4,501,167	13.2
Liver and Bile Duct	Female	1	10,204	9.8	6.3	0.9	1.000	248	4,469,629	5.5
Lung and Bronchus	Total	17	21,310	79.8	46.2	20.3	0.554	4,942	8,970,796	55.1
Lung and Bronchus	Male	9	11,106	81.0	43.7	11.4	0.602	2,486	4,501,167	55.2
Lung and Bronchus	Female	8	10,204	78.4	48.6	9.1	0.897	2,456	4,469,629	54.9
Melanoma of the Skin	Total	8	21,310	37.5	24.7	11.3	0.409	3,136	8,970,796	35.0
Melanoma of the Skin	Male	8	11,106	72.0	43.4	7.7	1.000	1,887	4,501,167	41.9
Melanoma of the Skin	Female	-	10,204	-	-	3.9	0.040 <<	1,249	4,469,629	27.9
Myeloma	Total	3	21,310	14.1	8.4	2.9	1.000	725	8,970,796	8.1
Myeloma	Male	2	11,106	18.0	10.3	1.9	1.000	445	4,501,167	9.9
Myeloma	Female	1	10,204	9.8	6.2	1.0	1.000	280	4,469,629	6.3
Non-Hodgkin Lymphoma	Total	2	21,310	9.4	5.9	7.5	0.041 <<	1,990	8,970,796	22.2
Non-Hodgkin Lymphoma	Male	2	11,106	18.0	10.8	4.7	0.305	1,144	4,501,167	25.4
Non-Hodgkin Lymphoma	Female	-	10,204	-	-	2.9	0.107	846	4,469,629	18.9
Oral Cavity and Pharynx	Total	7	21,310	32.8	20.5	5.0	0.472	1,308	8,970,796	14.6
Oral Cavity and Pharynx	Male	6	11,106	54.0	32.0	3.9	0.394	934	4,501,167	20.8
Oral Cavity and Pharynx	Female	1	10,204	9.8	6.4	1.3	1.000	374	4,469,629	8.4
Ovary	Female	1	10,204	9.8	6.8	1.8	0.914	552	4,469,629	12.4
Pancreas	Total	6	21,310	28.2	16.8	5.9	1.000	1,482	8,970,796	16.5
Pancreas	Male	4	11,106	36.0	20.3	3.6	0.968	822	4,501,167	18.3
Pancreas	Female	2	10,204	19.6	12.4	2.4	1.000	660	4,469,629	14.8
Prostate	Male	30	11,106	270.1	146.8	30.6	1.000	6,736	4,501,167	149.7
Stomach	Total	2	21,310	9.4	5.9	1.8	1.000	472	8,970,796	5.3
Stomach	Male	1	11,106	9.0	5.2	1.3	1.000	306	4,501,167	6.8
Stomach	Female	1	10,204	9.8	6.6	0.6	0.858	166	4,469,629	3.7
Testis	Male	-	11,106	-	-	0.6	1.000	274	4,501,167	6.1
Thyroid	Total	3	21,310	14.1	11.8	3.4	1.000	1,182	8,970,796	13.2
Thyroid	Male	1	11,106	9.0	6.4	1.3	1.000	371	4,501,167	8.2
Thyroid	Female	2	10,204	19.6	17.8	2.0	1.000	811	4,469,629	18.1
Pediatric Age 0 to 19	Total	1	3,960	25.3	25.1	0.7	0.983	424	2,495,364	17.0
Pediatric Age 0 to 19	Male	-	2,045	-	-	0.3	1.000	214	1,272,276	16.8
Pediatric Age 0 to 19	Female	1	1,915	52.2	52.3	0.3	0.560	210	1,223,088	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 CUSTER COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cause of Death Cancer Site/Type	Sex	Custer 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	276	21,678	1,273.2	801.9	300.6	0.162	80,259	9,189,716	873.4
All Causes of Death	Male	155	11,373	1,362.9	837.7	170.9	0.237	42,631	4,616,324	923.5
All Causes of Death	Female	121	10,305	1,174.2	746.7	133.3	0.305	37,628	4,573,392	822.8
All Malignant Cancers	Total	64	21,678	295.2	178.2	59.3	0.574	15,169	9,189,716	165.1
All Malignant Cancers	Male	34	11,373	299.0	171.3	35.3	0.921	8,201	4,616,324	177.7
All Malignant Cancers	Female	30	10,305	291.1	184.2	24.8	0.344	6,968	4,573,392	152.4
Bladder	Total	4	21,678	18.5	10.9	1.9	0.255	481	9,189,716	5.2
Bladder	Male	3	11,373	26.4	15.2	1.6	0.430	372	4,616,324	8.1
Bladder	Female	1	10,305	9.7	5.9	0.4	0.661	109	4,573,392	2.4
Brain and Other Nervous System	Total	3	21,678	13.8	9.0	1.9	0.570	515	9,189,716	5.6
Brain and Other Nervous System	Male	1	11,373	8.8	5.5	1.1	1.000	288	4,616,324	6.2
Brain and Other Nervous System	Female	2	10,305	19.4	13.1	0.8	0.353	227	4,573,392	5.0
Breast	Total	7	21,678	32.3	20.3	4.2	0.265	1,117	9,189,716	12.2
Breast	Male	-	11,373	-	-	0.1	1.000	13	4,616,324	0.3
Breast	Female	7	10,305	67.9	44.0	3.8	0.189	1,104	4,573,392	24.1
Cervix	Female	-	10,305	-	-	0.3	1.000	88	4,573,392	1.9
Colorectal	Total	7	21,678	32.3	20.2	5.0	0.472	1,325	9,189,716	14.4
Colorectal	Male	6	11,373	52.8	32.0	2.9	0.157	726	4,616,324	15.7
Colorectal	Female	1	10,305	9.7	6.2	2.1	0.757	599	4,573,392	13.1
Corpus Uteri	Female	-	10,305	-	-	0.6	1.000	169	4,573,392	3.7
Esophagus	Total	2	21,678	9.2	5.5	1.8	1.000	459	9,189,716	5.0
Esophagus	Male	1	11,373	8.8	5.0	1.7	0.988	390	4,616,324	8.4
Esophagus	Female	1	10,305	9.7	6.1	0.2	0.436	69	4,573,392	1.5
Hodgkin Lymphoma	Total	-	21,678	-	-	0.1	1.000	25	9,189,716	0.3
Hodgkin Lymphoma	Male	-	11,373	-	-	0.1	1.000	14	4,616,324	0.3
Hodgkin Lymphoma	Female	-	10,305	-	-	0.0	1.000	11	4,573,392	0.2
Kidney	Total	2	21,678	9.2	5.4	1.5	0.911	384	9,189,716	4.2
Kidney	Male	1	11,373	8.8	5.0	1.1	1.000	245	4,616,324	5.3
Kidney	Female	1	10,305	9.7	5.9	0.5	0.806	139	4,573,392	3.0
Larynx	Total	-	21,678	-	-	0.3	1.000	76	9,189,716	0.8
Larynx	Male	-	11,373	-	-	0.3	1.000	65	4,616,324	1.4
Larynx	Female	-	10,305	-	-	0.0	1.000	11	4,573,392	0.2
Leukemia	Total	1	21,678	4.6	2.8	2.6	0.545	664	9,189,716	7.2
Leukemia	Male	-	11,373	-	-	1.7	0.372	397	4,616,324	8.6
Leukemia	Female	1	10,305	9.7	6.2	0.9	1.000	267	4,573,392	5.8
Liver and Bile Duct	Total	4	21,678	18.5	11.0	2.5	0.487	631	9,189,716	6.9
Liver and Bile Duct	Male	3	11,373	26.4	14.8	1.8	0.560	420	4,616,324	9.1
Liver and Bile Duct	Female	1	10,305	9.7	6.1	0.8	1.000	211	4,573,392	4.6
Lung and Bronchus	Total	13	21,678	60.0	35.0	11.8	0.810	2,924	9,189,716	31.8
Lung and Bronchus	Male	6	11,373	52.8	29.0	6.9	0.936	1,535	4,616,324	33.3
Lung and Bronchus	Female	7	10,305	67.9	41.7	5.1	0.504	1,389	4,573,392	30.4
Melanoma of the Skin	Total	2	21,678	9.2	5.8	1.1	0.618	299	9,189,716	3.3
Melanoma of the Skin	Male	2	11,373	17.6	10.5	0.8	0.394	198	4,616,324	4.3
Melanoma of the Skin	Female	-	10,305	-	-	0.3	1.000	101	4,573,392	2.2
Myeloma	Total	1	21,678	4.6	2.7	1.3	1.000	324	9,189,716	3.5
Myeloma	Male	-	11,373	-	-	0.8	0.872	188	4,616,324	4.1
Myeloma	Female	1	10,305	9.7	6.0	0.5	0.786	136	4,573,392	3.0
Non-Hodgkin Lymphoma	Total	1	21,678	4.6	2.8	2.2	0.705	567	9,189,716	6.2
Non-Hodgkin Lymphoma	Male	1	11,373	8.8	5.1	1.3	1.000	309	4,616,324	6.7
Non-Hodgkin Lymphoma	Female	-	10,305	-	-	0.9	0.781	258	4,573,392	5.6
Oral Cavity and Pharynx	Total	2	21,678	9.2	5.5	1.1	0.584	273	9,189,716	3.0
Oral Cavity and Pharynx	Male	1	11,373	8.8	4.9	0.8	1.000	191	4,616,324	4.1
Oral Cavity and Pharynx	Female	1	10,305	9.7	6.2	0.3	0.505	82	4,573,392	1.8
Ovary	Female	1	10,305	9.7	6.1	1.3	1.000	360	4,573,392	7.9
Pancreas	Total	6	21,678	27.7	16.3	4.7	0.676	1,184	9,189,716	12.9
Pancreas	Male	3	11,373	26.4	14.7	2.9	1.000	647	4,616,324	14.0
Pancreas	Female	3	10,305	29.1	18.1	1.9	0.618	537	4,573,392	11.7
Prostate	Male	4	11,373	35.2	20.0	4.3	1.000	993	4,616,324	21.5
Stomach	Total	-	21,678	-	-	0.7	0.987	194	9,189,716	2.1
Stomach	Male	-	11,373	-	-	0.5	1.000	119	4,616,324	2.6
Stomach	Female	-	10,305	-	-	0.2	1.000	75	4,573,392	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	Custer 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%	.
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%	7.8%
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%	76.0%
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%	.
Colorectal Cancer Screening, Age 45–75 (2022)	63.3%	61.0%	62.5%	60.8%	67.2%	65.0%	60.4%	60.2%	.
Tobacco Use									
Current Tobacco User (2020–2022)	22.1%	24.3%	20.4%	24.8%	21.3%	22.5%	22.6%	18.1%	20.0%
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%	33.5%
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%	75.8%
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%	27.4%
Home Ever Tested for Radon (2016, 2018, 2020)	22.9%	30.8%	18.3%	16.9%	25.2%	20.1%	23.0%	21.0%	43.3%

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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ELMORE 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 719 cases of invasive cancer were diagnosed among Elmore County residents (Table 1).

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

Cancer Incidence 2017–2021	Elmore County	State of Idaho
All Sites/Types	719	47,333
Female Breast	80	6,943
Prostate	83	6,766
Lung & Bronchus	114	4,959
Colorectal	69	3,632

Table 3 (*Cancer Incidence 2017–2021, Comparison between Elmore 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 Elmore 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 Elmore County was 521.1 cases per 100,000 person-years per year during 2017–2021. Comparing this crude rate with the crude rate for the remainder of Idaho (526.5) gives an estimate of the relative burden of disease in Elmore County.

The age- and sex-adjusted incidence rate of invasive cancer in Elmore County, all sites combined, was 592.8 cases per 100,000 persons per year during 2017–2021. There were statistically significantly more cases of cancer in Elmore County (719) than expected (638.5) based upon rates in the remainder of the state ($p=.002$).

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 234 Elmore 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 Elmore County and the State of Idaho, 2018–2022

Mortality 2018–2022	Elmore County	State of Idaho
All Deaths	1,169	80,538
Cancer Deaths	234	15,233
% of All Deaths	20.0%	18.9%
Lung & Bronchus	66	2,937
Colorectal	24	1,332
Pancreas	20	1,190
Female Breast	5	1,111
Prostate	12	997

Table 4 (*Cancer Mortality 2018–2022, Comparison between Elmore 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 Elmore 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 Elmore County, all sites combined, was 192.1 deaths per 100,000 persons per year during 2018–2022, compared with 165.4 for the remainder of the state. There were statistically significantly more cancer deaths in Elmore County (234) than expected (201.4) based upon rates in the remainder of the state ($p=.027$).

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 ELMORE COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cancer Site/Type	Sex	Elmore 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	719	137,978	521.1	592.8	638.5	0.002 >>	46,614	8,854,128	526.5
All Sites Combined	Male	375	72,389	518.0	613.2	342.9	0.091	24,895	4,439,884	560.7
All Sites Combined	Female	344	65,589	524.5	574.2	294.7	0.006 >>	21,719	4,414,244	492.0
Bladder	Total	43	137,978	31.2	36.2	29.2	0.020 >>	2,177	8,854,128	24.6
Bladder	Male	36	72,389	49.7	60.5	23.3	0.017 >>	1,737	4,439,884	39.1
Bladder	Female	7	65,589	10.7	11.8	5.9	0.755	440	4,414,244	10.0
Brain - malignant	Total	11	137,978	8.0	8.7	9.2	0.645	646	8,854,128	7.3
Brain - malignant	Male	7	72,389	9.7	10.8	5.5	0.626	375	4,439,884	8.4
Brain - malignant	Female	4	65,589	6.1	6.5	3.8	1.000	271	4,414,244	6.1
Brain and other CNS - non-malignant	Total	25	137,978	18.1	20.4	21.1	0.450	1,522	8,854,128	17.2
Brain and other CNS - non-malignant	Male	8	72,389	11.1	12.7	7.0	0.795	492	4,439,884	11.1
Brain and other CNS - non-malignant	Female	17	65,589	25.9	28.3	14.0	0.495	1,030	4,414,244	23.3
Breast	Total	81	137,978	58.7	67.1	94.5	0.176	6,927	8,854,128	78.2
Breast	Male	1	72,389	1.4	1.6	0.9	1.000	64	4,439,884	1.4
Breast	Female	80	65,589	122.0	134.6	92.4	0.212	6,863	4,414,244	155.5
Breast - in situ	Total	24	137,978	17.4	19.9	18.3	0.229	1,345	8,854,128	15.2
Breast - in situ	Male	-	72,389	-	-	0.1	1.000	4	4,439,884	0.1
Breast - in situ	Female	24	65,589	36.6	40.6	18.0	0.200	1,341	4,414,244	30.4
Cervix	Female	4	65,589	6.1	6.5	4.1	1.000	290	4,414,244	6.6
Colorectal	Total	69	137,978	50.0	57.1	48.7	0.007 >>	3,563	8,854,128	40.2
Colorectal	Male	41	72,389	56.6	66.9	26.7	0.012 >>	1,936	4,439,884	43.6
Colorectal	Female	28	65,589	42.7	47.0	22.0	0.243	1,627	4,414,244	36.9
Corpus Uteri	Female	18	65,589	27.4	30.1	18.1	1.000	1,336	4,414,244	30.3
Esophagus	Total	8	137,978	5.8	6.6	6.8	0.739	499	8,854,128	5.6
Esophagus	Male	7	72,389	9.7	11.5	5.8	0.712	422	4,439,884	9.5
Esophagus	Female	1	65,589	1.5	1.7	1.0	1.000	77	4,414,244	1.7
Hodgkin Lymphoma	Total	2	137,978	1.4	1.4	3.5	0.643	220	8,854,128	2.5
Hodgkin Lymphoma	Male	-	72,389	-	-	2.1	0.243	129	4,439,884	2.9
Hodgkin Lymphoma	Female	2	65,589	3.0	3.0	1.4	0.807	91	4,414,244	2.1
Kidney and Renal Pelvis	Total	36	137,978	26.1	29.7	26.3	0.081	1,915	8,854,128	21.6
Kidney and Renal Pelvis	Male	26	72,389	35.9	42.3	17.8	0.079	1,284	4,439,884	28.9
Kidney and Renal Pelvis	Female	10	65,589	15.2	16.7	8.6	0.713	631	4,414,244	14.3
Larynx	Total	1	137,978	0.7	0.8	3.0	0.396	219	8,854,128	2.5
Larynx	Male	1	72,389	1.4	1.6	2.3	0.672	166	4,439,884	3.7
Larynx	Female	-	65,589	-	-	0.7	0.969	53	4,414,244	1.2
Leukemia	Total	23	137,978	16.7	18.8	23.6	1.000	1,704	8,854,128	19.2
Leukemia	Male	16	72,389	22.1	25.9	14.2	0.702	1,020	4,439,884	23.0
Leukemia	Female	7	65,589	10.7	11.6	9.4	0.566	684	4,414,244	15.5
Liver and Bile Duct	Total	13	137,978	9.4	10.8	11.3	0.684	830	8,854,128	9.4
Liver and Bile Duct	Male	9	72,389	12.4	14.8	8.0	0.825	585	4,439,884	13.2
Liver and Bile Duct	Female	4	65,589	6.1	6.7	3.3	0.840	245	4,414,244	5.6
Lung and Bronchus	Total	114	137,978	82.6	95.7	65.2	0.000 >>	4,845	8,854,128	54.7
Lung and Bronchus	Male	51	72,389	70.5	85.4	32.9	0.004 >>	2,444	4,439,884	55.0
Lung and Bronchus	Female	63	65,589	96.1	106.0	32.3	0.000 >>	2,401	4,414,244	54.4
Melanoma of the Skin	Total	34	137,978	24.6	27.8	43.0	0.190	3,110	8,854,128	35.1
Melanoma of the Skin	Male	16	72,389	22.1	26.1	25.9	0.051	1,879	4,439,884	42.3
Melanoma of the Skin	Female	18	65,589	27.4	29.7	16.9	0.851	1,231	4,414,244	27.9
Myeloma	Total	8	137,978	5.8	6.7	9.7	0.730	720	8,854,128	8.1
Myeloma	Male	4	72,389	5.5	6.7	6.0	0.573	443	4,439,884	10.0
Myeloma	Female	4	65,589	6.1	6.8	3.7	1.000	277	4,414,244	6.3
Non-Hodgkin Lymphoma	Total	30	137,978	21.7	24.6	27.0	0.618	1,962	8,854,128	22.2
Non-Hodgkin Lymphoma	Male	18	72,389	24.9	29.0	15.8	0.636	1,128	4,439,884	25.4
Non-Hodgkin Lymphoma	Female	12	65,589	18.3	20.0	11.4	0.926	834	4,414,244	18.9
Oral Cavity and Pharynx	Total	17	137,978	12.3	14.1	17.7	0.988	1,298	8,854,128	14.7
Oral Cavity and Pharynx	Male	8	72,389	11.1	13.0	12.9	0.211	932	4,439,884	21.0
Oral Cavity and Pharynx	Female	9	65,589	13.7	15.1	4.9	0.128	366	4,414,244	8.3
Ovary	Female	11	65,589	16.8	18.4	7.4	0.252	542	4,414,244	12.3
Pancreas	Total	28	137,978	20.3	23.4	19.7	0.090	1,460	8,854,128	16.5
Pancreas	Male	16	72,389	22.1	26.6	11.0	0.181	810	4,439,884	18.2
Pancreas	Female	12	65,589	18.3	20.2	8.7	0.343	650	4,414,244	14.7
Prostate	Male	83	72,389	114.7	137.2	91.1	0.430	6,683	4,439,884	150.5
Stomach	Total	8	137,978	5.8	6.6	6.3	0.609	466	8,854,128	5.3
Stomach	Male	5	72,389	6.9	8.2	4.1	0.796	302	4,439,884	6.8
Stomach	Female	3	65,589	4.6	5.0	2.2	0.760	164	4,414,244	3.7
Testis	Male	6	72,389	8.3	7.4	4.9	0.733	268	4,439,884	6.0
Thyroid	Total	23	137,978	16.7	17.4	17.4	0.224	1,162	8,854,128	13.1
Thyroid	Male	4	72,389	5.5	6.1	5.4	0.749	368	4,439,884	8.3
Thyroid	Female	19	65,589	29.0	29.6	11.5	0.054	794	4,414,244	18.0
Pediatric Age 0 to 19	Total	10	37,933	26.4	26.2	6.4	0.235	415	2,461,391	16.9
Pediatric Age 0 to 19	Male	5	19,645	25.5	25.2	3.3	0.478	209	1,254,676	16.7
Pediatric Age 0 to 19	Female	5	18,288	27.3	27.4	3.1	0.411	206	1,206,715	17.1

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 ELMORE COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cause of Death Cancer Site/Type	Sex	Elmore 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	1,169	140,474	832.2	955.1	1,070.9	0.003 >>	79,366	9,070,920	874.9
All Causes of Death	Male	640	73,916	865.8	1,020.2	580.6	0.016 >>	42,146	4,553,781	925.5
All Causes of Death	Female	529	66,558	794.8	883.2	493.5	0.118	37,220	4,517,139	824.0
All Malignant Cancers	Total	234	140,474	166.6	192.1	201.4	0.027 >>	14,999	9,070,920	165.4
All Malignant Cancers	Male	141	73,916	190.8	229.1	109.4	0.004 >>	8,094	4,553,781	177.7
All Malignant Cancers	Female	93	66,558	139.7	154.5	92.0	0.945	6,905	4,517,139	152.9
Bladder	Total	5	140,474	3.6	4.2	6.3	0.788	480	9,070,920	5.3
Bladder	Male	4	73,916	5.4	6.6	4.9	0.915	371	4,553,781	8.1
Bladder	Female	1	66,558	1.5	1.7	1.4	1.000	109	4,517,139	2.4
Brain and Other Nervous System	Total	7	140,474	5.0	5.6	7.1	1.000	511	9,070,920	5.6
Brain and Other Nervous System	Male	5	73,916	6.8	7.7	4.0	0.754	284	4,553,781	6.2
Brain and Other Nervous System	Female	2	66,558	3.0	3.3	3.1	0.811	227	4,517,139	5.0
Breast	Total	5	140,474	3.6	4.1	15.0	0.005 <<	1,119	9,070,920	12.3
Breast	Male	-	73,916	-	-	0.2	1.000	13	4,553,781	0.3
Breast	Female	5	66,558	7.5	8.3	14.7	0.007 <<	1,106	4,517,139	24.5
Cervix	Female	2	66,558	3.0	3.2	1.2	0.659	86	4,517,139	1.9
Colorectal	Total	24	140,474	17.1	19.6	17.6	0.170	1,308	9,070,920	14.4
Colorectal	Male	16	73,916	21.6	25.7	9.8	0.083	716	4,553,781	15.7
Colorectal	Female	8	66,558	12.0	13.3	7.9	1.000	592	4,517,139	13.1
Corpus Uteri	Female	1	66,558	1.5	1.7	2.2	0.701	168	4,517,139	3.7
Esophagus	Total	9	140,474	6.4	7.4	6.1	0.326	452	9,070,920	5.0
Esophagus	Male	7	73,916	9.5	11.3	5.2	0.542	384	4,553,781	8.4
Esophagus	Female	2	66,558	3.0	3.3	0.9	0.465	68	4,517,139	1.5
Hodgkin Lymphoma	Total	1	140,474	0.7	0.8	0.3	0.551	24	9,070,920	0.3
Hodgkin Lymphoma	Male	1	73,916	1.4	1.6	0.2	0.324	13	4,553,781	0.3
Hodgkin Lymphoma	Female	-	66,558	-	-	0.1	1.000	11	4,517,139	0.2
Kidney	Total	2	140,474	1.4	1.7	5.1	0.230	384	9,070,920	4.2
Kidney	Male	2	73,916	2.7	3.3	3.3	0.721	244	4,553,781	5.4
Kidney	Female	-	66,558	-	-	1.8	0.315	140	4,517,139	3.1
Larynx	Total	1	140,474	0.7	0.8	1.0	1.000	75	9,070,920	0.8
Larynx	Male	1	73,916	1.4	1.6	0.9	1.000	64	4,553,781	1.4
Larynx	Female	-	66,558	-	-	0.1	1.000	11	4,517,139	0.2
Leukemia	Total	6	140,474	4.3	4.9	8.8	0.445	659	9,070,920	7.3
Leukemia	Male	4	73,916	5.4	6.5	5.3	0.772	393	4,553,781	8.6
Leukemia	Female	2	66,558	3.0	3.3	3.5	0.632	266	4,517,139	5.9
Liver and Bile Duct	Total	10	140,474	7.1	8.2	8.4	0.674	625	9,070,920	6.9
Liver and Bile Duct	Male	6	73,916	8.1	9.6	5.7	1.000	417	4,553,781	9.2
Liver and Bile Duct	Female	4	66,558	6.0	6.6	2.8	0.606	208	4,517,139	4.6
Lung and Bronchus	Total	66	140,474	47.0	54.3	38.5	0.000 >>	2,871	9,070,920	31.7
Lung and Bronchus	Male	39	73,916	52.8	63.7	20.2	0.000 >>	1,502	4,553,781	33.0
Lung and Bronchus	Female	27	66,558	40.6	44.8	18.3	0.066	1,369	4,517,139	30.3
Melanoma of the Skin	Total	2	140,474	1.4	1.6	4.1	0.458	299	9,070,920	3.3
Melanoma of the Skin	Male	1	73,916	1.4	1.6	2.7	0.491	199	4,553,781	4.4
Melanoma of the Skin	Female	1	66,558	1.5	1.6	1.3	1.000	100	4,517,139	2.2
Myeloma	Total	5	140,474	3.6	4.1	4.3	0.847	320	9,070,920	3.5
Myeloma	Male	3	73,916	4.1	4.9	2.5	0.897	185	4,553,781	4.1
Myeloma	Female	2	66,558	3.0	3.3	1.8	1.000	135	4,517,139	3.0
Non-Hodgkin Lymphoma	Total	10	140,474	7.1	8.2	7.5	0.453	558	9,070,920	6.2
Non-Hodgkin Lymphoma	Male	9	73,916	12.2	14.5	4.1	0.049 >>	301	4,553,781	6.6
Non-Hodgkin Lymphoma	Female	1	66,558	1.5	1.7	3.4	0.285	257	4,517,139	5.7
Oral Cavity and Pharynx	Total	1	140,474	0.7	0.8	3.7	0.232	274	9,070,920	3.0
Oral Cavity and Pharynx	Male	-	73,916	-	-	2.6	0.145	192	4,553,781	4.2
Oral Cavity and Pharynx	Female	1	66,558	1.5	1.7	1.1	1.000	82	4,517,139	1.8
Ovary	Female	7	66,558	10.5	11.6	4.7	0.394	354	4,517,139	7.8
Pancreas	Total	20	140,474	14.2	16.5	15.7	0.331	1,170	9,070,920	12.9
Pancreas	Male	15	73,916	20.3	24.4	8.6	0.058	635	4,553,781	13.9
Pancreas	Female	5	66,558	7.5	8.3	7.1	0.572	535	4,517,139	11.8
Prostate	Male	12	73,916	16.2	19.9	13.0	0.921	985	4,553,781	21.6
Stomach	Total	3	140,474	2.1	2.4	2.6	0.959	191	9,070,920	2.1
Stomach	Male	3	73,916	4.1	4.8	1.6	0.424	116	4,553,781	2.5
Stomach	Female	-	66,558	-	-	1.0	0.735	75	4,517,139	1.7

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	Elmore 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%	89.0%
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%	10.7%
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%	71.7%
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%	.
Colorectal Cancer Screening, Age 45–75 (2022)	63.3%	61.0%	62.5%	60.8%	67.2%	65.0%	60.4%	60.2%	.
Tobacco Use									
Current Tobacco User (2020–2022)	22.1%	24.3%	20.4%	24.8%	21.3%	22.5%	22.6%	18.1%	33.5%
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%	21.5%
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%	71.6%
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%	21.4%
Home Ever Tested for Radon (2016, 2018, 2020)	22.9%	30.8%	18.3%	16.9%	25.2%	20.1%	23.0%	21.0%	12.5%

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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FRANKLIN 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 303 cases of invasive cancer were diagnosed among Franklin County residents (Table 1).

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

Cancer Incidence 2017–2021	Franklin County	State of Idaho
All Sites/Types	303	47,333
Female Breast	49	6,943
Prostate	46	6,766
Lung & Bronchus	8	4,959
Colorectal	33	3,632

Table 3 (*Cancer Incidence 2017–2021, Comparison between Franklin 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 Franklin 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 Franklin County was 432.8 cases per 100,000 person-years per year during 2017–2021. Comparing this crude rate with the crude rate for the remainder of Idaho (527.1) gives an estimate of the relative burden of disease in Franklin County.

The age- and sex-adjusted incidence rate of invasive cancer in Franklin County, all sites combined, was 475.8 cases per 100,000 persons per year during 2017–2021. There were fewer cases of cancer in Franklin County (303) than expected (335.7) 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 93 Franklin 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 Franklin County and the State of Idaho, 2018–2022

Mortality 2018–2022	Franklin County	State of Idaho
All Deaths	592	80,538
Cancer Deaths	93	15,233
% of All Deaths	15.7%	18.9%
Lung & Bronchus	8	2,937
Colorectal	12	1,332
Pancreas	9	1,190
Female Breast	10	1,111
Prostate	6	997

Table 4 (*Cancer Mortality 2018–2022, Comparison between Franklin 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 Franklin 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 Franklin County, all sites combined, was 141.3 deaths per 100,000 persons per year during 2018–2022, compared with 165.7 for the remainder of the state. There were fewer cancer deaths in Franklin County (93) than expected (109.0) 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 FRANKLIN COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cancer Site/Type	Sex	Franklin 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	303	70,008	432.8	475.8	335.7	0.076	47,030	8,922,098	527.1
All Sites Combined	Male	157	35,891	437.4	478.4	184.1	0.046 <<	25,113	4,476,382	561.0
All Sites Combined	Female	146	34,117	427.9	469.6	153.3	0.591	21,917	4,445,716	493.0
Bladder	Total	19	70,008	27.1	29.7	15.8	0.476	2,201	8,922,098	24.7
Bladder	Male	17	35,891	47.4	51.1	13.1	0.336	1,756	4,476,382	39.2
Bladder	Female	2	34,117	5.9	6.5	3.1	0.806	445	4,445,716	10.0
Brain - malignant	Total	11	70,008	15.7	16.7	4.8	0.020 >>	646	8,922,098	7.2
Brain - malignant	Male	6	35,891	16.7	17.9	2.8	0.134	376	4,476,382	8.4
Brain - malignant	Female	5	34,117	14.7	15.6	2.0	0.097	270	4,445,716	6.1
Brain and other CNS - non-malignant	Total	10	70,008	14.3	15.5	11.1	0.885	1,537	8,922,098	17.2
Brain and other CNS - non-malignant	Male	3	35,891	8.4	8.9	3.7	0.976	497	4,476,382	11.1
Brain and other CNS - non-malignant	Female	7	34,117	20.5	22.3	7.3	1.000	1,040	4,445,716	23.4
Breast	Total	51	70,008	72.8	80.1	49.6	0.883	6,957	8,922,098	78.0
Breast	Male	2	35,891	5.6	6.0	0.5	0.161	63	4,476,382	1.4
Breast	Female	49	34,117	143.6	158.1	48.1	0.931	6,894	4,445,716	155.1
Breast - in situ	Total	3	70,008	4.3	4.7	9.7	0.026 <<	1,366	8,922,098	15.3
Breast - in situ	Male	-	35,891	-	-	0.0	1.000	4	4,476,382	0.1
Breast - in situ	Female	3	34,117	8.8	9.7	9.5	0.030 <<	1,362	4,445,716	30.6
Cervix	Female	1	34,117	2.9	3.1	2.1	0.754	293	4,445,716	6.6
Colorectal	Total	33	70,008	47.1	51.3	26.0	0.205	3,599	8,922,098	40.3
Colorectal	Male	19	35,891	52.9	57.4	14.5	0.292	1,958	4,476,382	43.7
Colorectal	Female	14	34,117	41.0	44.7	11.6	0.548	1,641	4,445,716	36.9
Corpus Uteri	Female	9	34,117	26.4	29.3	9.3	1.000	1,345	4,445,716	30.3
Esophagus	Total	2	70,008	2.9	3.1	3.6	0.604	505	8,922,098	5.7
Esophagus	Male	2	35,891	5.6	6.1	3.1	0.782	427	4,476,382	9.5
Esophagus	Female	-	34,117	-	-	0.5	1.000	78	4,445,716	1.8
Hodgkin Lymphoma	Total	1	70,008	1.4	1.5	1.6	1.000	221	8,922,098	2.5
Hodgkin Lymphoma	Male	-	35,891	-	-	1.0	0.766	129	4,476,382	2.9
Hodgkin Lymphoma	Female	1	34,117	2.9	3.1	0.7	0.973	92	4,445,716	2.1
Kidney and Renal Pelvis	Total	10	70,008	14.3	15.7	13.9	0.370	1,941	8,922,098	21.8
Kidney and Renal Pelvis	Male	7	35,891	19.5	21.3	9.6	0.524	1,303	4,476,382	29.1
Kidney and Renal Pelvis	Female	3	34,117	8.8	9.6	4.5	0.695	638	4,445,716	14.4
Larynx	Total	1	70,008	1.4	1.6	1.6	1.000	219	8,922,098	2.5
Larynx	Male	-	35,891	-	-	1.2	0.575	167	4,476,382	3.7
Larynx	Female	1	34,117	2.9	3.3	0.4	0.604	52	4,445,716	1.2
Leukemia	Total	12	70,008	17.1	18.4	12.5	1.000	1,715	8,922,098	19.2
Leukemia	Male	10	35,891	27.9	29.7	7.7	0.500	1,026	4,476,382	22.9
Leukemia	Female	2	34,117	5.9	6.3	4.9	0.267	689	4,445,716	15.5
Liver and Bile Duct	Total	3	70,008	4.3	4.8	5.9	0.318	840	8,922,098	9.4
Liver and Bile Duct	Male	-	35,891	-	-	4.3	0.027 <<	594	4,476,382	13.3
Liver and Bile Duct	Female	3	34,117	8.8	9.8	1.7	0.486	246	4,445,716	5.5
Lung and Bronchus	Total	8	70,008	11.4	12.6	35.1	0.000 <<	4,951	8,922,098	55.5
Lung and Bronchus	Male	4	35,891	11.1	12.2	18.2	0.000 <<	2,491	4,476,382	55.6
Lung and Bronchus	Female	4	34,117	11.7	13.1	17.0	0.000 <<	2,460	4,445,716	55.3
Melanoma of the Skin	Total	21	70,008	30.0	32.8	22.4	0.878	3,123	8,922,098	35.0
Melanoma of the Skin	Male	13	35,891	36.2	39.3	13.9	0.947	1,882	4,476,382	42.0
Melanoma of the Skin	Female	8	34,117	23.4	25.6	8.7	0.986	1,241	4,445,716	27.9
Myeloma	Total	5	70,008	7.1	7.9	5.1	1.000	723	8,922,098	8.1
Myeloma	Male	4	35,891	11.1	12.1	3.3	0.828	443	4,476,382	9.9
Myeloma	Female	1	34,117	2.9	3.3	1.9	0.856	280	4,445,716	6.3
Non-Hodgkin Lymphoma	Total	9	70,008	12.9	14.0	14.2	0.197	1,983	8,922,098	22.2
Non-Hodgkin Lymphoma	Male	4	35,891	11.1	12.1	8.4	0.155	1,142	4,476,382	25.5
Non-Hodgkin Lymphoma	Female	5	34,117	14.7	16.1	5.9	0.936	841	4,445,716	18.9
Oral Cavity and Pharynx	Total	3	70,008	4.3	4.7	9.3	0.034 <<	1,312	8,922,098	14.7
Oral Cavity and Pharynx	Male	2	35,891	5.6	6.1	6.8	0.067	938	4,476,382	21.0
Oral Cavity and Pharynx	Female	1	34,117	2.9	3.2	2.6	0.536	374	4,445,716	8.4
Ovary	Female	6	34,117	17.6	19.2	3.8	0.381	547	4,445,716	12.3
Pancreas	Total	9	70,008	12.9	14.1	10.6	0.774	1,479	8,922,098	16.6
Pancreas	Male	5	35,891	13.9	15.1	6.1	0.865	821	4,476,382	18.3
Pancreas	Female	4	34,117	11.7	12.9	4.6	1.000	658	4,445,716	14.8
Prostate	Male	46	35,891	128.2	143.3	48.2	0.827	6,720	4,476,382	150.1
Stomach	Total	3	70,008	4.3	4.7	3.4	1.000	471	8,922,098	5.3
Stomach	Male	1	35,891	2.8	3.0	2.3	0.682	306	4,476,382	6.8
Stomach	Female	2	34,117	5.9	6.4	1.2	0.646	165	4,445,716	3.7
Testis	Male	-	35,891	-	-	2.0	0.281	274	4,476,382	6.1
Thyroid	Total	14	70,008	20.0	21.8	8.4	0.097	1,171	8,922,098	13.1
Thyroid	Male	3	35,891	8.4	9.1	2.7	1.000	369	4,476,382	8.2
Thyroid	Female	11	34,117	32.2	34.7	5.7	0.064	802	4,445,716	18.0
Pediatric Age 0 to 19	Total	6	24,086	24.9	25.0	4.1	0.451	419	2,475,238	16.9
Pediatric Age 0 to 19	Male	3	12,746	23.5	23.6	2.1	0.715	211	1,261,575	16.7
Pediatric Age 0 to 19	Female	3	11,340	26.5	26.7	1.9	0.608	208	1,213,663	17.1

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 FRANKLIN COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cause of Death Cancer Site/Type	Sex	Franklin 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	592	71,696	825.7	875.3	591.6	0.998	79,943	9,139,698	874.7
All Causes of Death	Male	314	36,884	851.3	893.8	325.0	0.564	42,472	4,590,813	925.2
All Causes of Death	Female	278	34,812	798.6	850.2	269.4	0.615	37,471	4,548,885	823.7
All Malignant Cancers	Total	93	71,696	129.7	141.3	109.0	0.132	15,140	9,139,698	165.7
All Malignant Cancers	Male	51	36,884	138.3	148.6	61.2	0.211	8,184	4,590,813	178.3
All Malignant Cancers	Female	42	34,812	120.6	132.2	48.6	0.386	6,956	4,548,885	152.9
Bladder	Total	1	71,696	1.4	1.5	3.6	0.256	484	9,139,698	5.3
Bladder	Male	1	36,884	2.7	2.8	2.9	0.424	374	4,590,813	8.1
Bladder	Female	-	34,812	-	-	0.8	0.914	110	4,548,885	2.4
Brain and Other Nervous System	Total	4	71,696	5.6	6.1	3.7	1.000	514	9,139,698	5.6
Brain and Other Nervous System	Male	3	36,884	8.1	8.9	2.1	0.706	286	4,590,813	6.2
Brain and Other Nervous System	Female	1	34,812	2.9	3.1	1.6	1.000	228	4,548,885	5.0
Breast	Total	10	71,696	13.9	15.1	8.1	0.585	1,114	9,139,698	12.2
Breast	Male	-	36,884	-	-	0.1	1.000	13	4,590,813	0.3
Breast	Female	10	34,812	28.7	31.3	7.7	0.502	1,101	4,548,885	24.2
Cervix	Female	1	34,812	2.9	3.1	0.6	0.925	87	4,548,885	1.9
Colorectal	Total	12	71,696	16.7	18.1	9.6	0.509	1,320	9,139,698	14.4
Colorectal	Male	8	36,884	21.7	23.3	5.4	0.358	724	4,590,813	15.8
Colorectal	Female	4	34,812	11.5	12.5	4.2	1.000	596	4,548,885	13.1
Corpus Uteri	Female	-	34,812	-	-	1.2	0.628	169	4,548,885	3.7
Esophagus	Total	-	71,696	-	-	3.3	0.076	461	9,139,698	5.0
Esophagus	Male	-	36,884	-	-	2.9	0.114	391	4,590,813	8.5
Esophagus	Female	-	34,812	-	-	0.5	1.000	70	4,548,885	1.5
Hodgkin Lymphoma	Total	-	71,696	-	-	0.2	1.000	25	9,139,698	0.3
Hodgkin Lymphoma	Male	-	36,884	-	-	0.1	1.000	14	4,590,813	0.3
Hodgkin Lymphoma	Female	-	34,812	-	-	0.1	1.000	11	4,548,885	0.2
Kidney	Total	2	71,696	2.8	3.0	2.8	0.960	384	9,139,698	4.2
Kidney	Male	1	36,884	2.7	2.9	1.8	0.916	245	4,590,813	5.3
Kidney	Female	1	34,812	2.9	3.1	1.0	1.000	139	4,548,885	3.1
Larynx	Total	-	71,696	-	-	0.5	1.000	76	9,139,698	0.8
Larynx	Male	-	36,884	-	-	0.5	1.000	65	4,590,813	1.4
Larynx	Female	-	34,812	-	-	0.1	1.000	11	4,548,885	0.2
Leukemia	Total	8	71,696	11.2	12.0	4.8	0.225	657	9,139,698	7.2
Leukemia	Male	3	36,884	8.1	8.6	3.0	1.000	394	4,590,813	8.6
Leukemia	Female	5	34,812	14.4	15.5	1.9	0.083	263	4,548,885	5.8
Liver and Bile Duct	Total	2	71,696	2.8	3.1	4.5	0.356	633	9,139,698	6.9
Liver and Bile Duct	Male	-	36,884	-	-	3.1	0.093	423	4,590,813	9.2
Liver and Bile Duct	Female	2	34,812	5.7	6.4	1.5	0.851	210	4,548,885	4.6
Lung and Bronchus	Total	8	71,696	11.2	12.3	20.8	0.002 <<	2,929	9,139,698	32.0
Lung and Bronchus	Male	6	36,884	16.3	17.8	11.3	0.136	1,535	4,590,813	33.4
Lung and Bronchus	Female	2	34,812	5.7	6.4	9.6	0.008 <<	1,394	4,548,885	30.6
Melanoma of the Skin	Total	2	71,696	2.8	3.0	2.2	1.000	299	9,139,698	3.3
Melanoma of the Skin	Male	2	36,884	5.4	5.8	1.5	0.874	198	4,590,813	4.3
Melanoma of the Skin	Female	-	34,812	-	-	0.7	0.982	101	4,548,885	2.2
Myeloma	Total	2	71,696	2.8	3.0	2.3	1.000	323	9,139,698	3.5
Myeloma	Male	2	36,884	5.4	5.8	1.4	0.814	186	4,590,813	4.1
Myeloma	Female	-	34,812	-	-	0.9	0.776	137	4,548,885	3.0
Non-Hodgkin Lymphoma	Total	2	71,696	2.8	3.0	4.1	0.447	566	9,139,698	6.2
Non-Hodgkin Lymphoma	Male	-	36,884	-	-	2.3	0.195	310	4,590,813	6.8
Non-Hodgkin Lymphoma	Female	2	34,812	5.7	6.3	1.8	1.000	256	4,548,885	5.6
Oral Cavity and Pharynx	Total	-	71,696	-	-	1.9	0.287	275	9,139,698	3.0
Oral Cavity and Pharynx	Male	-	36,884	-	-	1.4	0.498	192	4,590,813	4.2
Oral Cavity and Pharynx	Female	-	34,812	-	-	0.6	1.000	83	4,548,885	1.8
Ovary	Female	4	34,812	11.5	12.8	2.5	0.467	357	4,548,885	7.8
Pancreas	Total	9	71,696	12.6	13.9	8.4	0.921	1,181	9,139,698	12.9
Pancreas	Male	7	36,884	19.0	20.8	4.7	0.393	643	4,590,813	14.0
Pancreas	Female	2	34,812	5.7	6.3	3.7	0.562	538	4,548,885	11.8
Prostate	Male	6	36,884	16.3	16.9	7.7	0.708	991	4,590,813	21.6
Stomach	Total	4	71,696	5.6	6.0	1.4	0.103	190	9,139,698	2.1
Stomach	Male	2	36,884	5.4	5.8	0.9	0.444	117	4,590,813	2.5
Stomach	Female	2	34,812	5.7	6.2	0.5	0.191	73	4,548,885	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	Franklin County
<u>Access to Care</u>									
Have Health Insurance, Age < 65 (2021–2022)	90.0%	89.3%	87.8%	86.4%	92.6%	87.2%	89.1%	92.6%	88.8%
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%	6.6%
<u>Cancer Screening</u>									
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%	59.5%
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%	.
Colorectal Cancer Screening, Age 45–75 (2022)	63.3%	61.0%	62.5%	60.8%	67.2%	65.0%	60.4%	60.2%	.
<u>Tobacco Use</u>									
Current Tobacco User (2020–2022)	22.1%	24.3%	20.4%	24.8%	21.3%	22.5%	22.6%	18.1%	23.2%
<u>Other Cancer-Related</u>									
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%	36.7%
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%	74.7%
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%	9.5%
Home Ever Tested for Radon (2016, 2018, 2020)	22.9%	30.8%	18.3%	16.9%	25.2%	20.1%	23.0%	21.0%	10.7%

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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FREMONT 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 319 cases of invasive cancer were diagnosed among Fremont County residents (Table 1).

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

Cancer Incidence 2017–2021	Fremont County	State of Idaho
All Sites/Types	319	47,333
Female Breast	49	6,943
Prostate	51	6,766
Lung & Bronchus	29	4,959
Colorectal	23	3,632

Table 3 (*Cancer Incidence 2017–2021, Comparison between Fremont 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 Fremont 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 Fremont County was 481.6 cases per 100,000 person-years per year during 2017–2021. Comparing this crude rate with the crude rate for the remainder of Idaho (526.7) gives an estimate of the relative burden of disease in Fremont County.

The age- and sex-adjusted incidence rate of invasive cancer in Fremont County, all sites combined, was 452.7 cases per 100,000 persons per year during 2017–2021. There were statistically significantly fewer cases of cancer in Fremont County (319) than expected (371.1) based upon rates in the remainder of the state ($p=.006$).

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 110 Fremont 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 Fremont County and the State of Idaho, 2018–2022

Mortality 2018–2022	Fremont County	State of Idaho
All Deaths	633	80,538
Cancer Deaths	110	15,233
% of All Deaths	17.4%	18.9%
Lung & Bronchus	20	2,937
Colorectal	11	1,332
Pancreas	14	1,190
Female Breast	8	1,111
Prostate	10	997

Table 4 (*Cancer Mortality 2018–2022, Comparison between Fremont 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 Fremont 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 Fremont County, all sites combined, was 154.2 deaths per 100,000 persons per year during 2018–2022, compared with 165.4 for the remainder of the state. There were fewer cancer deaths in Fremont County (110) than expected (118.0) 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 FREMONT COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cancer Site/Type	Sex	Fremont 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	319	66,231	481.6	452.7	371.1	0.006 <<	47,014	8,925,875	526.7
All Sites Combined	Male	172	34,685	495.9	452.1	213.3	0.004 <<	25,098	4,477,588	560.5
All Sites Combined	Female	147	31,546	466.0	449.3	161.2	0.280	21,916	4,448,287	492.7
Bladder	Total	13	66,231	19.6	18.2	17.6	0.325	2,207	8,925,875	24.7
Bladder	Male	10	34,685	28.8	25.8	15.3	0.213	1,763	4,477,588	39.4
Bladder	Female	3	31,546	9.5	9.1	3.3	1.000	444	4,448,287	10.0
Brain - malignant	Total	3	66,231	4.5	4.3	5.1	0.511	654	8,925,875	7.3
Brain - malignant	Male	1	34,685	2.9	2.7	3.1	0.357	381	4,477,588	8.5
Brain - malignant	Female	2	31,546	6.3	6.2	2.0	1.000	273	4,448,287	6.1
Brain and other CNS - non-malignant	Total	14	66,231	21.1	20.1	12.0	0.627	1,533	8,925,875	17.2
Brain and other CNS - non-malignant	Male	3	34,685	8.6	8.1	4.1	0.818	497	4,477,588	11.1
Brain and other CNS - non-malignant	Female	11	31,546	34.9	33.8	7.6	0.288	1,036	4,448,287	23.3
Breast	Total	49	66,231	74.0	69.9	54.6	0.496	6,959	8,925,875	78.0
Breast	Male	-	34,685	-	-	0.6	1.000	65	4,477,588	1.5
Breast	Female	49	31,546	155.3	149.3	50.9	0.866	6,894	4,448,287	155.0
Breast - in situ	Total	5	66,231	7.5	7.1	10.7	0.089	1,364	8,925,875	15.3
Breast - in situ	Male	-	34,685	-	-	0.0	1.000	4	4,477,588	0.1
Breast - in situ	Female	5	31,546	15.8	15.2	10.1	0.127	1,360	4,448,287	30.6
Cervix	Female	-	31,546	-	-	2.1	0.255	294	4,448,287	6.6
Colorectal	Total	23	66,231	34.7	32.7	28.5	0.355	3,609	8,925,875	40.4
Colorectal	Male	12	34,685	34.6	31.6	16.7	0.303	1,965	4,477,588	43.9
Colorectal	Female	11	31,546	34.9	33.8	12.0	0.917	1,644	4,448,287	37.0
Corpus Uteri	Female	13	31,546	41.2	39.5	9.9	0.401	1,341	4,448,287	30.1
Esophagus	Total	-	66,231	-	-	4.1	0.035 <<	507	8,925,875	5.7
Esophagus	Male	-	34,685	-	-	3.7	0.049 <<	429	4,477,588	9.6
Esophagus	Female	-	31,546	-	-	0.6	1.000	78	4,448,287	1.8
Hodgkin Lymphoma	Total	2	66,231	3.0	3.0	1.7	0.988	220	8,925,875	2.5
Hodgkin Lymphoma	Male	1	34,685	2.9	2.8	1.0	1.000	128	4,477,588	2.9
Hodgkin Lymphoma	Female	1	31,546	3.2	3.1	0.7	0.964	92	4,448,287	2.1
Kidney and Renal Pelvis	Total	8	66,231	12.1	11.4	15.3	0.063	1,943	8,925,875	21.8
Kidney and Renal Pelvis	Male	5	34,685	14.4	13.2	11.0	0.075	1,305	4,477,588	29.1
Kidney and Renal Pelvis	Female	3	31,546	9.5	9.1	4.7	0.614	638	4,448,287	14.3
Larynx	Total	2	66,231	3.0	2.8	1.7	1.000	218	8,925,875	2.4
Larynx	Male	2	34,685	5.8	5.2	1.4	0.834	165	4,477,588	3.7
Larynx	Female	-	31,546	-	-	0.4	1.000	53	4,448,287	1.2
Leukemia	Total	16	66,231	24.2	22.8	13.5	0.559	1,711	8,925,875	19.2
Leukemia	Male	9	34,685	25.9	23.8	8.7	1.000	1,027	4,477,588	22.9
Leukemia	Female	7	31,546	22.2	21.4	5.0	0.487	684	4,448,287	15.4
Liver and Bile Duct	Total	8	66,231	12.1	11.3	6.6	0.695	835	8,925,875	9.4
Liver and Bile Duct	Male	7	34,685	20.2	18.4	5.0	0.468	587	4,477,588	13.1
Liver and Bile Duct	Female	1	31,546	3.2	3.0	1.8	0.899	248	4,448,287	5.6
Lung and Bronchus	Total	29	66,231	43.8	40.5	39.5	0.101	4,930	8,925,875	55.2
Lung and Bronchus	Male	13	34,685	37.5	33.7	21.4	0.074	2,482	4,477,588	55.4
Lung and Bronchus	Female	16	31,546	50.7	48.0	18.3	0.693	2,448	4,448,287	55.0
Melanoma of the Skin	Total	20	66,231	30.2	28.7	24.4	0.435	3,124	8,925,875	35.0
Melanoma of the Skin	Male	16	34,685	46.1	42.2	15.9	1.000	1,879	4,477,588	42.0
Melanoma of the Skin	Female	4	31,546	12.7	12.4	9.0	0.108	1,245	4,448,287	28.0
Myeloma	Total	4	66,231	6.0	5.6	5.8	0.631	724	8,925,875	8.1
Myeloma	Male	3	34,685	8.6	7.8	3.8	0.938	444	4,477,588	9.9
Myeloma	Female	1	31,546	3.2	3.0	2.1	0.765	280	4,448,287	6.3
Non-Hodgkin Lymphoma	Total	13	66,231	19.6	18.4	15.6	0.612	1,979	8,925,875	22.2
Non-Hodgkin Lymphoma	Male	4	34,685	11.5	10.6	9.6	0.075	1,142	4,477,588	25.5
Non-Hodgkin Lymphoma	Female	9	31,546	28.5	27.5	6.2	0.340	837	4,448,287	18.8
Oral Cavity and Pharynx	Total	15	66,231	22.6	21.2	10.3	0.200	1,300	8,925,875	14.6
Oral Cavity and Pharynx	Male	13	34,685	37.5	34.2	7.9	0.115	927	4,477,588	20.7
Oral Cavity and Pharynx	Female	2	31,546	6.3	6.1	2.7	0.964	373	4,448,287	8.4
Ovary	Female	2	31,546	6.3	6.1	4.0	0.463	551	4,448,287	12.4
Pancreas	Total	14	66,231	21.1	19.7	11.7	0.578	1,474	8,925,875	16.5
Pancreas	Male	6	34,685	17.3	15.6	7.0	0.888	820	4,477,588	18.3
Pancreas	Female	8	31,546	25.4	24.3	4.8	0.235	654	4,448,287	14.7
Prostate	Male	51	34,685	147.0	134.1	57.1	0.469	6,715	4,477,588	150.0
Stomach	Total	1	66,231	1.5	1.4	3.7	0.227	473	8,925,875	5.3
Stomach	Male	-	34,685	-	-	2.6	0.145	307	4,477,588	6.9
Stomach	Female	1	31,546	3.2	3.1	1.2	1.000	166	4,448,287	3.7
Testis	Male	3	34,685	8.6	9.0	2.0	0.655	271	4,477,588	6.1
Thyroid	Total	7	66,231	10.6	10.4	8.9	0.678	1,178	8,925,875	13.2
Thyroid	Male	2	34,685	5.8	5.5	3.0	0.841	370	4,477,588	8.3
Thyroid	Female	5	31,546	15.8	15.9	5.7	0.987	808	4,448,287	18.2
Pediatric Age 0 to 19	Total	6	18,272	32.8	32.5	3.1	0.194	419	2,481,052	16.9
Pediatric Age 0 to 19	Male	5	9,508	52.6	52.4	1.6	0.045 >>	209	1,264,813	16.5
Pediatric Age 0 to 19	Female	1	8,764	11.4	11.3	1.5	1.000	210	1,216,239	17.3

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 FREMONT COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cause of Death Cancer Site/Type	Sex	Fremont 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	633	67,069	943.8	905.4	610.9	0.381	79,902	9,144,325	873.8
All Causes of Death	Male	348	35,244	987.4	894.7	359.4	0.568	42,438	4,592,453	924.1
All Causes of Death	Female	285	31,825	895.5	908.4	258.2	0.105	37,464	4,551,872	823.0
All Malignant Cancers	Total	110	67,069	164.0	154.2	118.0	0.497	15,123	9,144,325	165.4
All Malignant Cancers	Male	59	35,244	167.4	150.7	69.7	0.218	8,176	4,592,453	178.0
All Malignant Cancers	Female	51	31,825	160.3	155.8	50.0	0.921	6,947	4,551,872	152.6
Bladder	Total	6	67,069	8.9	8.5	3.7	0.336	479	9,144,325	5.2
Bladder	Male	5	35,244	14.2	12.6	3.2	0.439	370	4,592,453	8.1
Bladder	Female	1	31,825	3.1	3.1	0.8	1.000	109	4,551,872	2.4
Brain and Other Nervous System	Total	4	67,069	6.0	5.6	4.0	1.000	514	9,144,325	5.6
Brain and Other Nervous System	Male	2	35,244	5.7	5.2	2.4	1.000	287	4,592,453	6.2
Brain and Other Nervous System	Female	2	31,825	6.3	6.1	1.6	0.977	227	4,551,872	5.0
Breast	Total	8	67,069	11.9	11.3	8.6	1.000	1,116	9,144,325	12.2
Breast	Male	-	35,244	-	-	0.1	1.000	13	4,592,453	0.3
Breast	Female	8	31,825	25.1	24.7	7.9	1.000	1,103	4,551,872	24.2
Cervix	Female	1	31,825	3.1	3.1	0.6	0.921	87	4,551,872	1.9
Colorectal	Total	11	67,069	16.4	15.5	10.3	0.904	1,321	9,144,325	14.4
Colorectal	Male	7	35,244	19.9	17.9	6.2	0.842	725	4,592,453	15.8
Colorectal	Female	4	31,825	12.6	12.4	4.2	1.000	596	4,551,872	13.1
Corpus Uteri	Female	-	31,825	-	-	1.2	0.581	169	4,551,872	3.7
Esophagus	Total	1	67,069	1.5	1.4	3.6	0.247	460	9,144,325	5.0
Esophagus	Male	1	35,244	2.8	2.6	3.3	0.312	390	4,592,453	8.5
Esophagus	Female	-	31,825	-	-	0.5	1.000	70	4,551,872	1.5
Hodgkin Lymphoma	Total	-	67,069	-	-	0.2	1.000	25	9,144,325	0.3
Hodgkin Lymphoma	Male	-	35,244	-	-	0.1	1.000	14	4,592,453	0.3
Hodgkin Lymphoma	Female	-	31,825	-	-	0.1	1.000	11	4,551,872	0.2
Kidney	Total	2	67,069	3.0	2.8	3.0	0.850	384	9,144,325	4.2
Kidney	Male	2	35,244	5.7	5.1	2.1	1.000	244	4,592,453	5.3
Kidney	Female	-	31,825	-	-	1.0	0.733	140	4,551,872	3.1
Larynx	Total	1	67,069	1.5	1.4	0.6	0.893	75	9,144,325	0.8
Larynx	Male	1	35,244	2.8	2.5	0.6	0.850	64	4,592,453	1.4
Larynx	Female	-	31,825	-	-	0.1	1.000	11	4,551,872	0.2
Leukemia	Total	5	67,069	7.5	7.0	5.1	1.000	660	9,144,325	7.2
Leukemia	Male	3	35,244	8.5	7.7	3.4	1.000	394	4,592,453	8.6
Leukemia	Female	2	31,825	6.3	6.1	1.9	1.000	266	4,551,872	5.8
Liver and Bile Duct	Total	5	67,069	7.5	7.0	4.9	1.000	630	9,144,325	6.9
Liver and Bile Duct	Male	3	35,244	8.5	7.7	3.5	1.000	420	4,592,453	9.1
Liver and Bile Duct	Female	2	31,825	6.3	6.0	1.5	0.909	210	4,551,872	4.6
Lung and Bronchus	Total	20	67,069	29.8	27.8	23.0	0.625	2,917	9,144,325	31.9
Lung and Bronchus	Male	7	35,244	19.9	17.9	13.1	0.105	1,534	4,592,453	33.4
Lung and Bronchus	Female	13	31,825	40.8	39.1	10.1	0.435	1,383	4,551,872	30.4
Melanoma of the Skin	Total	2	67,069	3.0	2.8	2.3	1.000	299	9,144,325	3.3
Melanoma of the Skin	Male	1	35,244	2.8	2.6	1.7	0.990	199	4,592,453	4.3
Melanoma of the Skin	Female	1	31,825	3.1	3.1	0.7	1.000	100	4,551,872	2.2
Myeloma	Total	2	67,069	3.0	2.8	2.5	1.000	323	9,144,325	3.5
Myeloma	Male	1	35,244	2.8	2.5	1.6	1.000	187	4,592,453	4.1
Myeloma	Female	1	31,825	3.1	3.0	1.0	1.000	136	4,551,872	3.0
Non-Hodgkin Lymphoma	Total	7	67,069	10.4	9.8	4.4	0.311	561	9,144,325	6.1
Non-Hodgkin Lymphoma	Male	2	35,244	5.7	5.1	2.6	1.000	308	4,592,453	6.7
Non-Hodgkin Lymphoma	Female	5	31,825	15.7	15.5	1.8	0.072	253	4,551,872	5.6
Oral Cavity and Pharynx	Total	1	67,069	1.5	1.4	2.1	0.735	274	9,144,325	3.0
Oral Cavity and Pharynx	Male	1	35,244	2.8	2.6	1.6	1.000	191	4,592,453	4.2
Oral Cavity and Pharynx	Female	-	31,825	-	-	0.6	1.000	83	4,551,872	1.8
Ovary	Female	3	31,825	9.4	9.1	2.6	0.965	358	4,551,872	7.9
Pancreas	Total	14	67,069	20.9	19.5	9.2	0.171	1,176	9,144,325	12.9
Pancreas	Male	8	35,244	22.7	20.6	5.4	0.365	642	4,592,453	14.0
Pancreas	Female	6	31,825	18.9	18.1	3.9	0.393	534	4,551,872	11.7
Prostate	Male	10	35,244	28.4	25.2	8.5	0.702	987	4,592,453	21.5
Stomach	Total	-	67,069	-	-	1.5	0.444	194	9,144,325	2.1
Stomach	Male	-	35,244	-	-	1.0	0.721	119	4,592,453	2.6
Stomach	Female	-	31,825	-	-	0.5	1.000	75	4,551,872	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	Fremont 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%	83.5%
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%	12.0%
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%	44.4%
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%	.
Colorectal Cancer Screening, Age 45–75 (2022)	63.3%	61.0%	62.5%	60.8%	67.2%	65.0%	60.4%	60.2%	.
Tobacco Use									
Current Tobacco User (2020–2022)	22.1%	24.3%	20.4%	24.8%	21.3%	22.5%	22.6%	18.1%	24.9%
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%	31.9%
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%	80.3%
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%	14.2%
Home Ever Tested for Radon (2016, 2018, 2020)	22.9%	30.8%	18.3%	16.9%	25.2%	20.1%	23.0%	21.0%	14.6%

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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GEM 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 647 cases of invasive cancer were diagnosed among Gem County residents (Table 1).

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

Cancer Incidence 2017–2021	Gem County	State of Idaho
All Sites/Types	647	47,333
Female Breast	76	6,943
Prostate	99	6,766
Lung & Bronchus	70	4,959
Colorectal	68	3,632

Table 3 (*Cancer Incidence 2017–2021, Comparison between Gem 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 Gem 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 Gem County was 705.7 cases per 100,000 person-years per year during 2017–2021. Comparing this crude rate with the crude rate for the remainder of Idaho (524.5) gives an estimate of the relative burden of disease in Gem County.

The age- and sex-adjusted incidence rate of invasive cancer in Gem County, all sites combined, was 549.9 cases per 100,000 persons per year during 2017–2021. There were more cases of cancer in Gem County (647) than expected (617.2) 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 214 Gem 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 Gem County and the State of Idaho, 2018–2022

Mortality 2018–2022	Gem County	State of Idaho
All Deaths	1,237	80,538
Cancer Deaths	214	15,233
% of All Deaths	17.3%	18.9%
Lung & Bronchus	50	2,937
Colorectal	19	1,332
Pancreas	20	1,190
Female Breast	15	1,111
Prostate	13	997

Table 4 (*Cancer Mortality 2018–2022, Comparison between Gem 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 Gem 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 Gem County, all sites combined, was 169.1 deaths per 100,000 persons per year during 2018–2022, compared with 164.7 for the remainder of the state. There were more cancer deaths in Gem County (214) than expected (208.5) 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 GEM COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cancer Site/Type	Sex	Gem 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	647	91,682	705.7	549.9	617.2	0.239	46,686	8,900,424	524.5
All Sites Combined	Male	354	46,104	767.8	572.3	345.1	0.646	24,916	4,466,169	557.9
All Sites Combined	Female	293	45,578	642.9	519.9	276.7	0.341	21,770	4,434,255	491.0
Bladder	Total	35	91,682	38.2	28.1	30.6	0.468	2,185	8,900,424	24.5
Bladder	Male	29	46,104	62.9	44.2	25.6	0.557	1,744	4,466,169	39.0
Bladder	Female	6	45,578	13.2	10.1	5.9	1.000	441	4,434,255	9.9
Brain - malignant	Total	9	91,682	9.8	8.3	7.9	0.797	648	8,900,424	7.3
Brain - malignant	Male	6	46,104	13.0	10.9	4.6	0.643	376	4,466,169	8.4
Brain - malignant	Female	3	45,578	6.6	5.6	3.3	1.000	272	4,434,255	6.1
Brain and other CNS - non-malignant	Total	20	91,682	21.8	17.7	19.4	0.958	1,527	8,900,424	17.2
Brain and other CNS - non-malignant	Male	4	46,104	8.7	6.9	6.4	0.472	496	4,466,169	11.1
Brain and other CNS - non-malignant	Female	16	45,578	35.1	28.8	12.9	0.457	1,031	4,434,255	23.3
Breast	Total	77	91,682	84.0	67.5	88.9	0.224	6,931	8,900,424	77.9
Breast	Male	1	46,104	2.2	1.6	0.9	1.000	64	4,466,169	1.4
Breast	Female	76	45,578	166.7	135.6	86.8	0.266	6,867	4,434,255	154.9
Breast - in situ	Total	11	91,682	12.0	9.8	17.2	0.158	1,358	8,900,424	15.3
Breast - in situ	Male	-	46,104	-	-	0.0	1.000	4	4,466,169	0.1
Breast - in situ	Female	11	45,578	24.1	19.7	17.0	0.168	1,354	4,434,255	30.5
Cervix	Female	3	45,578	6.6	6.2	3.2	1.000	291	4,434,255	6.6
Colorectal	Total	68	91,682	74.2	58.2	46.8	0.004 >>	3,564	8,900,424	40.0
Colorectal	Male	36	46,104	78.1	59.6	26.3	0.081	1,941	4,466,169	43.5
Colorectal	Female	32	45,578	70.2	56.5	20.7	0.026 >>	1,623	4,434,255	36.6
Corpus Uteri	Female	15	45,578	32.9	26.5	17.1	0.721	1,339	4,434,255	30.2
Esophagus	Total	8	91,682	8.7	6.6	6.8	0.746	499	8,900,424	5.6
Esophagus	Male	5	46,104	10.8	7.9	6.0	0.891	424	4,466,169	9.5
Esophagus	Female	3	45,578	6.6	5.2	1.0	0.155	75	4,434,255	1.7
Hodgkin Lymphoma	Total	1	91,682	1.1	1.1	2.4	0.634	221	8,900,424	2.5
Hodgkin Lymphoma	Male	-	46,104	-	-	1.4	0.485	129	4,466,169	2.9
Hodgkin Lymphoma	Female	1	45,578	2.2	2.2	0.9	1.000	92	4,434,255	2.1
Kidney and Renal Pelvis	Total	28	91,682	30.5	24.0	25.2	0.633	1,923	8,900,424	21.6
Kidney and Renal Pelvis	Male	16	46,104	34.7	26.7	17.4	0.861	1,294	4,466,169	29.0
Kidney and Renal Pelvis	Female	12	45,578	26.3	21.1	8.1	0.235	629	4,434,255	14.2
Larynx	Total	1	91,682	1.1	0.8	3.0	0.406	219	8,900,424	2.5
Larynx	Male	1	46,104	2.2	1.6	2.4	0.639	166	4,466,169	3.7
Larynx	Female	-	45,578	-	-	0.7	0.998	53	4,434,255	1.2
Leukemia	Total	17	91,682	18.5	14.5	22.6	0.284	1,710	8,900,424	19.2
Leukemia	Male	9	46,104	19.5	14.7	14.1	0.214	1,027	4,466,169	23.0
Leukemia	Female	8	45,578	17.6	14.1	8.7	0.982	683	4,434,255	15.4
Liver and Bile Duct	Total	19	91,682	20.7	15.8	11.1	0.039 >>	824	8,900,424	9.3
Liver and Bile Duct	Male	16	46,104	34.7	26.0	8.0	0.016 >>	578	4,466,169	12.9
Liver and Bile Duct	Female	3	45,578	6.6	5.1	3.2	1.000	246	4,434,255	5.5
Lung and Bronchus	Total	70	91,682	76.4	56.3	68.3	0.868	4,889	8,900,424	54.9
Lung and Bronchus	Male	33	46,104	71.6	50.7	35.9	0.711	2,462	4,466,169	55.1
Lung and Bronchus	Female	37	45,578	81.2	62.0	32.7	0.494	2,427	4,434,255	54.7
Melanoma of the Skin	Total	44	91,682	48.0	38.5	39.8	0.550	3,100	8,900,424	34.8
Melanoma of the Skin	Male	23	46,104	49.9	37.8	25.5	0.717	1,872	4,466,169	41.9
Melanoma of the Skin	Female	21	45,578	46.1	38.9	15.0	0.162	1,228	4,434,255	27.7
Myeloma	Total	6	91,682	6.5	4.9	9.9	0.276	722	8,900,424	8.1
Myeloma	Male	5	46,104	10.8	7.9	6.3	0.798	442	4,466,169	9.9
Myeloma	Female	1	45,578	2.2	1.7	3.7	0.232	280	4,434,255	6.3
Non-Hodgkin Lymphoma	Total	21	91,682	22.9	17.9	26.0	0.384	1,971	8,900,424	22.1
Non-Hodgkin Lymphoma	Male	13	46,104	28.2	21.6	15.2	0.680	1,133	4,466,169	25.4
Non-Hodgkin Lymphoma	Female	8	45,578	17.6	14.0	10.8	0.497	838	4,434,255	18.9
Oral Cavity and Pharynx	Total	18	91,682	19.6	15.3	17.2	0.906	1,297	8,900,424	14.6
Oral Cavity and Pharynx	Male	14	46,104	30.4	23.2	12.5	0.750	926	4,466,169	20.7
Oral Cavity and Pharynx	Female	4	45,578	8.8	7.0	4.8	0.951	371	4,434,255	8.4
Ovary	Female	9	45,578	19.7	16.2	6.8	0.498	544	4,434,255	12.3
Pancreas	Total	24	91,682	26.2	19.6	20.1	0.439	1,464	8,900,424	16.4
Pancreas	Male	12	46,104	26.0	18.8	11.6	0.993	814	4,466,169	18.2
Pancreas	Female	12	45,578	26.3	20.4	8.6	0.324	650	4,434,255	14.7
Prostate	Male	99	46,104	214.7	158.0	93.5	0.600	6,667	4,466,169	149.3
Stomach	Total	9	91,682	9.8	7.6	6.2	0.354	465	8,900,424	5.2
Stomach	Male	5	46,104	10.8	8.0	4.2	0.835	302	4,466,169	6.8
Stomach	Female	4	45,578	8.8	7.1	2.1	0.312	163	4,434,255	3.7
Testis	Male	3	46,104	6.5	7.5	2.4	0.879	271	4,466,169	6.1
Thyroid	Total	15	91,682	16.4	15.2	13.0	0.642	1,170	8,900,424	13.1
Thyroid	Male	6	46,104	13.0	11.2	4.4	0.555	366	4,466,169	8.2
Thyroid	Female	9	45,578	19.7	18.9	8.7	0.997	804	4,434,255	18.1
Pediatric Age 0 to 19	Total	2	22,713	8.8	8.8	3.9	0.517	423	2,476,611	17.1
Pediatric Age 0 to 19	Male	2	12,003	16.7	16.7	2.0	1.000	212	1,262,318	16.8
Pediatric Age 0 to 19	Female	-	10,710	-	-	1.8	0.317	211	1,214,293	17.4

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 GEM COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cause of Death Cancer Site/Type	Sex	Gem 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	1,237	94,749	1,305.6	989.0	1,087.9	0.000 >>	79,298	9,116,645	869.8
All Causes of Death	Male	663	47,797	1,387.1	1,007.0	605.5	0.022 >>	42,123	4,579,900	919.7
All Causes of Death	Female	574	46,952	1,222.5	963.6	488.1	0.000 >>	37,175	4,536,745	819.4
All Malignant Cancers	Total	214	94,749	225.9	169.1	208.5	0.720	15,019	9,116,645	164.7
All Malignant Cancers	Male	117	47,797	244.8	174.2	119.1	0.898	8,118	4,579,900	177.3
All Malignant Cancers	Female	97	46,952	206.6	161.2	91.5	0.593	6,901	4,536,745	152.1
Bladder	Total	7	94,749	7.4	5.4	6.8	1.000	478	9,116,645	5.2
Bladder	Male	5	47,797	10.5	7.1	5.7	0.993	370	4,579,900	8.1
Bladder	Female	2	46,952	4.3	3.3	1.5	0.855	108	4,536,745	2.4
Brain and Other Nervous System	Total	9	94,749	9.5	7.6	6.6	0.447	509	9,116,645	5.6
Brain and Other Nervous System	Male	5	47,797	10.5	8.2	3.8	0.654	284	4,579,900	6.2
Brain and Other Nervous System	Female	4	46,952	8.5	6.9	2.9	0.651	225	4,536,745	5.0
Breast	Total	15	94,749	15.8	12.1	15.1	1.000	1,109	9,116,645	12.2
Breast	Male	-	47,797	-	-	0.2	1.000	13	4,579,900	0.3
Breast	Female	15	46,952	31.9	25.3	14.3	0.929	1,096	4,536,745	24.2
Cervix	Female	1	46,952	2.1	1.9	1.0	1.000	87	4,536,745	1.9
Colorectal	Total	19	94,749	20.1	15.3	17.9	0.848	1,313	9,116,645	14.4
Colorectal	Male	11	47,797	23.0	17.1	10.2	0.872	721	4,579,900	15.7
Colorectal	Female	8	46,952	17.0	13.4	7.8	1.000	592	4,536,745	13.0
Corpus Uteri	Female	2	46,952	4.3	3.3	2.2	1.000	167	4,536,745	3.7
Esophagus	Total	7	94,749	7.4	5.5	6.3	0.881	454	9,116,645	5.0
Esophagus	Male	4	47,797	8.4	6.1	5.6	0.690	387	4,579,900	8.4
Esophagus	Female	3	46,952	6.4	5.0	0.9	0.122	67	4,536,745	1.5
Hodgkin Lymphoma	Total	-	94,749	-	-	0.3	1.000	25	9,116,645	0.3
Hodgkin Lymphoma	Male	-	47,797	-	-	0.2	1.000	14	4,579,900	0.3
Hodgkin Lymphoma	Female	-	46,952	-	-	0.1	1.000	11	4,536,745	0.2
Kidney	Total	1	94,749	1.1	0.8	5.4	0.057	385	9,116,645	4.2
Kidney	Male	1	47,797	2.1	1.5	3.6	0.254	245	4,579,900	5.3
Kidney	Female	-	46,952	-	-	1.9	0.300	140	4,536,745	3.1
Larynx	Total	-	94,749	-	-	1.1	0.698	76	9,116,645	0.8
Larynx	Male	-	47,797	-	-	1.0	0.767	65	4,579,900	1.4
Larynx	Female	-	46,952	-	-	0.1	1.000	11	4,536,745	0.2
Leukemia	Total	6	94,749	6.3	4.7	9.2	0.383	659	9,116,645	7.2
Leukemia	Male	4	47,797	8.4	5.9	5.8	0.625	393	4,579,900	8.6
Leukemia	Female	2	46,952	4.3	3.3	3.5	0.633	266	4,536,745	5.9
Liver and Bile Duct	Total	9	94,749	9.5	7.2	8.6	0.989	626	9,116,645	6.9
Liver and Bile Duct	Male	6	47,797	12.6	9.2	5.9	1.000	417	4,579,900	9.1
Liver and Bile Duct	Female	3	46,952	6.4	4.9	2.8	1.000	209	4,536,745	4.6
Lung and Bronchus	Total	50	94,749	52.8	38.8	40.8	0.179	2,887	9,116,645	31.7
Lung and Bronchus	Male	27	47,797	56.5	39.8	22.4	0.384	1,514	4,579,900	33.1
Lung and Bronchus	Female	23	46,952	49.0	37.4	18.6	0.360	1,373	4,536,745	30.3
Melanoma of the Skin	Total	5	94,749	5.3	4.0	4.0	0.750	296	9,116,645	3.2
Melanoma of the Skin	Male	2	47,797	4.2	3.0	2.8	0.918	198	4,579,900	4.3
Melanoma of the Skin	Female	3	46,952	6.4	5.1	1.3	0.267	98	4,536,745	2.2
Myeloma	Total	1	94,749	1.1	0.8	4.6	0.113	324	9,116,645	3.6
Myeloma	Male	1	47,797	2.1	1.5	2.8	0.458	187	4,579,900	4.1
Myeloma	Female	-	46,952	-	-	1.9	0.314	137	4,536,745	3.0
Non-Hodgkin Lymphoma	Total	9	94,749	9.5	7.0	7.8	0.767	559	9,116,645	6.1
Non-Hodgkin Lymphoma	Male	6	47,797	12.6	8.9	4.5	0.580	304	4,579,900	6.6
Non-Hodgkin Lymphoma	Female	3	46,952	6.4	4.9	3.4	1.000	255	4,536,745	5.6
Oral Cavity and Pharynx	Total	5	94,749	5.3	4.0	3.7	0.634	270	9,116,645	3.0
Oral Cavity and Pharynx	Male	4	47,797	8.4	6.1	2.7	0.569	188	4,579,900	4.1
Oral Cavity and Pharynx	Female	1	46,952	2.1	1.7	1.1	1.000	82	4,536,745	1.8
Ovary	Female	4	46,952	8.5	6.6	4.7	0.974	357	4,536,745	7.9
Pancreas	Total	20	94,749	21.1	15.7	16.3	0.421	1,170	9,116,645	12.8
Pancreas	Male	10	47,797	20.9	15.0	9.3	0.906	640	4,579,900	14.0
Pancreas	Female	10	46,952	21.3	16.4	7.1	0.362	530	4,536,745	11.7
Prostate	Male	13	47,797	27.2	18.3	15.2	0.683	984	4,579,900	21.5
Stomach	Total	4	94,749	4.2	3.3	2.5	0.504	190	9,116,645	2.1
Stomach	Male	3	47,797	6.3	4.6	1.7	0.469	116	4,579,900	2.5
Stomach	Female	1	46,952	2.1	1.8	0.9	1.000	74	4,536,745	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	Gem County
<u>Access to Care</u>									
Have Health Insurance, Age < 65 (2021–2022)	90.0%	89.3%	87.8%	86.4%	92.6%	87.2%	89.1%	92.6%	90.6%
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%	14.7%
<u>Cancer Screening</u>									
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%	45.5%
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%	.
Colorectal Cancer Screening, Age 45–75 (2022)	63.3%	61.0%	62.5%	60.8%	67.2%	65.0%	60.4%	60.2%	.
<u>Tobacco Use</u>									
Current Tobacco User (2020–2022)	22.1%	24.3%	20.4%	24.8%	21.3%	22.5%	22.6%	18.1%	29.0%
<u>Other Cancer-Related</u>									
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%	30.6%
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%	77.5%
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%	16.4%
Home Ever Tested for Radon (2016, 2018, 2020)	22.9%	30.8%	18.3%	16.9%	25.2%	20.1%	23.0%	21.0%	18.4%

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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GOODING 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 409 cases of invasive cancer were diagnosed among Gooding County residents (Table 1).

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

Cancer Incidence 2017–2021	Gooding County	State of Idaho
All Sites/Types	409	47,333
Female Breast	56	6,943
Prostate	50	6,766
Lung & Bronchus	45	4,959
Colorectal	38	3,632

Table 3 (*Cancer Incidence 2017–2021, Comparison between Gooding 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 Gooding 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 Gooding County was 531.3 cases per 100,000 person-years per year during 2017–2021. Comparing this crude rate with the crude rate for the remainder of Idaho (526.3) gives an estimate of the relative burden of disease in Gooding County.

The age- and sex-adjusted incidence rate of invasive cancer in Gooding County, all sites combined, was 497.8 cases per 100,000 persons per year during 2017–2021. There were fewer cases of cancer in Gooding County (409) than expected (432.5) 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 139 Gooding 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 Gooding County and the State of Idaho, 2018–2022

Mortality 2018–2022	Gooding County	State of Idaho
All Deaths	813	80,538
Cancer Deaths	139	15,233
% of All Deaths	17.1%	18.9%
Lung & Bronchus	31	2,937
Colorectal	8	1,332
Pancreas	9	1,190
Female Breast	9	1,111
Prostate	13	997

Table 4 (*Cancer Mortality 2018–2022, Comparison between Gooding 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 Gooding 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 Gooding County, all sites combined, was 162.3 deaths per 100,000 persons per year during 2018–2022, compared with 165.3 for the remainder of the state. There were fewer cancer deaths in Gooding County (139) than expected (141.5) 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 GOODING COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cancer Site/Type	Sex	Gooding 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	409	76,975	531.3	497.8	432.5	0.269	46,924	8,915,131	526.3
All Sites Combined	Male	211	39,289	537.0	489.9	241.3	0.051	25,059	4,472,984	560.2
All Sites Combined	Female	198	37,686	525.4	503.7	193.5	0.764	21,865	4,442,147	492.2
Bladder	Total	14	76,975	18.2	16.4	21.2	0.134	2,206	8,915,131	24.7
Bladder	Male	12	39,289	30.5	26.6	17.7	0.203	1,761	4,472,984	39.4
Bladder	Female	2	37,686	5.3	4.9	4.1	0.454	445	4,442,147	10.0
Brain - malignant	Total	7	76,975	9.1	8.7	5.8	0.739	650	8,915,131	7.3
Brain - malignant	Male	5	39,289	12.7	12.2	3.5	0.533	377	4,472,984	8.4
Brain - malignant	Female	2	37,686	5.3	5.1	2.4	1.000	273	4,442,147	6.1
Brain and other CNS - non-malignant	Total	21	76,975	27.3	25.7	14.0	0.094	1,526	8,915,131	17.1
Brain and other CNS - non-malignant	Male	8	39,289	20.4	18.9	4.7	0.201	492	4,472,984	11.0
Brain and other CNS - non-malignant	Female	13	37,686	34.5	33.1	9.2	0.272	1,034	4,442,147	23.3
Breast	Total	57	76,975	74.1	70.8	62.8	0.512	6,951	8,915,131	78.0
Breast	Male	1	39,289	2.5	2.3	0.6	0.933	64	4,472,984	1.4
Breast	Female	56	37,686	148.6	144.4	60.1	0.652	6,887	4,442,147	155.0
Breast - in situ	Total	8	76,975	10.4	10.1	12.1	0.297	1,361	8,915,131	15.3
Breast - in situ	Male	-	39,289	-	-	0.0	1.000	4	4,472,984	0.1
Breast - in situ	Female	8	37,686	21.2	20.9	11.7	0.353	1,357	4,442,147	30.5
Cervix	Female	5	37,686	13.3	13.8	2.4	0.180	289	4,442,147	6.5
Colorectal	Total	38	76,975	49.4	46.0	33.3	0.461	3,594	8,915,131	40.3
Colorectal	Male	17	39,289	43.3	39.6	18.8	0.790	1,960	4,472,984	43.8
Colorectal	Female	21	37,686	55.7	52.6	14.7	0.141	1,634	4,442,147	36.8
Corpus Uteri	Female	8	37,686	21.2	20.7	11.7	0.353	1,346	4,442,147	30.3
Esophagus	Total	12	76,975	15.6	14.4	4.6	0.006 >>	495	8,915,131	5.6
Esophagus	Male	10	39,289	25.5	22.9	4.1	0.019 >>	419	4,472,984	9.4
Esophagus	Female	2	37,686	5.3	5.0	0.7	0.302	76	4,442,147	1.7
Hodgkin Lymphoma	Total	1	76,975	1.3	1.3	1.9	0.881	221	8,915,131	2.5
Hodgkin Lymphoma	Male	-	39,289	-	-	1.1	0.650	129	4,472,984	2.9
Hodgkin Lymphoma	Female	1	37,686	2.7	2.7	0.8	1.000	92	4,442,147	2.1
Kidney and Renal Pelvis	Total	23	76,975	29.9	28.1	17.7	0.255	1,928	8,915,131	21.6
Kidney and Renal Pelvis	Male	14	39,289	35.6	33.0	12.3	0.697	1,296	4,472,984	29.0
Kidney and Renal Pelvis	Female	9	37,686	23.9	22.7	5.6	0.235	632	4,442,147	14.2
Larynx	Total	4	76,975	5.2	4.8	2.0	0.286	216	8,915,131	2.4
Larynx	Male	3	39,289	7.6	6.9	1.6	0.425	164	4,472,984	3.7
Larynx	Female	1	37,686	2.7	2.6	0.5	0.732	52	4,442,147	1.2
Leukemia	Total	9	76,975	11.7	10.8	16.1	0.083	1,718	8,915,131	19.3
Leukemia	Male	4	39,289	10.2	9.2	10.0	0.057	1,032	4,472,984	23.1
Leukemia	Female	5	37,686	13.3	12.4	6.2	0.827	686	4,442,147	15.4
Liver and Bile Duct	Total	5	76,975	6.5	6.1	7.7	0.442	838	8,915,131	9.4
Liver and Bile Duct	Male	4	39,289	10.2	9.4	5.6	0.688	590	4,472,984	13.2
Liver and Bile Duct	Female	1	37,686	2.7	2.5	2.2	0.697	248	4,442,147	5.6
Lung and Bronchus	Total	45	76,975	58.5	53.2	46.6	0.890	4,914	8,915,131	55.1
Lung and Bronchus	Male	19	39,289	48.4	43.0	24.5	0.315	2,476	4,472,984	55.4
Lung and Bronchus	Female	26	37,686	69.0	63.9	22.3	0.492	2,438	4,442,147	54.9
Melanoma of the Skin	Total	19	76,975	24.7	23.3	28.6	0.077	3,125	8,915,131	35.1
Melanoma of the Skin	Male	10	39,289	25.5	23.1	18.2	0.055	1,885	4,472,984	42.1
Melanoma of the Skin	Female	9	37,686	23.9	23.4	10.7	0.743	1,240	4,442,147	27.9
Myeloma	Total	6	76,975	7.8	7.2	6.8	0.963	722	8,915,131	8.1
Myeloma	Male	5	39,289	12.7	11.4	4.3	0.874	442	4,472,984	9.9
Myeloma	Female	1	37,686	2.7	2.5	2.5	0.561	280	4,442,147	6.3
Non-Hodgkin Lymphoma	Total	18	76,975	23.4	21.8	18.2	1.000	1,974	8,915,131	22.1
Non-Hodgkin Lymphoma	Male	9	39,289	22.9	21.1	10.8	0.721	1,137	4,472,984	25.4
Non-Hodgkin Lymphoma	Female	9	37,686	23.9	22.5	7.5	0.683	837	4,442,147	18.8
Oral Cavity and Pharynx	Total	18	76,975	23.4	22.1	11.8	0.114	1,297	8,915,131	14.5
Oral Cavity and Pharynx	Male	13	39,289	33.1	30.8	8.7	0.212	927	4,472,984	20.7
Oral Cavity and Pharynx	Female	5	37,686	13.3	12.7	3.3	0.470	370	4,442,147	8.3
Ovary	Female	3	37,686	8.0	7.7	4.8	0.580	550	4,442,147	12.4
Pancreas	Total	12	76,975	15.6	14.2	14.0	0.723	1,476	8,915,131	16.6
Pancreas	Male	8	39,289	20.4	18.1	8.1	1.000	818	4,472,984	18.3
Pancreas	Female	4	37,686	10.6	9.9	6.0	0.569	658	4,442,147	14.8
Prostate	Male	50	39,289	127.3	117.5	63.9	0.086	6,716	4,472,984	150.1
Stomach	Total	6	76,975	7.8	7.2	4.4	0.556	468	8,915,131	5.2
Stomach	Male	4	39,289	10.2	9.1	3.0	0.691	303	4,472,984	6.8
Stomach	Female	2	37,686	5.3	5.0	1.5	0.873	165	4,442,147	3.7
Testis	Male	2	39,289	5.1	5.5	2.2	1.000	272	4,472,984	6.1
Thyroid	Total	5	76,975	6.5	6.6	10.0	0.131	1,180	8,915,131	13.2
Thyroid	Male	1	39,289	2.5	2.5	3.3	0.305	371	4,472,984	8.3
Thyroid	Female	4	37,686	10.6	11.0	6.6	0.423	809	4,442,147	18.2
Pediatric Age 0 to 19	Total	1	22,696	4.4	4.4	3.9	0.206	424	2,476,628	17.1
Pediatric Age 0 to 19	Male	1	11,528	8.7	8.7	1.9	0.844	213	1,262,793	16.9
Pediatric Age 0 to 19	Female	-	11,168	-	-	1.9	0.299	211	1,213,835	17.4

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 GOODING COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cause of Death Cancer Site/Type	Sex	Gooding 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	813	77,535	1,048.6	934.4	759.5	0.056	79,722	9,133,859	872.8
All Causes of Death	Male	452	39,598	1,141.5	982.7	424.4	0.190	42,334	4,588,099	922.7
All Causes of Death	Female	361	37,937	951.6	874.5	339.5	0.256	37,388	4,545,760	822.5
All Malignant Cancers	Total	139	77,535	179.3	162.3	141.5	0.876	15,094	9,133,859	165.3
All Malignant Cancers	Male	83	39,598	209.6	182.4	80.9	0.842	8,152	4,588,099	177.7
All Malignant Cancers	Female	56	37,937	147.6	137.8	62.0	0.488	6,942	4,545,760	152.7
Bladder	Total	5	77,535	6.4	5.6	4.7	1.000	480	9,133,859	5.3
Bladder	Male	3	39,598	7.6	6.2	3.9	0.895	372	4,588,099	8.1
Bladder	Female	2	37,937	5.3	4.8	1.0	0.521	108	4,545,760	2.4
Brain and Other Nervous System	Total	4	77,535	5.2	4.9	4.6	1.000	514	9,133,859	5.6
Brain and Other Nervous System	Male	2	39,598	5.1	4.7	2.7	1.000	287	4,588,099	6.3
Brain and Other Nervous System	Female	2	37,937	5.3	5.1	2.0	1.000	227	4,545,760	5.0
Breast	Total	9	77,535	11.6	10.6	10.4	0.825	1,115	9,133,859	12.2
Breast	Male	-	39,598	-	-	0.1	1.000	13	4,588,099	0.3
Breast	Female	9	37,937	23.7	22.3	9.8	0.975	1,102	4,545,760	24.2
Cervix	Female	1	37,937	2.6	2.7	0.7	1.000	87	4,545,760	1.9
Colorectal	Total	8	77,535	10.3	9.4	12.3	0.271	1,324	9,133,859	14.5
Colorectal	Male	6	39,598	15.2	13.5	7.0	0.891	726	4,588,099	15.8
Colorectal	Female	2	37,937	5.3	4.9	5.4	0.196	598	4,545,760	13.2
Corpus Uteri	Female	1	37,937	2.6	2.5	1.5	1.000	168	4,545,760	3.7
Esophagus	Total	9	77,535	11.6	10.7	4.2	0.054	452	9,133,859	4.9
Esophagus	Male	8	39,598	20.2	18.0	3.7	0.071	383	4,588,099	8.3
Esophagus	Female	1	37,937	2.6	2.5	0.6	0.917	69	4,545,760	1.5
Hodgkin Lymphoma	Total	-	77,535	-	-	0.2	1.000	25	9,133,859	0.3
Hodgkin Lymphoma	Male	-	39,598	-	-	0.1	1.000	14	4,588,099	0.3
Hodgkin Lymphoma	Female	-	37,937	-	-	0.1	1.000	11	4,545,760	0.2
Kidney	Total	1	77,535	1.3	1.2	3.6	0.246	385	9,133,859	4.2
Kidney	Male	1	39,598	2.5	2.2	2.4	0.609	245	4,588,099	5.3
Kidney	Female	-	37,937	-	-	1.3	0.560	140	4,545,760	3.1
Larynx	Total	1	77,535	1.3	1.2	0.7	1.000	75	9,133,859	0.8
Larynx	Male	1	39,598	2.5	2.2	0.6	0.937	64	4,588,099	1.4
Larynx	Female	-	37,937	-	-	0.1	1.000	11	4,545,760	0.2
Leukemia	Total	6	77,535	7.7	6.9	6.3	1.000	659	9,133,859	7.2
Leukemia	Male	2	39,598	5.1	4.3	4.0	0.484	395	4,588,099	8.6
Leukemia	Female	4	37,937	10.5	9.7	2.4	0.438	264	4,545,760	5.8
Liver and Bile Duct	Total	1	77,535	1.3	1.2	5.8	0.040 <<	634	9,133,859	6.9
Liver and Bile Duct	Male	1	39,598	2.5	2.3	4.0	0.179	422	4,588,099	9.2
Liver and Bile Duct	Female	-	37,937	-	-	1.9	0.303	212	4,545,760	4.7
Lung and Bronchus	Total	31	77,535	40.0	36.1	27.3	0.526	2,906	9,133,859	31.8
Lung and Bronchus	Male	15	39,598	37.9	33.2	15.0	1.000	1,526	4,588,099	33.3
Lung and Bronchus	Female	16	37,937	42.2	39.0	12.4	0.379	1,380	4,545,760	30.4
Melanoma of the Skin	Total	5	77,535	6.4	5.9	2.7	0.288	296	9,133,859	3.2
Melanoma of the Skin	Male	4	39,598	10.1	8.9	1.9	0.258	196	4,588,099	4.3
Melanoma of the Skin	Female	1	37,937	2.6	2.5	0.9	1.000	100	4,545,760	2.2
Myeloma	Total	2	77,535	2.6	2.3	3.1	0.814	323	9,133,859	3.5
Myeloma	Male	2	39,598	5.1	4.3	1.9	1.000	186	4,588,099	4.1
Myeloma	Female	-	37,937	-	-	1.2	0.575	137	4,545,760	3.0
Non-Hodgkin Lymphoma	Total	6	77,535	7.7	6.9	5.3	0.889	562	9,133,859	6.2
Non-Hodgkin Lymphoma	Male	3	39,598	7.6	6.6	3.1	1.000	307	4,588,099	6.7
Non-Hodgkin Lymphoma	Female	3	37,937	7.9	7.2	2.3	0.819	255	4,545,760	5.6
Oral Cavity and Pharynx	Total	4	77,535	5.2	4.8	2.5	0.482	271	9,133,859	3.0
Oral Cavity and Pharynx	Male	4	39,598	10.1	9.1	1.8	0.219	188	4,588,099	4.1
Oral Cavity and Pharynx	Female	-	37,937	-	-	0.7	0.960	83	4,545,760	1.8
Ovary	Female	1	37,937	2.6	2.5	3.2	0.345	360	4,545,760	7.9
Pancreas	Total	9	77,535	11.6	10.6	11.0	0.687	1,181	9,133,859	12.9
Pancreas	Male	5	39,598	12.6	11.2	6.3	0.808	645	4,588,099	14.1
Pancreas	Female	4	37,937	10.5	9.9	4.8	0.958	536	4,545,760	11.8
Prostate	Male	13	39,598	32.8	26.9	10.4	0.489	984	4,588,099	21.4
Stomach	Total	2	77,535	2.6	2.4	1.8	1.000	192	9,133,859	2.1
Stomach	Male	-	39,598	-	-	1.2	0.616	119	4,588,099	2.6
Stomach	Female	2	37,937	5.3	5.1	0.6	0.266	73	4,545,760	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	Gooding 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%	79.6%
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%	9.3%
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%	51.4%
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%	.
Colorectal Cancer Screening, Age 45–75 (2022)	63.3%	61.0%	62.5%	60.8%	67.2%	65.0%	60.4%	60.2%	.
Tobacco Use									
Current Tobacco User (2020–2022)	22.1%	24.3%	20.4%	24.8%	21.3%	22.5%	22.6%	18.1%	24.5%
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%	25.6%
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%	68.1%
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%	16.8%
Home Ever Tested for Radon (2016, 2018, 2020)	22.9%	30.8%	18.3%	16.9%	25.2%	20.1%	23.0%	21.0%	12.4%

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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IDAHO 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 651 cases of invasive cancer were diagnosed among Idaho County residents (Table 1).

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

Cancer Incidence 2017–2021	Idaho County	State of Idaho
All Sites/Types	651	47,333
Female Breast	81	6,943
Prostate	116	6,766
Lung & Bronchus	77	4,959
Colorectal	57	3,632

Table 3 (*Cancer Incidence 2017–2021, Comparison between Idaho 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 Idaho 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 Idaho County was 781.0 cases per 100,000 person-years per year during 2017–2021. Comparing this crude rate with the crude rate for the remainder of Idaho (524.0) gives an estimate of the relative burden of disease in Idaho County.

The age- and sex-adjusted incidence rate of invasive cancer in Idaho County, all sites combined, was 513.0 cases per 100,000 persons per year during 2017–2021. There were fewer cases of cancer in Idaho County (651) than expected (665.0) 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 245 Idaho 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 Idaho County and the State of Idaho, 2018–2022

Mortality 2018–2022	Idaho County	State of Idaho
All Deaths	1,088	80,538
Cancer Deaths	245	15,233
% of All Deaths	22.5%	18.9%
Lung & Bronchus	41	2,937
Colorectal	26	1,332
Pancreas	24	1,190
Female Breast	14	1,111
Prostate	19	997

Table 4 (*Cancer Mortality 2018–2022, Comparison between Idaho 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 Idaho 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 Idaho County, all sites combined, was 177.0 deaths per 100,000 persons per year during 2018–2022, compared with 164.2 for the remainder of the state. There were more cancer deaths in Idaho County (245) than expected (227.3) 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 IDAHO COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cancer Site/Type	Sex	Idaho 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	651	83,360	781.0	513.0	665.0	0.605	46,682	8,908,746	524.0
All Sites Combined	Male	385	43,837	878.3	543.4	394.5	0.654	24,885	4,468,436	556.9
All Sites Combined	Female	266	39,523	673.0	466.1	280.2	0.416	21,797	4,440,310	490.9
Bladder	Total	32	83,360	38.4	22.9	34.3	0.782	2,188	8,908,746	24.6
Bladder	Male	26	43,837	59.3	33.5	30.3	0.499	1,747	4,468,436	39.1
Bladder	Female	6	39,523	15.2	9.6	6.2	1.000	441	4,440,310	9.9
Brain - malignant	Total	7	83,360	8.4	6.2	8.2	0.857	650	8,908,746	7.3
Brain - malignant	Male	6	43,837	13.7	10.1	5.0	0.767	376	4,468,436	8.4
Brain - malignant	Female	1	39,523	2.5	1.9	3.3	0.320	274	4,440,310	6.2
Brain and other CNS - non-malignant	Total	22	83,360	26.4	18.5	20.4	0.781	1,525	8,908,746	17.1
Brain and other CNS - non-malignant	Male	8	43,837	18.2	12.7	6.9	0.777	492	4,468,436	11.0
Brain and other CNS - non-malignant	Female	14	39,523	35.4	25.1	13.0	0.847	1,033	4,440,310	23.3
Breast	Total	83	83,360	99.6	69.0	93.5	0.301	6,925	8,908,746	77.7
Breast	Male	2	43,837	4.6	2.8	1.0	0.531	63	4,468,436	1.4
Breast	Female	81	39,523	204.9	144.4	86.7	0.587	6,862	4,440,310	154.5
Breast - in situ	Total	3	83,360	3.6	2.6	17.9	0.000 <<	1,366	8,908,746	15.3
Breast - in situ	Male	-	43,837	-	-	0.1	1.000	4	4,468,436	0.1
Breast - in situ	Female	3	39,523	7.6	5.5	16.9	0.000 <<	1,362	4,440,310	30.7
Cervix	Female	3	39,523	7.6	7.1	2.8	1.000	291	4,440,310	6.6
Colorectal	Total	57	83,360	68.4	45.6	50.2	0.367	3,575	8,908,746	40.1
Colorectal	Male	25	43,837	57.0	37.1	29.4	0.478	1,952	4,468,436	43.7
Colorectal	Female	32	39,523	81.0	55.3	21.2	0.033 >>	1,623	4,440,310	36.6
Corpus Uteri	Female	21	39,523	53.1	36.8	17.1	0.410	1,333	4,440,310	30.0
Esophagus	Total	9	83,360	10.8	6.8	7.4	0.657	498	8,908,746	5.6
Esophagus	Male	8	43,837	18.2	11.0	6.8	0.751	421	4,468,436	9.4
Esophagus	Female	1	39,523	2.5	1.6	1.1	1.000	77	4,440,310	1.7
Hodgkin Lymphoma	Total	3	83,360	3.6	3.3	2.2	0.771	219	8,908,746	2.5
Hodgkin Lymphoma	Male	3	43,837	6.8	6.0	1.4	0.343	126	4,468,436	2.8
Hodgkin Lymphoma	Female	-	39,523	-	-	0.8	0.872	93	4,440,310	2.1
Kidney and Renal Pelvis	Total	25	83,360	30.0	20.1	26.9	0.806	1,926	8,908,746	21.6
Kidney and Renal Pelvis	Male	16	43,837	36.5	23.9	19.4	0.521	1,294	4,468,436	29.0
Kidney and Renal Pelvis	Female	9	39,523	22.8	15.6	8.2	0.880	632	4,440,310	14.2
Larynx	Total	1	83,360	1.2	0.8	3.2	0.334	219	8,908,746	2.5
Larynx	Male	1	43,837	2.3	1.4	2.7	0.505	166	4,468,436	3.7
Larynx	Female	-	39,523	-	-	0.7	0.981	53	4,440,310	1.2
Leukemia	Total	22	83,360	26.4	17.4	24.2	0.757	1,705	8,908,746	19.1
Leukemia	Male	16	43,837	36.5	23.2	15.8	1.000	1,020	4,468,436	22.8
Leukemia	Female	6	39,523	15.2	10.3	9.0	0.422	685	4,440,310	15.4
Liver and Bile Duct	Total	13	83,360	15.6	9.9	12.2	0.903	830	8,908,746	9.3
Liver and Bile Duct	Male	9	43,837	20.5	12.7	9.3	1.000	585	4,468,436	13.1
Liver and Bile Duct	Female	4	39,523	10.1	6.6	3.4	0.864	245	4,440,310	5.5
Lung and Bronchus	Total	77	83,360	92.4	55.5	76.0	0.938	4,882	8,908,746	54.8
Lung and Bronchus	Male	45	43,837	102.7	58.8	42.0	0.683	2,450	4,468,436	54.8
Lung and Bronchus	Female	32	39,523	81.0	50.7	34.6	0.741	2,432	4,440,310	54.8
Melanoma of the Skin	Total	39	83,360	46.8	32.1	42.3	0.677	3,105	8,908,746	34.9
Melanoma of the Skin	Male	26	43,837	59.3	37.8	28.8	0.687	1,869	4,468,436	41.8
Melanoma of the Skin	Female	13	39,523	32.9	24.5	14.8	0.770	1,236	4,440,310	27.8
Myeloma	Total	5	83,360	6.0	3.7	10.9	0.081	723	8,908,746	8.1
Myeloma	Male	2	43,837	4.6	2.7	7.3	0.047 <<	445	4,468,436	10.0
Myeloma	Female	3	39,523	7.6	4.9	3.8	0.928	278	4,440,310	6.3
Non-Hodgkin Lymphoma	Total	24	83,360	28.8	19.0	27.9	0.527	1,968	8,908,746	22.1
Non-Hodgkin Lymphoma	Male	14	43,837	31.9	20.6	17.3	0.522	1,132	4,468,436	25.3
Non-Hodgkin Lymphoma	Female	10	39,523	25.3	16.9	11.1	0.893	836	4,440,310	18.8
Oral Cavity and Pharynx	Total	20	83,360	24.0	15.9	18.3	0.758	1,295	8,908,746	14.5
Oral Cavity and Pharynx	Male	15	43,837	34.2	22.3	13.9	0.846	925	4,468,436	20.7
Oral Cavity and Pharynx	Female	5	39,523	12.7	8.5	4.9	1.000	370	4,440,310	8.3
Ovary	Female	2	39,523	5.1	3.6	6.9	0.063	551	4,440,310	12.4
Pancreas	Total	25	83,360	30.0	18.5	22.1	0.598	1,463	8,908,746	16.4
Pancreas	Male	18	43,837	41.1	24.4	13.4	0.261	808	4,468,436	18.1
Pancreas	Female	7	39,523	17.7	11.3	9.1	0.621	655	4,440,310	14.8
Prostate	Male	116	43,837	264.6	159.2	108.4	0.492	6,650	4,468,436	148.8
Stomach	Total	6	83,360	7.2	4.6	6.8	0.959	468	8,908,746	5.3
Stomach	Male	5	43,837	11.4	7.0	4.9	1.000	302	4,468,436	6.8
Stomach	Female	1	39,523	2.5	1.7	2.2	0.727	166	4,440,310	3.7
Testis	Male	2	43,837	4.6	5.4	2.2	1.000	272	4,468,436	6.1
Thyroid	Total	14	83,360	16.8	14.8	12.4	0.726	1,171	8,908,746	13.1
Thyroid	Male	5	43,837	11.4	8.8	4.7	0.998	367	4,468,436	8.2
Thyroid	Female	9	39,523	22.8	21.4	7.6	0.704	804	4,440,310	18.1
Pediatric Age 0 to 19	Total	1	17,833	5.6	5.6	3.0	0.389	424	2,481,491	17.1
Pediatric Age 0 to 19	Male	1	9,425	10.6	10.6	1.6	1.000	213	1,264,896	16.8
Pediatric Age 0 to 19	Female	-	8,408	-	-	1.4	0.478	211	1,216,595	17.3

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 IDAHO COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cause of Death Cancer Site/Type	Sex	Idaho 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	1,088	84,561	1,286.6	794.0	1,192.9	0.002 <<	79,447	9,126,833	870.5
All Causes of Death	Male	614	44,508	1,379.5	818.3	690.5	0.003 <<	42,172	4,583,189	920.1
All Causes of Death	Female	474	40,053	1,183.4	752.3	516.9	0.060	37,275	4,543,644	820.4
All Malignant Cancers	Total	245	84,561	289.7	177.0	227.3	0.255	14,988	9,126,833	164.2
All Malignant Cancers	Male	140	44,508	314.6	181.2	136.5	0.785	8,095	4,583,189	176.6
All Malignant Cancers	Female	105	40,053	262.2	167.8	94.9	0.326	6,893	4,543,644	151.7
Bladder	Total	13	84,561	15.4	8.9	7.6	0.091	472	9,126,833	5.2
Bladder	Male	8	44,508	18.0	9.6	6.7	0.702	367	4,583,189	8.0
Bladder	Female	5	40,053	12.5	7.6	1.5	0.039 >>	105	4,543,644	2.3
Brain and Other Nervous System	Total	3	84,561	3.5	2.4	7.0	0.163	515	9,126,833	5.6
Brain and Other Nervous System	Male	3	44,508	6.7	4.5	4.2	0.808	286	4,583,189	6.2
Brain and Other Nervous System	Female	-	40,053	-	-	2.9	0.107	229	4,543,644	5.0
Breast	Total	14	84,561	16.6	10.5	16.2	0.701	1,110	9,126,833	12.2
Breast	Male	-	44,508	-	-	0.2	1.000	13	4,583,189	0.3
Breast	Female	14	40,053	35.0	23.0	14.7	0.993	1,097	4,543,644	24.1
Cervix	Female	-	40,053	-	-	1.0	0.765	88	4,543,644	1.9
Colorectal	Total	26	84,561	30.7	19.5	19.1	0.150	1,306	9,126,833	14.3
Colorectal	Male	10	44,508	22.5	13.9	11.3	0.848	722	4,583,189	15.8
Colorectal	Female	16	40,053	39.9	25.9	7.9	0.015 >>	584	4,543,644	12.9
Corpus Uteri	Female	3	40,053	7.5	4.7	2.3	0.818	166	4,543,644	3.7
Esophagus	Total	9	84,561	10.6	6.6	6.8	0.491	452	9,126,833	5.0
Esophagus	Male	8	44,508	18.0	10.6	6.3	0.594	383	4,583,189	8.4
Esophagus	Female	1	40,053	2.5	1.6	0.9	1.000	69	4,543,644	1.5
Hodgkin Lymphoma	Total	-	84,561	-	-	0.4	1.000	25	9,126,833	0.3
Hodgkin Lymphoma	Male	-	44,508	-	-	0.2	1.000	14	4,583,189	0.3
Hodgkin Lymphoma	Female	-	40,053	-	-	0.1	1.000	11	4,543,644	0.2
Kidney	Total	4	84,561	4.7	2.8	5.9	0.589	382	9,126,833	4.2
Kidney	Male	1	44,508	2.2	1.3	4.1	0.164	245	4,583,189	5.3
Kidney	Female	3	40,053	7.5	4.6	2.0	0.633	137	4,543,644	3.0
Larynx	Total	-	84,561	-	-	1.1	0.637	76	9,126,833	0.8
Larynx	Male	-	44,508	-	-	1.1	0.667	65	4,583,189	1.4
Larynx	Female	-	40,053	-	-	0.1	1.000	11	4,543,644	0.2
Leukemia	Total	10	84,561	11.8	7.2	10.0	1.000	655	9,126,833	7.2
Leukemia	Male	8	44,508	18.0	10.2	6.6	0.695	389	4,583,189	8.5
Leukemia	Female	2	40,053	5.0	3.2	3.7	0.575	266	4,543,644	5.9
Liver and Bile Duct	Total	11	84,561	13.0	8.0	9.4	0.674	624	9,126,833	6.8
Liver and Bile Duct	Male	6	44,508	13.5	8.0	6.8	0.964	417	4,583,189	9.1
Liver and Bile Duct	Female	5	40,053	12.5	8.0	2.9	0.325	207	4,543,644	4.6
Lung and Bronchus	Total	41	84,561	48.5	28.8	45.1	0.600	2,896	9,126,833	31.7
Lung and Bronchus	Male	23	44,508	51.7	29.2	26.1	0.635	1,518	4,583,189	33.1
Lung and Bronchus	Female	18	40,053	44.9	27.8	19.6	0.830	1,378	4,543,644	30.3
Melanoma of the Skin	Total	6	84,561	7.1	4.5	4.3	0.526	295	9,126,833	3.2
Melanoma of the Skin	Male	6	44,508	13.5	8.1	3.1	0.196	194	4,583,189	4.2
Melanoma of the Skin	Female	-	40,053	-	-	1.3	0.531	101	4,543,644	2.2
Myeloma	Total	7	84,561	8.3	4.9	5.0	0.481	318	9,126,833	3.5
Myeloma	Male	2	44,508	4.5	2.5	3.3	0.728	186	4,583,189	4.1
Myeloma	Female	5	40,053	12.5	7.7	1.9	0.085	132	4,543,644	2.9
Non-Hodgkin Lymphoma	Total	4	84,561	4.7	2.8	8.7	0.131	564	9,126,833	6.2
Non-Hodgkin Lymphoma	Male	1	44,508	2.2	1.3	5.2	0.068	309	4,583,189	6.7
Non-Hodgkin Lymphoma	Female	3	40,053	7.5	4.7	3.6	1.000	255	4,543,644	5.6
Oral Cavity and Pharynx	Total	6	84,561	7.1	4.4	4.0	0.432	269	9,126,833	2.9
Oral Cavity and Pharynx	Male	5	44,508	11.2	6.7	3.1	0.387	187	4,583,189	4.1
Oral Cavity and Pharynx	Female	1	40,053	2.5	1.6	1.1	1.000	82	4,543,644	1.8
Ovary	Female	4	40,053	10.0	6.4	4.9	0.912	357	4,543,644	7.9
Pancreas	Total	24	84,561	28.4	17.2	17.8	0.185	1,166	9,126,833	12.8
Pancreas	Male	18	44,508	40.4	23.5	10.6	0.046 >>	632	4,583,189	13.8
Pancreas	Female	6	40,053	15.0	9.4	7.5	0.765	534	4,543,644	11.8
Prostate	Male	19	44,508	42.7	22.7	17.9	0.851	978	4,583,189	21.3
Stomach	Total	2	84,561	2.4	1.5	2.7	0.972	192	9,126,833	2.1
Stomach	Male	2	44,508	4.5	2.7	1.9	1.000	117	4,583,189	2.6
Stomach	Female	-	40,053	-	-	0.9	0.782	75	4,543,644	1.7

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	Idaho County
<u>Access to Care</u>									
Have Health Insurance, Age < 65 (2021–2022)	90.0%	89.3%	87.8%	86.4%	92.6%	87.2%	89.1%	92.6%	64.8%
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%	13.6%
<u>Cancer Screening</u>									
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%	65.0%
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%	64.3%
Colorectal Cancer Screening, Age 45–75 (2022)	63.3%	61.0%	62.5%	60.8%	67.2%	65.0%	60.4%	60.2%	42.7%
<u>Tobacco Use</u>									
Current Tobacco User (2020–2022)	22.1%	24.3%	20.4%	24.8%	21.3%	22.5%	22.6%	18.1%	21.1%
<u>Other Cancer-Related</u>									
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%	32.1%
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%	69.2%
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%	14.2%
Home Ever Tested for Radon (2016, 2018, 2020)	22.9%	30.8%	18.3%	16.9%	25.2%	20.1%	23.0%	21.0%	9.6%

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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JEFFERSON 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 610 cases of invasive cancer were diagnosed among Jefferson County residents (Table 1).

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

Cancer Incidence 2017–2021	Jefferson County	State of Idaho
All Sites/Types	610	47,333
Female Breast	83	6,943
Prostate	83	6,766
Lung & Bronchus	50	4,959
Colorectal	53	3,632

Table 3 (*Cancer Incidence 2017–2021, Comparison between Jefferson 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 Jefferson 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 Jefferson County was 405.0 cases per 100,000 person-years per year during 2017–2021. Comparing this crude rate with the crude rate for the remainder of Idaho (528.5) gives an estimate of the relative burden of disease in Jefferson County.

The age- and sex-adjusted incidence rate of invasive cancer in Jefferson County, all sites combined, was 511.6 cases per 100,000 persons per year during 2017–2021. There were fewer cases of cancer in Jefferson County (610) than expected (630.1) 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 167 Jefferson 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 Jefferson County and the State of Idaho, 2018–2022

Mortality 2018–2022	Jefferson County	State of Idaho
All Deaths	1,030	80,538
Cancer Deaths	167	15,233
% of All Deaths	16.2%	18.9%
Lung & Bronchus	26	2,937
Colorectal	12	1,332
Pancreas	17	1,190
Female Breast	18	1,111
Prostate	9	997

Table 4 (*Cancer Mortality 2018–2022, Comparison between Jefferson 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 Jefferson 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 Jefferson County, all sites combined, was 144.7 deaths per 100,000 persons per year during 2018–2022, compared with 166.4 for the remainder of the state. There were fewer cancer deaths in Jefferson County (167) than expected (192.0) 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 JEFFERSON COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cancer Site/Type	Sex	Jefferson 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	610	150,618	405.0	511.6	630.1	0.437	46,723	8,841,488	528.5
All Sites Combined	Male	328	76,791	427.1	537.1	343.4	0.423	24,942	4,435,482	562.3
All Sites Combined	Female	282	73,827	382.0	482.7	288.8	0.717	21,781	4,406,006	494.3
Bladder	Total	33	150,618	21.9	29.5	27.7	0.358	2,187	8,841,488	24.7
Bladder	Male	25	76,791	32.6	43.2	22.8	0.700	1,748	4,435,482	39.4
Bladder	Female	8	73,827	10.8	14.6	5.4	0.367	439	4,406,006	10.0
Brain - malignant	Total	11	150,618	7.3	8.5	9.5	0.709	646	8,841,488	7.3
Brain - malignant	Male	6	76,791	7.8	8.9	5.7	1.000	376	4,435,482	8.5
Brain - malignant	Female	5	73,827	6.8	7.9	3.9	0.686	270	4,406,006	6.1
Brain and other CNS - non-malignant	Total	22	150,618	14.6	17.8	21.3	0.930	1,525	8,841,488	17.2
Brain and other CNS - non-malignant	Male	8	76,791	10.4	12.4	7.2	0.855	492	4,435,482	11.1
Brain and other CNS - non-malignant	Female	14	73,827	19.0	23.7	13.9	1.000	1,033	4,406,006	23.4
Breast	Total	83	150,618	55.1	67.7	96.1	0.196	6,925	8,841,488	78.3
Breast	Male	-	76,791	-	-	0.9	0.829	65	4,435,482	1.5
Breast	Female	83	73,827	112.4	140.2	92.1	0.369	6,860	4,406,006	155.7
Breast - in situ	Total	14	150,618	9.3	11.2	19.1	0.287	1,355	8,841,488	15.3
Breast - in situ	Male	-	76,791	-	-	0.1	1.000	4	4,435,482	0.1
Breast - in situ	Female	14	73,827	19.0	23.3	18.4	0.365	1,351	4,406,006	30.7
Cervix	Female	5	73,827	6.8	7.4	4.4	0.902	289	4,406,006	6.6
Colorectal	Total	53	150,618	35.2	44.4	48.3	0.535	3,579	8,841,488	40.5
Colorectal	Male	35	76,791	45.6	56.3	27.2	0.171	1,942	4,435,482	43.8
Colorectal	Female	18	73,827	24.4	31.4	21.3	0.559	1,637	4,406,006	37.2
Corpus Uteri	Female	17	73,827	23.0	28.8	17.9	0.956	1,337	4,406,006	30.3
Esophagus	Total	7	150,618	4.6	6.0	6.6	0.967	500	8,841,488	5.7
Esophagus	Male	6	76,791	7.8	9.9	5.8	1.000	423	4,435,482	9.5
Esophagus	Female	1	73,827	1.4	1.8	1.0	1.000	77	4,406,006	1.7
Hodgkin Lymphoma	Total	4	150,618	2.7	2.9	3.4	0.871	218	8,841,488	2.5
Hodgkin Lymphoma	Male	2	76,791	2.6	2.9	2.0	1.000	127	4,435,482	2.9
Hodgkin Lymphoma	Female	2	73,827	2.7	2.9	1.4	0.820	91	4,406,006	2.1
Kidney and Renal Pelvis	Total	15	150,618	10.0	12.4	26.4	0.024 <<	1,936	8,841,488	21.9
Kidney and Renal Pelvis	Male	12	76,791	15.6	19.2	18.3	0.163	1,298	4,435,482	29.3
Kidney and Renal Pelvis	Female	3	73,827	4.1	5.2	8.4	0.064	638	4,406,006	14.5
Larynx	Total	1	150,618	0.7	0.9	2.9	0.427	219	8,841,488	2.5
Larynx	Male	-	76,791	-	-	2.3	0.205	167	4,435,482	3.8
Larynx	Female	1	73,827	1.4	1.7	0.7	0.985	52	4,406,006	1.2
Leukemia	Total	17	150,618	11.3	14.1	23.4	0.217	1,710	8,841,488	19.3
Leukemia	Male	16	76,791	20.8	25.6	14.4	0.737	1,020	4,435,482	23.0
Leukemia	Female	1	73,827	1.4	1.7	9.1	0.002 <<	690	4,406,006	15.7
Liver and Bile Duct	Total	11	150,618	7.3	9.3	11.1	1.000	832	8,841,488	9.4
Liver and Bile Duct	Male	8	76,791	10.4	13.0	8.2	1.000	586	4,435,482	13.2
Liver and Bile Duct	Female	3	73,827	4.1	5.3	3.2	1.000	246	4,406,006	5.6
Lung and Bronchus	Total	50	150,618	33.2	44.2	62.7	0.114	4,909	8,841,488	55.5
Lung and Bronchus	Male	29	76,791	37.8	49.6	32.5	0.611	2,466	4,435,482	55.6
Lung and Bronchus	Female	21	73,827	28.4	38.4	30.3	0.097	2,443	4,406,006	55.4
Melanoma of the Skin	Total	47	150,618	31.2	38.7	42.5	0.529	3,097	8,841,488	35.0
Melanoma of the Skin	Male	26	76,791	33.9	42.2	25.9	1.000	1,869	4,435,482	42.1
Melanoma of the Skin	Female	21	73,827	28.4	34.6	16.9	0.374	1,228	4,406,006	27.9
Myeloma	Total	6	150,618	4.0	5.2	9.4	0.344	722	8,841,488	8.2
Myeloma	Male	2	76,791	2.6	3.3	6.0	0.124	445	4,435,482	10.0
Myeloma	Female	4	73,827	5.4	7.2	3.5	0.930	277	4,406,006	6.3
Non-Hodgkin Lymphoma	Total	34	150,618	22.6	28.4	26.5	0.182	1,958	8,841,488	22.1
Non-Hodgkin Lymphoma	Male	17	76,791	22.1	27.1	15.9	0.857	1,129	4,435,482	25.5
Non-Hodgkin Lymphoma	Female	17	73,827	23.0	29.8	10.7	0.093	829	4,406,006	18.8
Oral Cavity and Pharynx	Total	15	150,618	10.0	12.5	17.6	0.633	1,300	8,841,488	14.7
Oral Cavity and Pharynx	Male	9	76,791	11.7	14.3	13.2	0.310	931	4,435,482	21.0
Oral Cavity and Pharynx	Female	6	73,827	8.1	10.5	4.8	0.696	369	4,406,006	8.4
Ovary	Female	6	73,827	8.1	10.1	7.4	0.797	547	4,406,006	12.4
Pancreas	Total	20	150,618	13.3	17.5	19.0	0.880	1,468	8,841,488	16.6
Pancreas	Male	11	76,791	14.3	18.5	10.9	1.000	815	4,435,482	18.4
Pancreas	Female	9	73,827	12.2	16.3	8.2	0.866	653	4,406,006	14.8
Prostate	Male	83	76,791	108.1	137.0	91.3	0.420	6,683	4,435,482	150.7
Stomach	Total	11	150,618	7.3	9.4	6.1	0.095	463	8,841,488	5.2
Stomach	Male	6	76,791	7.8	10.0	4.1	0.452	301	4,435,482	6.8
Stomach	Female	5	73,827	6.8	8.7	2.1	0.127	162	4,406,006	3.7
Testis	Male	1	76,791	1.3	1.4	4.4	0.130	273	4,435,482	6.2
Thyroid	Total	30	150,618	19.9	22.4	17.5	0.008 >>	1,155	8,841,488	13.1
Thyroid	Male	12	76,791	15.6	18.0	5.4	0.019 >>	360	4,435,482	8.1
Thyroid	Female	18	73,827	24.4	27.1	12.0	0.124	795	4,406,006	18.0
Pediatric Age 0 to 19	Total	6	54,536	11.0	11.2	9.2	0.376	419	2,444,788	17.1
Pediatric Age 0 to 19	Male	4	27,795	14.4	14.5	4.7	1.000	210	1,246,526	16.8
Pediatric Age 0 to 19	Female	2	26,741	7.5	7.7	4.5	0.337	209	1,198,262	17.4

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 JEFFERSON COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cause of Death Cancer Site/Type	Sex	Jefferson 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	1,030	155,598	662.0	901.8	1,002.7	0.397	79,505	9,055,796	877.9
All Causes of Death	Male	572	79,546	719.1	947.7	560.2	0.630	42,214	4,548,151	928.2
All Causes of Death	Female	458	76,052	602.2	847.8	446.9	0.613	37,291	4,507,645	827.3
All Malignant Cancers	Total	167	155,598	107.3	144.7	192.0	0.073	15,066	9,055,796	166.4
All Malignant Cancers	Male	87	79,546	109.4	145.7	107.0	0.054	8,148	4,548,151	179.1
All Malignant Cancers	Female	80	76,052	105.2	143.1	85.8	0.578	6,918	4,507,645	153.5
Bladder	Total	6	155,598	3.9	5.5	5.7	1.000	479	9,055,796	5.3
Bladder	Male	5	79,546	6.3	8.9	4.6	0.961	370	4,548,151	8.1
Bladder	Female	1	76,052	1.3	1.9	1.3	1.000	109	4,507,645	2.4
Brain and Other Nervous System	Total	7	155,598	4.5	5.6	7.1	1.000	511	9,055,796	5.6
Brain and Other Nervous System	Male	3	79,546	3.8	4.6	4.1	0.812	286	4,548,151	6.3
Brain and Other Nervous System	Female	4	76,052	5.3	6.7	3.0	0.706	225	4,507,645	5.0
Breast	Total	18	155,598	11.6	15.3	14.4	0.399	1,106	9,055,796	12.2
Breast	Male	-	79,546	-	-	0.2	1.000	13	4,548,151	0.3
Breast	Female	18	76,052	23.7	31.7	13.8	0.313	1,093	4,507,645	24.2
Cervix	Female	1	76,052	1.3	1.5	1.3	1.000	87	4,507,645	1.9
Colorectal	Total	12	155,598	7.7	10.2	17.2	0.252	1,320	9,055,796	14.6
Colorectal	Male	8	79,546	10.1	12.8	9.9	0.684	724	4,548,151	15.9
Colorectal	Female	4	76,052	5.3	7.2	7.4	0.282	596	4,507,645	13.2
Corpus Uteri	Female	2	76,052	2.6	3.6	2.1	1.000	167	4,507,645	3.7
Esophagus	Total	3	155,598	1.9	2.6	5.9	0.314	458	9,055,796	5.1
Esophagus	Male	3	79,546	3.8	4.9	5.2	0.471	388	4,548,151	8.5
Esophagus	Female	-	76,052	-	-	0.9	0.838	70	4,507,645	1.6
Hodgkin Lymphoma	Total	1	155,598	0.6	0.9	0.3	0.532	24	9,055,796	0.3
Hodgkin Lymphoma	Male	-	79,546	-	-	0.2	1.000	14	4,548,151	0.3
Hodgkin Lymphoma	Female	1	76,052	1.3	1.8	0.1	0.233	10	4,507,645	0.2
Kidney	Total	3	155,598	1.9	2.6	4.8	0.585	383	9,055,796	4.2
Kidney	Male	-	79,546	-	-	3.2	0.079	246	4,548,151	5.4
Kidney	Female	3	76,052	3.9	5.6	1.6	0.448	137	4,507,645	3.0
Larynx	Total	-	155,598	-	-	1.0	0.744	76	9,055,796	0.8
Larynx	Male	-	79,546	-	-	0.9	0.847	65	4,548,151	1.4
Larynx	Female	-	76,052	-	-	0.1	1.000	11	4,507,645	0.2
Leukemia	Total	4	155,598	2.6	3.5	8.3	0.163	661	9,055,796	7.3
Leukemia	Male	3	79,546	3.8	5.1	5.1	0.494	394	4,548,151	8.7
Leukemia	Female	1	76,052	1.3	1.8	3.3	0.325	267	4,507,645	5.9
Liver and Bile Duct	Total	10	155,598	6.4	8.5	8.1	0.600	625	9,055,796	6.9
Liver and Bile Duct	Male	7	79,546	8.8	11.4	5.6	0.671	416	4,548,151	9.1
Liver and Bile Duct	Female	3	76,052	3.9	5.3	2.6	0.966	209	4,507,645	4.6
Lung and Bronchus	Total	26	155,598	16.7	22.8	36.6	0.084	2,911	9,055,796	32.1
Lung and Bronchus	Male	13	79,546	16.3	21.9	19.9	0.137	1,528	4,548,151	33.6
Lung and Bronchus	Female	13	76,052	17.1	23.7	16.8	0.427	1,383	4,507,645	30.7
Melanoma of the Skin	Total	6	155,598	3.9	5.0	3.9	0.392	295	9,055,796	3.3
Melanoma of the Skin	Male	5	79,546	6.3	8.1	2.6	0.254	195	4,548,151	4.3
Melanoma of the Skin	Female	1	76,052	1.3	1.7	1.3	1.000	100	4,507,645	2.2
Myeloma	Total	3	155,598	1.9	2.7	4.0	0.872	322	9,055,796	3.6
Myeloma	Male	2	79,546	2.5	3.4	2.4	1.000	186	4,548,151	4.1
Myeloma	Female	1	76,052	1.3	1.8	1.6	1.000	136	4,507,645	3.0
Non-Hodgkin Lymphoma	Total	4	155,598	2.6	3.5	7.1	0.336	564	9,055,796	6.2
Non-Hodgkin Lymphoma	Male	2	79,546	2.5	3.4	4.0	0.465	308	4,548,151	6.8
Non-Hodgkin Lymphoma	Female	2	76,052	2.6	3.7	3.1	0.822	256	4,507,645	5.7
Oral Cavity and Pharynx	Total	3	155,598	1.9	2.6	3.5	1.000	272	9,055,796	3.0
Oral Cavity and Pharynx	Male	2	79,546	2.5	3.3	2.5	1.000	190	4,548,151	4.2
Oral Cavity and Pharynx	Female	1	76,052	1.3	1.8	1.0	1.000	82	4,507,645	1.8
Ovary	Female	2	76,052	2.6	3.5	4.5	0.346	359	4,507,645	8.0
Pancreas	Total	17	155,598	10.9	14.7	15.0	0.671	1,173	9,055,796	13.0
Pancreas	Male	9	79,546	11.3	14.9	8.5	0.950	641	4,548,151	14.1
Pancreas	Female	8	76,052	10.5	14.4	6.6	0.675	532	4,507,645	11.8
Prostate	Male	9	79,546	11.3	16.1	12.2	0.457	988	4,548,151	21.7
Stomach	Total	-	155,598	-	-	2.6	0.153	194	9,055,796	2.1
Stomach	Male	-	79,546	-	-	1.6	0.408	119	4,548,151	2.6
Stomach	Female	-	76,052	-	-	1.0	0.732	75	4,507,645	1.7

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	Jefferson County
<u>Access to Care</u>									
Have Health Insurance, Age < 65 (2021–2022)	90.0%	89.3%	87.8%	86.4%	92.6%	87.2%	89.1%	92.6%	87.2%
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%	7.9%
<u>Cancer Screening</u>									
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%	65.8%
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%	55.3%
Colorectal Cancer Screening, Age 45–75 (2022)	63.3%	61.0%	62.5%	60.8%	67.2%	65.0%	60.4%	60.2%	.
<u>Tobacco Use</u>									
Current Tobacco User (2020–2022)	22.1%	24.3%	20.4%	24.8%	21.3%	22.5%	22.6%	18.1%	20.0%
<u>Other Cancer-Related</u>									
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%	25.4%
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%	79.1%
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%	16.7%
Home Ever Tested for Radon (2016, 2018, 2020)	22.9%	30.8%	18.3%	16.9%	25.2%	20.1%	23.0%	21.0%	20.5%

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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JEROME 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 522 cases of invasive cancer were diagnosed among Jerome County residents (Table 1).

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

Cancer Incidence 2017–2021	Jerome County	State of Idaho
All Sites/Types	522	47,333
Female Breast	65	6,943
Prostate	64	6,766
Lung & Bronchus	54	4,959
Colorectal	48	3,632

Table 3 (*Cancer Incidence 2017–2021, Comparison between Jerome 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 Jerome 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 Jerome County was 429.0 cases per 100,000 person-years per year during 2017–2021. Comparing this crude rate with the crude rate for the remainder of Idaho (527.7) gives an estimate of the relative burden of disease in Jerome County.

The age- and sex-adjusted incidence rate of invasive cancer in Jerome County, all sites combined, was 497.4 cases per 100,000 persons per year during 2017–2021. There were fewer cases of cancer in Jerome County (522) than expected (553.8) 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 172 Jerome 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 Jerome County and the State of Idaho, 2018–2022

Mortality 2018–2022	Jerome County	State of Idaho
All Deaths	976	80,538
Cancer Deaths	172	15,233
% of All Deaths	17.6%	18.9%
Lung & Bronchus	29	2,937
Colorectal	20	1,332
Pancreas	9	1,190
Female Breast	13	1,111
Prostate	14	997

Table 4 (*Cancer Mortality 2018–2022, Comparison between Jerome 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 Jerome 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 Jerome County, all sites combined, was 168.1 deaths per 100,000 persons per year during 2018–2022, compared with 165.7 for the remainder of the state. There were more cancer deaths in Jerome County (172) than expected (169.6) 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 JEROME COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cancer Site/Type	Sex	Jerome 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	522	121,678	429.0	497.4	553.8	0.182	46,811	8,870,428	527.7
All Sites Combined	Male	262	62,556	418.8	489.0	301.1	0.024 <<	25,008	4,449,717	562.0
All Sites Combined	Female	260	59,122	439.8	507.0	252.9	0.672	21,803	4,420,711	493.2
Bladder	Total	22	121,678	18.1	21.7	25.1	0.625	2,198	8,870,428	24.8
Bladder	Male	16	62,556	25.6	31.0	20.4	0.395	1,757	4,449,717	39.5
Bladder	Female	6	59,122	10.1	12.1	5.0	0.755	441	4,420,711	10.0
Brain - malignant	Total	6	121,678	4.9	5.4	8.1	0.598	651	8,870,428	7.3
Brain - malignant	Male	1	62,556	1.6	1.8	4.9	0.088	381	4,449,717	8.6
Brain - malignant	Female	5	59,122	8.5	9.3	3.3	0.469	270	4,420,711	6.1
Brain and other CNS - non-malignant	Total	6	121,678	4.9	5.6	18.6	0.001 <<	1,541	8,870,428	17.4
Brain and other CNS - non-malignant	Male	4	62,556	6.4	7.2	6.2	0.511	496	4,449,717	11.1
Brain and other CNS - non-malignant	Female	2	59,122	3.4	3.9	12.2	0.001 <<	1,045	4,420,711	23.6
Breast	Total	65	121,678	53.4	61.1	83.3	0.045 <<	6,943	8,870,428	78.3
Breast	Male	-	62,556	-	-	0.8	0.910	65	4,449,717	1.5
Breast	Female	65	59,122	109.9	126.4	80.0	0.098	6,878	4,420,711	155.6
Breast - in situ	Total	15	121,678	12.3	14.0	16.4	0.859	1,354	8,870,428	15.3
Breast - in situ	Male	-	62,556	-	-	0.1	1.000	4	4,449,717	0.1
Breast - in situ	Female	15	59,122	25.4	29.0	15.8	0.976	1,350	4,420,711	30.5
Cervix	Female	7	59,122	11.8	12.8	3.6	0.139	287	4,420,711	6.5
Colorectal	Total	48	121,678	39.4	45.5	42.6	0.448	3,584	8,870,428	40.4
Colorectal	Male	23	62,556	36.8	42.1	24.0	0.944	1,954	4,449,717	43.9
Colorectal	Female	25	59,122	42.3	49.0	18.8	0.196	1,630	4,420,711	36.9
Corpus Uteri	Female	22	59,122	37.2	42.8	15.5	0.138	1,332	4,420,711	30.1
Esophagus	Total	8	121,678	6.6	7.7	5.8	0.469	499	8,870,428	5.6
Esophagus	Male	7	62,556	11.2	13.1	5.1	0.498	422	4,449,717	9.5
Esophagus	Female	1	59,122	1.7	2.0	0.9	1.000	77	4,420,711	1.7
Hodgkin Lymphoma	Total	2	121,678	1.6	1.7	2.8	0.919	220	8,870,428	2.5
Hodgkin Lymphoma	Male	1	62,556	1.6	1.7	1.7	0.995	128	4,449,717	2.9
Hodgkin Lymphoma	Female	1	59,122	1.7	1.8	1.2	1.000	92	4,420,711	2.1
Kidney and Renal Pelvis	Total	18	121,678	14.8	17.0	23.1	0.343	1,933	8,870,428	21.8
Kidney and Renal Pelvis	Male	15	62,556	24.0	27.4	15.9	0.951	1,295	4,449,717	29.1
Kidney and Renal Pelvis	Female	3	59,122	5.1	5.9	7.4	0.127	638	4,420,711	14.4
Larynx	Total	5	121,678	4.1	4.8	2.5	0.224	215	8,870,428	2.4
Larynx	Male	4	62,556	6.4	7.5	2.0	0.271	163	4,449,717	3.7
Larynx	Female	1	59,122	1.7	2.0	0.6	0.898	52	4,420,711	1.2
Leukemia	Total	20	121,678	16.4	18.8	20.4	1.000	1,707	8,870,428	19.2
Leukemia	Male	10	62,556	16.0	18.3	12.6	0.577	1,026	4,449,717	23.1
Leukemia	Female	10	59,122	16.9	19.4	8.0	0.555	681	4,420,711	15.4
Liver and Bile Duct	Total	8	121,678	6.6	7.7	9.8	0.716	835	8,870,428	9.4
Liver and Bile Duct	Male	7	62,556	11.2	13.1	7.1	1.000	587	4,449,717	13.2
Liver and Bile Duct	Female	1	59,122	1.7	2.0	2.8	0.451	248	4,420,711	5.6
Lung and Bronchus	Total	54	121,678	44.4	53.1	56.2	0.836	4,905	8,870,428	55.3
Lung and Bronchus	Male	25	62,556	40.0	48.2	28.8	0.554	2,470	4,449,717	55.5
Lung and Bronchus	Female	29	59,122	49.1	58.2	27.4	0.817	2,435	4,420,711	55.1
Melanoma of the Skin	Total	45	121,678	37.0	42.4	37.0	0.225	3,099	8,870,428	34.9
Melanoma of the Skin	Male	28	62,556	44.8	51.9	22.6	0.307	1,867	4,449,717	42.0
Melanoma of the Skin	Female	17	59,122	28.8	32.6	14.5	0.581	1,232	4,420,711	27.9
Myeloma	Total	5	121,678	4.1	4.8	8.4	0.314	723	8,870,428	8.2
Myeloma	Male	4	62,556	6.4	7.5	5.3	0.785	443	4,449,717	10.0
Myeloma	Female	1	59,122	1.7	2.0	3.2	0.348	280	4,420,711	6.3
Non-Hodgkin Lymphoma	Total	23	121,678	18.9	21.9	23.4	1.000	1,969	8,870,428	22.2
Non-Hodgkin Lymphoma	Male	16	62,556	25.6	29.5	13.8	0.621	1,130	4,449,717	25.4
Non-Hodgkin Lymphoma	Female	7	59,122	11.8	13.8	9.7	0.505	839	4,420,711	19.0
Oral Cavity and Pharynx	Total	9	121,678	7.4	8.5	15.5	0.108	1,306	8,870,428	14.7
Oral Cavity and Pharynx	Male	3	62,556	4.8	5.5	11.6	0.006 <<	937	4,449,717	21.1
Oral Cavity and Pharynx	Female	6	59,122	10.1	11.8	4.2	0.506	369	4,420,711	8.3
Ovary	Female	11	59,122	18.6	21.3	6.3	0.116	542	4,420,711	12.3
Pancreas	Total	18	121,678	14.8	17.6	17.0	0.868	1,470	8,870,428	16.6
Pancreas	Male	8	62,556	12.8	15.2	9.7	0.747	818	4,449,717	18.4
Pancreas	Female	10	59,122	16.9	20.0	7.4	0.417	652	4,420,711	14.7
Prostate	Male	64	62,556	102.3	120.9	79.8	0.080	6,702	4,449,717	150.6
Stomach	Total	5	121,678	4.1	4.8	5.5	1.000	469	8,870,428	5.3
Stomach	Male	3	62,556	4.8	5.6	3.7	1.000	304	4,449,717	6.8
Stomach	Female	2	59,122	3.4	4.0	1.9	1.000	165	4,420,711	3.7
Testis	Male	5	62,556	8.0	8.1	3.7	0.641	269	4,449,717	6.0
Thyroid	Total	9	121,678	7.4	8.0	15.0	0.141	1,176	8,870,428	13.3
Thyroid	Male	3	62,556	4.8	5.3	4.7	0.609	369	4,449,717	8.3
Thyroid	Female	6	59,122	10.1	10.9	10.0	0.260	807	4,420,711	18.3
Pediatric Age 0 to 19	Total	5	39,939	12.5	12.6	6.8	0.665	420	2,459,385	17.1
Pediatric Age 0 to 19	Male	-	20,251	-	-	3.5	0.063	214	1,254,070	17.1
Pediatric Age 0 to 19	Female	5	19,688	25.4	26.0	3.3	0.470	206	1,205,315	17.1

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 JEROME COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cause of Death Cancer Site/Type	Sex	Jerome 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	976	123,198	792.2	956.9	892.8	0.006 >>	79,559	9,088,196	875.4
All Causes of Death	Male	538	63,505	847.2	1,012.8	491.7	0.041 >>	42,248	4,564,192	925.6
All Causes of Death	Female	438	59,693	733.8	892.8	404.6	0.105	37,311	4,524,004	824.7
All Malignant Cancers	Total	172	123,198	139.6	168.1	169.6	0.873	15,061	9,088,196	165.7
All Malignant Cancers	Male	84	63,505	132.3	160.1	93.7	0.342	8,151	4,564,192	178.6
All Malignant Cancers	Female	88	59,693	147.4	176.3	76.2	0.201	6,910	4,524,004	152.7
Bladder	Total	4	123,198	3.2	4.1	5.2	0.804	481	9,088,196	5.3
Bladder	Male	4	63,505	6.3	7.9	4.1	1.000	371	4,564,192	8.1
Bladder	Female	-	59,693	-	-	1.2	0.620	110	4,524,004	2.4
Brain and Other Nervous System	Total	4	123,198	3.2	3.7	6.1	0.544	514	9,088,196	5.7
Brain and Other Nervous System	Male	-	63,505	-	-	3.5	0.058	289	4,564,192	6.3
Brain and Other Nervous System	Female	4	59,693	6.7	7.7	2.6	0.520	225	4,524,004	5.0
Breast	Total	13	123,198	10.6	12.5	12.7	1.000	1,111	9,088,196	12.2
Breast	Male	-	63,505	-	-	0.2	1.000	13	4,564,192	0.3
Breast	Female	13	59,693	21.8	25.9	12.2	0.892	1,098	4,524,004	24.3
Cervix	Female	1	59,693	1.7	1.9	1.0	1.000	87	4,524,004	1.9
Colorectal	Total	20	123,198	16.2	19.2	15.0	0.252	1,312	9,088,196	14.4
Colorectal	Male	9	63,505	14.2	16.6	8.6	0.984	723	4,564,192	15.8
Colorectal	Female	11	59,693	18.4	22.0	6.5	0.134	589	4,524,004	13.0
Corpus Uteri	Female	6	59,693	10.1	12.1	1.8	0.020 >>	163	4,524,004	3.6
Esophagus	Total	6	123,198	4.9	5.8	5.2	0.826	455	9,088,196	5.0
Esophagus	Male	6	63,505	9.4	11.3	4.5	0.589	385	4,564,192	8.4
Esophagus	Female	-	59,693	-	-	0.8	0.923	70	4,524,004	1.5
Hodgkin Lymphoma	Total	1	123,198	0.8	1.0	0.3	0.483	24	9,088,196	0.3
Hodgkin Lymphoma	Male	-	63,505	-	-	0.2	1.000	14	4,564,192	0.3
Hodgkin Lymphoma	Female	1	59,693	1.7	1.9	0.1	0.215	10	4,524,004	0.2
Kidney	Total	3	123,198	2.4	3.0	4.3	0.768	383	9,088,196	4.2
Kidney	Male	3	63,505	4.7	5.7	2.8	1.000	243	4,564,192	5.3
Kidney	Female	-	59,693	-	-	1.5	0.441	140	4,524,004	3.1
Larynx	Total	1	123,198	0.8	1.0	0.9	1.000	75	9,088,196	0.8
Larynx	Male	1	63,505	1.6	1.9	0.7	1.000	64	4,564,192	1.4
Larynx	Female	-	59,693	-	-	0.1	1.000	11	4,524,004	0.2
Leukemia	Total	4	123,198	3.2	3.9	7.4	0.279	661	9,088,196	7.3
Leukemia	Male	3	63,505	4.7	5.7	4.5	0.683	394	4,564,192	8.6
Leukemia	Female	1	59,693	1.7	2.0	2.9	0.419	267	4,524,004	5.9
Liver and Bile Duct	Total	3	123,198	2.4	2.9	7.2	0.146	632	9,088,196	7.0
Liver and Bile Duct	Male	2	63,505	3.1	3.8	4.9	0.264	421	4,564,192	9.2
Liver and Bile Duct	Female	1	59,693	1.7	2.0	2.3	0.645	211	4,524,004	4.7
Lung and Bronchus	Total	29	123,198	23.5	28.6	32.5	0.619	2,908	9,088,196	32.0
Lung and Bronchus	Male	14	63,505	22.0	26.9	17.4	0.501	1,527	4,564,192	33.5
Lung and Bronchus	Female	15	59,693	25.1	30.3	15.1	1.000	1,381	4,524,004	30.5
Melanoma of the Skin	Total	4	123,198	3.2	3.8	3.4	0.887	297	9,088,196	3.3
Melanoma of the Skin	Male	3	63,505	4.7	5.6	2.3	0.813	197	4,564,192	4.3
Melanoma of the Skin	Female	1	59,693	1.7	2.0	1.1	1.000	100	4,524,004	2.2
Myeloma	Total	1	123,198	0.8	1.0	3.6	0.255	324	9,088,196	3.6
Myeloma	Male	1	63,505	1.6	2.0	2.1	0.759	187	4,564,192	4.1
Myeloma	Female	-	59,693	-	-	1.5	0.447	137	4,524,004	3.0
Non-Hodgkin Lymphoma	Total	9	123,198	7.3	8.8	6.3	0.361	559	9,088,196	6.2
Non-Hodgkin Lymphoma	Male	4	63,505	6.3	7.6	3.5	0.937	306	4,564,192	6.7
Non-Hodgkin Lymphoma	Female	5	59,693	8.4	10.2	2.8	0.291	253	4,524,004	5.6
Oral Cavity and Pharynx	Total	2	123,198	1.6	1.9	3.1	0.799	273	9,088,196	3.0
Oral Cavity and Pharynx	Male	1	63,505	1.6	1.9	2.2	0.695	191	4,564,192	4.2
Oral Cavity and Pharynx	Female	1	59,693	1.7	2.0	0.9	1.000	82	4,524,004	1.8
Ovary	Female	6	59,693	10.1	12.0	3.9	0.409	355	4,524,004	7.8
Pancreas	Total	9	123,198	7.3	8.8	13.3	0.299	1,181	9,088,196	13.0
Pancreas	Male	2	63,505	3.1	3.8	7.4	0.043 <<	648	4,564,192	14.2
Pancreas	Female	7	59,693	11.7	14.1	5.9	0.741	533	4,524,004	11.8
Prostate	Male	14	63,505	22.0	27.8	10.9	0.412	983	4,564,192	21.5
Stomach	Total	2	123,198	1.6	1.9	2.2	1.000	192	9,088,196	2.1
Stomach	Male	-	63,505	-	-	1.4	0.491	119	4,564,192	2.6
Stomach	Female	2	59,693	3.4	3.9	0.8	0.402	73	4,524,004	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	Jerome 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%	72.0%
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%	9.9%
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%	56.1%
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%	.
Colorectal Cancer Screening, Age 45–75 (2022)	63.3%	61.0%	62.5%	60.8%	67.2%	65.0%	60.4%	60.2%	.
Tobacco Use									
Current Tobacco User (2020–2022)	22.1%	24.3%	20.4%	24.8%	21.3%	22.5%	22.6%	18.1%	19.7%
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%	21.5%
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%	71.1%
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%	14.4%
Home Ever Tested for Radon (2016, 2018, 2020)	22.9%	30.8%	18.3%	16.9%	25.2%	20.1%	23.0%	21.0%	13.3%

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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KOOTENAI 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 5,199 cases of invasive cancer were diagnosed among Kootenai County residents (Table 1).

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

Cancer Incidence 2017–2021	Kootenai County	State of Idaho
All Sites/Types	5,199	47,333
Female Breast	744	6,943
Prostate	704	6,766
Lung & Bronchus	636	4,959
Colorectal	398	3,632

Table 3 (*Cancer Incidence 2017–2021, Comparison between Kootenai 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 Kootenai 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 Kootenai County was 622.4 cases per 100,000 person-years per year during 2017–2021. Comparing this crude rate with the crude rate for the remainder of Idaho (516.6) gives an estimate of the relative burden of disease in Kootenai County.

The age- and sex-adjusted incidence rate of invasive cancer in Kootenai County, all sites combined, was 537.5 cases per 100,000 persons per year during 2017–2021. There were statistically significantly more cases of cancer in Kootenai County (5,199) than expected (4,996.4) based upon rates in the remainder of the state ($p=.004$).

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 1,788 Kootenai 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 Kootenai County and the State of Idaho, 2018–2022

Mortality 2018–2022	Kootenai County	State of Idaho
All Deaths	8,689	80,538
Cancer Deaths	1,788	15,233
% of All Deaths	20.6%	18.9%
Lung & Bronchus	382	2,937
Colorectal	145	1,332
Pancreas	140	1,190
Female Breast	125	1,111
Prostate	118	997

Table 4 (*Cancer Mortality 2018–2022, Comparison between Kootenai 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 Kootenai 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 Kootenai County, all sites combined, was 176.9 deaths per 100,000 persons per year during 2018–2022, compared with 161.0 for the remainder of the state. There were statistically significantly more cancer deaths in Kootenai County (1,788) than expected (1,627.4) based upon rates in the remainder of the state ($p<.001$).

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 KOOTENAI COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cancer Site/Type	Sex	Kootenai 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	5,199	835,303	622.4	537.5	4,996.4	0.004 >>	42,134	8,156,803	516.6
All Sites Combined	Male	2,757	413,914	666.1	574.1	2,637.9	0.022 >>	22,513	4,098,359	549.3
All Sites Combined	Female	2,442	421,389	579.5	502.8	2,348.3	0.056	19,621	4,058,444	483.5
Bladder	Total	254	835,303	30.4	25.6	239.0	0.348	1,966	8,156,803	24.1
Bladder	Male	194	413,914	46.9	39.6	188.8	0.725	1,579	4,098,359	38.5
Bladder	Female	60	421,389	14.2	12.0	47.6	0.092	387	4,058,444	9.5
Brain - malignant	Total	61	835,303	7.3	6.6	67.6	0.466	596	8,156,803	7.3
Brain - malignant	Male	40	413,914	9.7	8.8	38.0	0.786	342	4,098,359	8.3
Brain - malignant	Female	21	421,389	5.0	4.5	29.4	0.136	254	4,058,444	6.3
Brain and other CNS - non-malignant	Total	149	835,303	17.8	15.8	162.1	0.322	1,398	8,156,803	17.1
Brain and other CNS - non-malignant	Male	52	413,914	12.6	11.2	50.6	0.877	448	4,098,359	10.9
Brain and other CNS - non-malignant	Female	97	421,389	23.0	20.2	112.6	0.149	950	4,058,444	23.4
Breast	Total	751	835,303	89.9	78.5	734.0	0.539	6,257	8,156,803	76.7
Breast	Male	7	413,914	1.7	1.5	6.8	1.000	58	4,098,359	1.4
Breast	Female	744	421,389	176.6	153.2	741.8	0.945	6,199	4,058,444	152.7
Breast - in situ	Total	145	835,303	17.4	15.2	143.0	0.892	1,224	8,156,803	15.0
Breast - in situ	Male	1	413,914	0.2	0.2	0.3	0.566	3	4,098,359	0.1
Breast - in situ	Female	144	421,389	34.2	29.7	145.8	0.924	1,221	4,058,444	30.1
Cervix	Female	32	421,389	7.6	7.1	28.9	0.616	262	4,058,444	6.5
Colorectal	Total	398	835,303	47.6	41.4	381.5	0.411	3,234	8,156,803	39.6
Colorectal	Male	210	413,914	50.7	44.2	204.7	0.729	1,767	4,098,359	43.1
Colorectal	Female	188	421,389	44.6	38.7	175.8	0.374	1,467	4,058,444	36.1
Corpus Uteri	Female	156	421,389	37.0	31.9	144.2	0.347	1,198	4,058,444	29.5
Esophagus	Total	43	835,303	5.1	4.4	55.8	0.091	464	8,156,803	5.7
Esophagus	Male	38	413,914	9.2	7.9	46.2	0.256	391	4,098,359	9.5
Esophagus	Female	5	421,389	1.2	1.0	8.9	0.243	73	4,058,444	1.8
Hodgkin Lymphoma	Total	20	835,303	2.4	2.3	21.2	0.914	202	8,156,803	2.5
Hodgkin Lymphoma	Male	14	413,914	3.4	3.2	12.1	0.658	115	4,098,359	2.8
Hodgkin Lymphoma	Female	6	421,389	1.4	1.4	8.9	0.426	87	4,058,444	2.1
Kidney and Renal Pelvis	Total	236	835,303	28.3	24.5	202.7	0.024 >>	1,715	8,156,803	21.0
Kidney and Renal Pelvis	Male	163	413,914	39.4	34.3	133.0	0.013 >>	1,147	4,098,359	28.0
Kidney and Renal Pelvis	Female	73	421,389	17.3	15.0	68.3	0.602	568	4,058,444	14.0
Larynx	Total	26	835,303	3.1	2.7	23.3	0.628	194	8,156,803	2.4
Larynx	Male	20	413,914	4.8	4.1	17.4	0.589	147	4,098,359	3.6
Larynx	Female	6	421,389	1.4	1.2	5.7	1.000	47	4,058,444	1.2
Leukemia	Total	183	835,303	21.9	19.1	181.5	0.934	1,544	8,156,803	18.9
Leukemia	Male	117	413,914	28.3	24.7	106.3	0.321	919	4,098,359	22.4
Leukemia	Female	66	421,389	15.7	13.6	74.6	0.348	625	4,058,444	15.4
Liver and Bile Duct	Total	101	835,303	12.1	10.3	89.2	0.234	742	8,156,803	9.1
Liver and Bile Duct	Male	67	413,914	16.2	13.9	62.0	0.557	527	4,098,359	12.9
Liver and Bile Duct	Female	34	421,389	8.1	6.9	26.3	0.168	215	4,058,444	5.3
Lung and Bronchus	Total	636	835,303	76.1	64.0	526.7	0.000 >>	4,323	8,156,803	53.0
Lung and Bronchus	Male	312	413,914	75.4	63.5	261.5	0.003 >>	2,183	4,098,359	53.3
Lung and Bronchus	Female	324	421,389	76.9	64.6	264.5	0.000 >>	2,140	4,058,444	52.7
Melanoma of the Skin	Total	306	835,303	36.6	32.1	332.2	0.156	2,838	8,156,803	34.8
Melanoma of the Skin	Male	187	413,914	45.2	39.3	198.2	0.450	1,708	4,098,359	41.7
Melanoma of the Skin	Female	119	421,389	28.2	25.0	132.7	0.251	1,130	4,058,444	27.8
Myeloma	Total	93	835,303	11.1	9.5	76.5	0.074	635	8,156,803	7.8
Myeloma	Male	60	413,914	14.5	12.4	45.8	0.050 >>	387	4,098,359	9.4
Myeloma	Female	33	421,389	7.8	6.6	30.4	0.689	248	4,058,444	6.1
Non-Hodgkin Lymphoma	Total	211	835,303	25.3	21.9	210.2	0.973	1,781	8,156,803	21.8
Non-Hodgkin Lymphoma	Male	120	413,914	29.0	25.4	118.5	0.913	1,026	4,098,359	25.0
Non-Hodgkin Lymphoma	Female	91	421,389	21.6	18.6	91.0	1.000	755	4,058,444	18.6
Oral Cavity and Pharynx	Total	145	835,303	17.4	14.9	139.3	0.654	1,170	8,156,803	14.3
Oral Cavity and Pharynx	Male	106	413,914	25.6	22.2	97.2	0.398	834	4,098,359	20.3
Oral Cavity and Pharynx	Female	39	421,389	9.3	7.9	40.7	0.870	336	4,058,444	8.3
Ovary	Female	58	421,389	13.8	12.0	58.7	0.993	495	4,058,444	12.2
Pancreas	Total	174	835,303	20.8	17.7	158.4	0.232	1,314	8,156,803	16.1
Pancreas	Male	94	413,914	22.7	19.4	86.7	0.458	732	4,098,359	17.9
Pancreas	Female	80	421,389	19.0	16.1	71.3	0.328	582	4,058,444	14.3
Prostate	Male	704	413,914	170.1	144.7	719.7	0.575	6,062	4,098,359	147.9
Stomach	Total	56	835,303	6.7	5.8	49.8	0.414	418	8,156,803	5.1
Stomach	Male	38	413,914	9.2	7.9	31.7	0.300	269	4,098,359	6.6
Stomach	Female	18	421,389	4.3	3.7	17.8	1.000	149	4,058,444	3.7
Testis	Male	26	413,914	6.3	6.5	24.3	0.781	248	4,098,359	6.1
Thyroid	Total	102	835,303	12.2	11.5	118.3	0.142	1,083	8,156,803	13.3
Thyroid	Male	33	413,914	8.0	7.3	37.5	0.522	339	4,098,359	8.3
Thyroid	Female	69	421,389	16.4	15.5	81.6	0.176	744	4,058,444	18.3
Pediatric Age 0 to 19	Total	29	206,786	14.0	14.1	35.6	0.307	396	2,292,538	17.3
Pediatric Age 0 to 19	Male	15	106,941	14.0	14.0	18.2	0.536	199	1,167,380	17.0
Pediatric Age 0 to 19	Female	14	99,845	14.0	14.2	17.3	0.515	197	1,125,158	17.5

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 KOOTENAI COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cause of Death Cancer Site/Type	Sex	Kootenai 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	8,689	861,287	1,008.8	874.9	8,545.7	0.123	71,846	8,350,107	860.4
All Causes of Death	Male	4,551	427,856	1,063.7	930.9	4,450.6	0.135	38,235	4,199,841	910.4
All Causes of Death	Female	4,138	433,431	954.7	822.4	4,074.7	0.325	33,611	4,150,266	809.9
All Malignant Cancers	Total	1,788	861,287	207.6	176.9	1,627.4	0.000 >>	13,445	8,350,107	161.0
All Malignant Cancers	Male	966	427,856	225.8	193.3	864.7	0.001 >>	7,269	4,199,841	173.1
All Malignant Cancers	Female	822	433,431	189.6	161.3	758.4	0.023 >>	6,176	4,150,266	148.8
Bladder	Total	52	861,287	6.0	5.1	52.5	1.000	433	8,350,107	5.2
Bladder	Male	41	427,856	9.6	8.2	39.7	0.872	334	4,199,841	8.0
Bladder	Female	11	433,431	2.5	2.1	12.2	0.875	99	4,150,266	2.4
Brain and Other Nervous System	Total	55	861,287	6.4	5.6	54.7	1.000	463	8,350,107	5.5
Brain and Other Nervous System	Male	37	427,856	8.6	7.6	29.1	0.179	252	4,199,841	6.0
Brain and Other Nervous System	Female	18	433,431	4.2	3.6	25.5	0.155	211	4,150,266	5.1
Breast	Total	126	861,287	14.6	12.6	119.3	0.565	998	8,350,107	12.0
Breast	Male	1	427,856	0.2	0.2	1.4	1.000	12	4,199,841	0.3
Breast	Female	125	433,431	28.8	24.7	120.1	0.680	986	4,150,266	23.8
Cervix	Female	6	433,431	1.4	1.3	9.5	0.336	82	4,150,266	2.0
Colorectal	Total	145	861,287	16.8	14.5	142.2	0.833	1,187	8,350,107	14.2
Colorectal	Male	82	427,856	19.2	16.6	76.3	0.543	650	4,199,841	15.5
Colorectal	Female	63	433,431	14.5	12.5	65.4	0.828	537	4,150,266	12.9
Corpus Uteri	Female	22	433,431	5.1	4.3	18.2	0.434	147	4,150,266	3.5
Esophagus	Total	47	861,287	5.5	4.6	50.4	0.700	414	8,350,107	5.0
Esophagus	Male	41	427,856	9.6	8.2	41.8	0.988	350	4,199,841	8.3
Esophagus	Female	6	433,431	1.4	1.2	7.9	0.656	64	4,150,266	1.5
Hodgkin Lymphoma	Total	-	861,287	-	-	3.0	0.103	25	8,350,107	0.3
Hodgkin Lymphoma	Male	-	427,856	-	-	1.6	0.385	14	4,199,841	0.3
Hodgkin Lymphoma	Female	-	433,431	-	-	1.3	0.539	11	4,150,266	0.3
Kidney	Total	51	861,287	5.9	5.0	40.8	0.135	335	8,350,107	4.0
Kidney	Male	32	427,856	7.5	6.4	25.4	0.233	214	4,199,841	5.1
Kidney	Female	19	433,431	4.4	3.7	15.0	0.365	121	4,150,266	2.9
Larynx	Total	6	861,287	0.7	0.6	8.5	0.514	70	8,350,107	0.8
Larynx	Male	5	427,856	1.2	1.0	7.2	0.558	60	4,199,841	1.4
Larynx	Female	1	433,431	0.2	0.2	1.2	1.000	10	4,150,266	0.2
Leukemia	Total	67	861,287	7.8	6.6	72.2	0.588	598	8,350,107	7.2
Leukemia	Male	39	427,856	9.1	7.8	42.5	0.655	358	4,199,841	8.5
Leukemia	Female	28	433,431	6.5	5.5	29.4	0.898	240	4,150,266	5.8
Liver and Bile Duct	Total	70	861,287	8.1	6.9	68.7	0.904	565	8,350,107	6.8
Liver and Bile Duct	Male	54	427,856	12.6	10.8	43.9	0.154	369	4,199,841	8.8
Liver and Bile Duct	Female	16	433,431	3.7	3.1	24.2	0.103	196	4,150,266	4.7
Lung and Bronchus	Total	382	861,287	44.4	37.3	313.1	0.000 >>	2,555	8,350,107	30.6
Lung and Bronchus	Male	190	427,856	44.4	37.6	162.4	0.037 >>	1,351	4,199,841	32.2
Lung and Bronchus	Female	192	433,431	44.3	37.2	149.8	0.001 >>	1,204	4,150,266	29.0
Melanoma of the Skin	Total	43	861,287	5.0	4.3	30.8	0.044 >>	258	8,350,107	3.1
Melanoma of the Skin	Male	29	427,856	6.8	5.8	20.2	0.077	171	4,199,841	4.1
Melanoma of the Skin	Female	14	433,431	3.2	2.8	10.4	0.339	87	4,150,266	2.1
Myeloma	Total	34	861,287	3.9	3.3	35.7	0.863	291	8,350,107	3.5
Myeloma	Male	23	427,856	5.4	4.6	19.8	0.533	165	4,199,841	3.9
Myeloma	Female	11	433,431	2.5	2.1	15.7	0.287	126	4,150,266	3.0
Non-Hodgkin Lymphoma	Total	59	861,287	6.9	5.8	61.7	0.791	509	8,350,107	6.1
Non-Hodgkin Lymphoma	Male	35	427,856	8.2	7.0	32.8	0.741	275	4,199,841	6.5
Non-Hodgkin Lymphoma	Female	24	433,431	5.5	4.7	28.9	0.422	234	4,150,266	5.6
Oral Cavity and Pharynx	Total	34	861,287	3.9	3.4	29.2	0.424	241	8,350,107	2.9
Oral Cavity and Pharynx	Male	23	427,856	5.4	4.6	20.1	0.576	169	4,199,841	4.0
Oral Cavity and Pharynx	Female	11	433,431	2.5	2.2	8.8	0.552	72	4,150,266	1.7
Ovary	Female	38	433,431	8.8	7.4	39.9	0.848	323	4,150,266	7.8
Pancreas	Total	140	861,287	16.3	13.8	128.0	0.308	1,050	8,350,107	12.6
Pancreas	Male	77	427,856	18.0	15.3	68.5	0.336	573	4,199,841	13.6
Pancreas	Female	63	433,431	14.5	12.3	59.1	0.643	477	4,150,266	11.5
Prostate	Male	118	427,856	27.6	23.5	105.0	0.225	879	4,199,841	20.9
Stomach	Total	17	861,287	2.0	1.7	21.1	0.444	177	8,350,107	2.1
Stomach	Male	9	427,856	2.1	1.8	13.0	0.332	110	4,199,841	2.6
Stomach	Female	8	433,431	1.8	1.6	8.0	1.000	67	4,150,266	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	Kootenai 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%	89.5%
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%	9.3%
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%	62.9%
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%	75.8%
Colorectal Cancer Screening, Age 45–75 (2022)	63.3%	61.0%	62.5%	60.8%	67.2%	65.0%	60.4%	60.2%	63.4%
Tobacco Use									
Current Tobacco User (2020–2022)	22.1%	24.3%	20.4%	24.8%	21.3%	22.5%	22.6%	18.1%	23.8%
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%	28.6%
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%	80.0%
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%	23.3%
Home Ever Tested for Radon (2016, 2018, 2020)	22.9%	30.8%	18.3%	16.9%	25.2%	20.1%	23.0%	21.0%	34.7%

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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LATAH 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 855 cases of invasive cancer were diagnosed among Latah County residents (Table 1).

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

Cancer Incidence 2017–2021	Latah County	State of Idaho
All Sites/Types	855	47,333
Female Breast	133	6,943
Prostate	153	6,766
Lung & Bronchus	93	4,959
Colorectal	48	3,632

Table 3 (*Cancer Incidence 2017–2021, Comparison between Latah 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 Latah 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 Latah County was 424.3 cases per 100,000 person-years per year during 2017–2021. Comparing this crude rate with the crude rate for the remainder of Idaho (528.7) gives an estimate of the relative burden of disease in Latah County.

The age- and sex-adjusted incidence rate of invasive cancer in Latah County, all sites combined, was 491.6 cases per 100,000 persons per year during 2017–2021. There were statistically significantly fewer cases of cancer in Latah County (855) than expected (919.5) based upon rates in the remainder of the state ($p=.033$).

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 285 Latah 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 Latah County and the State of Idaho, 2018–2022

Mortality 2018–2022	Latah County	State of Idaho
All Deaths	1,273	80,538
Cancer Deaths	285	15,233
% of All Deaths	22.4%	18.9%
Lung & Bronchus	47	2,937
Colorectal	18	1,332
Pancreas	26	1,190
Female Breast	22	1,111
Prostate	20	997

Table 4 (*Cancer Mortality 2018–2022, Comparison between Latah 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 Latah 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 Latah County, all sites combined, was 161.0 deaths per 100,000 persons per year during 2018–2022, compared with 165.9 for the remainder of the state. There were fewer cancer deaths in Latah County (285) than expected (293.7) 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 LATAH COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cancer Site/Type	Sex	Latah 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	855	201,498	424.3	491.6	919.5	0.033 <<	46,478	8,790,608	528.7
All Sites Combined	Male	462	102,780	449.5	524.2	495.9	0.131	24,808	4,409,493	562.6
All Sites Combined	Female	393	98,718	398.1	457.3	425.1	0.123	21,670	4,381,115	494.6
Bladder	Total	36	201,498	17.9	20.8	43.0	0.323	2,184	8,790,608	24.8
Bladder	Male	28	102,780	27.2	31.9	34.7	0.289	1,745	4,409,493	39.6
Bladder	Female	8	98,718	8.1	9.3	8.6	1.000	439	4,381,115	10.0
Brain - malignant	Total	17	201,498	8.4	9.4	13.2	0.352	640	8,790,608	7.3
Brain - malignant	Male	11	102,780	10.7	12.0	7.7	0.312	371	4,409,493	8.4
Brain - malignant	Female	6	98,718	6.1	6.7	5.5	0.942	269	4,381,115	6.1
Brain and other CNS - non-malignant	Total	33	201,498	16.4	18.8	30.2	0.659	1,514	8,790,608	17.2
Brain and other CNS - non-malignant	Male	9	102,780	8.8	10.1	9.9	0.931	491	4,409,493	11.1
Brain and other CNS - non-malignant	Female	24	98,718	24.3	27.8	20.2	0.446	1,023	4,381,115	23.4
Breast	Total	133	201,498	66.0	77.9	133.5	1.000	6,875	8,790,608	78.2
Breast	Male	-	102,780	-	-	1.3	0.553	65	4,409,493	1.5
Breast	Female	133	98,718	134.7	158.0	130.8	0.871	6,810	4,381,115	155.4
Breast - in situ	Total	37	201,498	18.4	21.9	25.6	0.040 >>	1,332	8,790,608	15.2
Breast - in situ	Male	1	102,780	1.0	1.2	0.1	0.112	3	4,409,493	0.1
Breast - in situ	Female	36	98,718	36.5	43.2	25.3	0.051	1,329	4,381,115	30.3
Cervix	Female	5	98,718	5.1	5.8	5.7	0.991	289	4,381,115	6.6
Colorectal	Total	48	201,498	23.8	27.7	70.6	0.006 <<	3,584	8,790,608	40.8
Colorectal	Male	28	102,780	27.2	32.1	38.5	0.097	1,949	4,409,493	44.2
Colorectal	Female	20	98,718	20.3	23.2	32.1	0.030 <<	1,635	4,381,115	37.3
Corpus Uteri	Female	25	98,718	25.3	29.6	25.6	1.000	1,329	4,381,115	30.3
Esophagus	Total	14	201,498	6.9	8.1	9.6	0.221	493	8,790,608	5.6
Esophagus	Male	12	102,780	11.7	13.8	8.2	0.260	417	4,409,493	9.5
Esophagus	Female	2	98,718	2.0	2.3	1.5	0.869	76	4,381,115	1.7
Hodgkin Lymphoma	Total	2	201,498	1.0	0.9	5.8	0.138	220	8,790,608	2.5
Hodgkin Lymphoma	Male	1	102,780	1.0	0.9	3.3	0.324	128	4,409,493	2.9
Hodgkin Lymphoma	Female	1	98,718	1.0	0.8	2.6	0.542	92	4,381,115	2.1
Kidney and Renal Pelvis	Total	30	201,498	14.9	17.5	37.4	0.255	1,921	8,790,608	21.9
Kidney and Renal Pelvis	Male	22	102,780	21.4	25.4	25.3	0.590	1,288	4,409,493	29.2
Kidney and Renal Pelvis	Female	8	98,718	8.1	9.5	12.2	0.281	633	4,381,115	14.4
Larynx	Total	2	201,498	1.0	1.2	4.3	0.398	218	8,790,608	2.5
Larynx	Male	1	102,780	1.0	1.2	3.3	0.324	166	4,409,493	3.8
Larynx	Female	1	98,718	1.0	1.1	1.0	1.000	52	4,381,115	1.2
Leukemia	Total	25	201,498	12.4	14.3	33.8	0.144	1,702	8,790,608	19.4
Leukemia	Male	11	102,780	10.7	12.5	20.5	0.034 <<	1,025	4,409,493	23.2
Leukemia	Female	14	98,718	14.2	16.1	13.4	0.941	677	4,381,115	15.5
Liver and Bile Duct	Total	12	201,498	6.0	7.0	16.3	0.351	831	8,790,608	9.5
Liver and Bile Duct	Male	11	102,780	10.7	12.6	11.5	1.000	583	4,409,493	13.2
Liver and Bile Duct	Female	1	98,718	1.0	1.2	4.8	0.092	248	4,381,115	5.7
Lung and Bronchus	Total	93	201,498	46.2	54.0	95.3	0.870	4,866	8,790,608	55.4
Lung and Bronchus	Male	43	102,780	41.8	49.1	48.7	0.464	2,452	4,409,493	55.6
Lung and Bronchus	Female	50	98,718	50.6	59.1	46.6	0.661	2,414	4,381,115	55.1
Melanoma of the Skin	Total	46	201,498	22.8	26.3	61.7	0.045 <<	3,098	8,790,608	35.2
Melanoma of the Skin	Male	25	102,780	24.3	28.4	37.4	0.042 <<	1,870	4,409,493	42.4
Melanoma of the Skin	Female	21	98,718	21.3	24.1	24.5	0.565	1,228	4,381,115	28.0
Myeloma	Total	13	201,498	6.5	7.6	14.0	0.937	715	8,790,608	8.1
Myeloma	Male	10	102,780	9.7	11.5	8.6	0.723	437	4,409,493	9.9
Myeloma	Female	3	98,718	3.0	3.5	5.4	0.435	278	4,381,115	6.3
Non-Hodgkin Lymphoma	Total	40	201,498	19.9	22.7	39.1	0.931	1,952	8,790,608	22.2
Non-Hodgkin Lymphoma	Male	25	102,780	24.3	28.0	22.7	0.685	1,121	4,409,493	25.4
Non-Hodgkin Lymphoma	Female	15	98,718	15.2	17.2	16.5	0.832	831	4,381,115	19.0
Oral Cavity and Pharynx	Total	29	201,498	14.4	16.9	25.1	0.487	1,286	8,790,608	14.6
Oral Cavity and Pharynx	Male	24	102,780	23.4	27.7	18.0	0.201	916	4,409,493	20.8
Oral Cavity and Pharynx	Female	5	98,718	5.1	5.9	7.2	0.549	370	4,381,115	8.4
Ovary	Female	7	98,718	7.1	8.1	10.8	0.310	546	4,381,115	12.5
Pancreas	Total	29	201,498	14.4	16.8	28.7	1.000	1,459	8,790,608	16.6
Pancreas	Male	13	102,780	12.6	14.8	16.1	0.526	813	4,409,493	18.4
Pancreas	Female	16	98,718	16.2	18.7	12.6	0.409	646	4,381,115	14.7
Prostate	Male	153	102,780	148.9	175.3	130.9	0.063	6,613	4,409,493	150.0
Stomach	Total	7	201,498	3.5	4.0	9.2	0.601	467	8,790,608	5.3
Stomach	Male	6	102,780	5.8	6.9	5.9	1.000	301	4,409,493	6.8
Stomach	Female	1	98,718	1.0	1.2	3.3	0.321	166	4,381,115	3.8
Testis	Male	4	102,780	3.9	3.4	7.2	0.306	270	4,409,493	6.1
Thyroid	Total	19	201,498	9.4	9.9	25.5	0.230	1,166	8,790,608	13.3
Thyroid	Male	4	102,780	3.9	4.4	7.5	0.258	368	4,409,493	8.3
Thyroid	Female	15	98,718	15.2	15.4	17.7	0.618	798	4,381,115	18.2
Pediatric Age 0 to 19	Total	5	49,735	10.1	9.6	8.9	0.240	420	2,449,589	17.1
Pediatric Age 0 to 19	Male	4	25,061	16.0	15.8	4.3	1.000	210	1,249,260	16.8
Pediatric Age 0 to 19	Female	1	24,674	4.1	3.8	4.7	0.107	210	1,200,329	17.5

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 LATAH COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cause of Death Cancer Site/Type	Sex	Latah 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	1,273	202,573	628.4	693.2	1,615.8	0.000 <<	79,262	9,008,821	879.8
All Causes of Death	Male	667	103,314	645.6	721.0	861.3	0.000 <<	42,119	4,524,383	930.9
All Causes of Death	Female	606	99,259	610.5	662.4	757.8	0.000 <<	37,143	4,484,438	828.3
All Malignant Cancers	Total	285	202,573	140.7	161.0	293.7	0.636	14,948	9,008,821	165.9
All Malignant Cancers	Male	153	103,314	148.1	170.7	160.1	0.607	8,082	4,524,383	178.6
All Malignant Cancers	Female	132	99,259	133.0	150.9	133.9	0.915	6,866	4,484,438	153.1
Bladder	Total	9	202,573	4.4	5.0	9.6	1.000	476	9,008,821	5.3
Bladder	Male	8	103,314	7.7	8.8	7.4	0.920	367	4,524,383	8.1
Bladder	Female	1	99,259	1.0	1.1	2.2	0.717	109	4,484,438	2.4
Brain and Other Nervous System	Total	13	202,573	6.4	7.3	10.0	0.413	505	9,008,821	5.6
Brain and Other Nervous System	Male	6	103,314	5.8	6.5	5.7	1.000	283	4,524,383	6.3
Brain and Other Nervous System	Female	7	99,259	7.1	8.1	4.3	0.285	222	4,484,438	5.0
Breast	Total	22	202,573	10.9	12.4	21.6	0.996	1,102	9,008,821	12.2
Breast	Male	-	103,314	-	-	0.3	1.000	13	4,524,383	0.3
Breast	Female	22	99,259	22.2	25.1	21.3	0.931	1,089	4,484,438	24.3
Cervix	Female	-	99,259	-	-	1.7	0.357	88	4,484,438	2.0
Colorectal	Total	18	202,573	8.9	10.2	25.7	0.145	1,314	9,008,821	14.6
Colorectal	Male	8	103,314	7.7	9.1	14.1	0.116	724	4,524,383	16.0
Colorectal	Female	10	99,259	10.1	11.4	11.6	0.783	590	4,484,438	13.2
Corpus Uteri	Female	6	99,259	6.0	6.9	3.1	0.197	163	4,484,438	3.6
Esophagus	Total	14	202,573	6.9	8.0	8.6	0.115	447	9,008,821	5.0
Esophagus	Male	12	103,314	11.6	13.6	7.4	0.149	379	4,524,383	8.4
Esophagus	Female	2	99,259	2.0	2.3	1.3	0.753	68	4,484,438	1.5
Hodgkin Lymphoma	Total	-	202,573	-	-	0.5	1.000	25	9,008,821	0.3
Hodgkin Lymphoma	Male	-	103,314	-	-	0.3	1.000	14	4,524,383	0.3
Hodgkin Lymphoma	Female	-	99,259	-	-	0.2	1.000	11	4,484,438	0.2
Kidney	Total	5	202,573	2.5	2.8	7.5	0.483	381	9,008,821	4.2
Kidney	Male	4	103,314	3.9	4.5	4.8	0.960	242	4,524,383	5.3
Kidney	Female	1	99,259	1.0	1.1	2.7	0.483	139	4,484,438	3.1
Larynx	Total	-	202,573	-	-	1.5	0.460	76	9,008,821	0.8
Larynx	Male	-	103,314	-	-	1.3	0.557	65	4,524,383	1.4
Larynx	Female	-	99,259	-	-	0.2	1.000	11	4,484,438	0.2
Leukemia	Total	16	202,573	7.9	9.0	12.8	0.442	649	9,008,821	7.2
Leukemia	Male	8	103,314	7.7	8.9	7.8	1.000	389	4,524,383	8.6
Leukemia	Female	8	99,259	8.1	9.1	5.1	0.290	260	4,484,438	5.8
Liver and Bile Duct	Total	16	202,573	7.9	9.2	12.0	0.313	619	9,008,821	6.9
Liver and Bile Duct	Male	12	103,314	11.6	13.5	8.1	0.235	411	4,524,383	9.1
Liver and Bile Duct	Female	4	99,259	4.0	4.7	4.0	1.000	208	4,484,438	4.6
Lung and Bronchus	Total	47	202,573	23.2	26.8	56.3	0.235	2,890	9,008,821	32.1
Lung and Bronchus	Male	23	103,314	22.3	25.8	29.9	0.236	1,518	4,524,383	33.6
Lung and Bronchus	Female	24	99,259	24.2	27.7	26.5	0.720	1,372	4,484,438	30.6
Melanoma of the Skin	Total	9	202,573	4.4	5.1	5.7	0.252	292	9,008,821	3.2
Melanoma of the Skin	Male	4	103,314	3.9	4.5	3.8	1.000	196	4,524,383	4.3
Melanoma of the Skin	Female	5	99,259	5.0	5.6	1.9	0.089	96	4,484,438	2.1
Myeloma	Total	4	202,573	2.0	2.3	6.3	0.495	321	9,008,821	3.6
Myeloma	Male	1	103,314	1.0	1.1	3.7	0.230	187	4,524,383	4.1
Myeloma	Female	3	99,259	3.0	3.5	2.6	0.956	134	4,484,438	3.0
Non-Hodgkin Lymphoma	Total	12	202,573	5.9	6.8	11.0	0.834	556	9,008,821	6.2
Non-Hodgkin Lymphoma	Male	7	103,314	6.8	7.8	6.0	0.796	303	4,524,383	6.7
Non-Hodgkin Lymphoma	Female	5	99,259	5.0	5.7	5.0	1.000	253	4,484,438	5.6
Oral Cavity and Pharynx	Total	4	202,573	2.0	2.3	5.3	0.789	271	9,008,821	3.0
Oral Cavity and Pharynx	Male	4	103,314	3.9	4.5	3.7	1.000	188	4,524,383	4.2
Oral Cavity and Pharynx	Female	-	99,259	-	-	1.6	0.404	83	4,484,438	1.9
Ovary	Female	5	99,259	5.0	5.8	6.8	0.641	356	4,484,438	7.9
Pancreas	Total	26	202,573	12.8	14.8	22.6	0.534	1,164	9,008,821	12.9
Pancreas	Male	13	103,314	12.6	14.6	12.5	0.963	637	4,524,383	14.1
Pancreas	Female	13	99,259	13.1	15.0	10.2	0.456	527	4,484,438	11.8
Prostate	Male	20	103,314	19.4	22.0	19.6	0.996	977	4,524,383	21.6
Stomach	Total	4	202,573	2.0	2.3	3.7	1.000	190	9,008,821	2.1
Stomach	Male	3	103,314	2.9	3.4	2.3	0.794	116	4,524,383	2.6
Stomach	Female	1	99,259	1.0	1.2	1.4	1.000	74	4,484,438	1.7

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	Latah County
<u>Access to Care</u>									
Have Health Insurance, Age < 65 (2021–2022)	90.0%	89.3%	87.8%	86.4%	92.6%	87.2%	89.1%	92.6%	91.9%
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%	9.8%
<u>Cancer Screening</u>									
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%	70.8%
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%	76.2%
Colorectal Cancer Screening, Age 45–75 (2022)	63.3%	61.0%	62.5%	60.8%	67.2%	65.0%	60.4%	60.2%	59.5%
<u>Tobacco Use</u>									
Current Tobacco User (2020–2022)	22.1%	24.3%	20.4%	24.8%	21.3%	22.5%	22.6%	18.1%	21.1%
<u>Other Cancer-Related</u>									
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%	35.1%
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%	85.2%
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%	23.3%
Home Ever Tested for Radon (2016, 2018, 2020)	22.9%	30.8%	18.3%	16.9%	25.2%	20.1%	23.0%	21.0%	21.0%

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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LEMHI 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 328 cases of invasive cancer were diagnosed among Lemhi County residents (Table 1).

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

Cancer Incidence 2017–2021	Lemhi County	State of Idaho
All Sites/Types	328	47,333
Female Breast	37	6,943
Prostate	75	6,766
Lung & Bronchus	39	4,959
Colorectal	20	3,632

Table 3 (*Cancer Incidence 2017–2021, Comparison between Lemhi 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 Lemhi 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 Lemhi County was 818.6 cases per 100,000 person-years per year during 2017–2021. Comparing this crude rate with the crude rate for the remainder of Idaho (525.1) gives an estimate of the relative burden of disease in Lemhi County.

The age- and sex-adjusted incidence rate of invasive cancer in Lemhi County, all sites combined, was 505.4 cases per 100,000 persons per year during 2017–2021. There were fewer cases of cancer in Lemhi County (328) than expected (340.8) 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 125 Lemhi 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 Lemhi County and the State of Idaho, 2018–2022

Mortality 2018–2022	Lemhi County	State of Idaho
All Deaths	630	80,538
Cancer Deaths	125	15,233
% of All Deaths	19.8%	18.9%
Lung & Bronchus	29	2,937
Colorectal	13	1,332
Pancreas	10	1,190
Female Breast	8	1,111
Prostate	10	997

Table 4 (*Cancer Mortality 2018–2022, Comparison between Lemhi 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 Lemhi 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 Lemhi County, all sites combined, was 175.6 deaths per 100,000 persons per year during 2018–2022, compared with 164.7 for the remainder of the state. There were more cancer deaths in Lemhi County (125) than expected (117.3) 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 LEMHI COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cancer Site/Type	Sex	Lemhi 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	328	40,068	818.6	505.4	340.8	0.510	47,005	8,952,038	525.1
All Sites Combined	Male	199	20,301	980.2	557.4	199.3	1.000	25,071	4,491,972	558.1
All Sites Combined	Female	129	19,767	652.6	435.0	145.8	0.172	21,934	4,460,066	491.8
Bladder	Total	17	40,068	42.4	23.5	17.8	0.969	2,203	8,952,038	24.6
Bladder	Male	14	20,301	69.0	35.3	15.5	0.826	1,759	4,491,972	39.2
Bladder	Female	3	19,767	15.2	9.1	3.3	1.000	444	4,460,066	10.0
Brain - malignant	Total	1	40,068	2.5	1.8	4.1	0.166	656	8,952,038	7.3
Brain - malignant	Male	-	20,301	-	-	2.5	0.168	382	4,491,972	8.5
Brain - malignant	Female	1	19,767	5.1	3.7	1.7	1.000	274	4,460,066	6.1
Brain and other CNS - non-malignant	Total	10	40,068	25.0	16.5	10.4	1.000	1,537	8,952,038	17.2
Brain and other CNS - non-malignant	Male	2	20,301	9.9	6.4	3.5	0.653	498	4,491,972	11.1
Brain and other CNS - non-malignant	Female	8	19,767	40.5	27.6	6.7	0.728	1,039	4,460,066	23.3
Breast	Total	37	40,068	92.3	60.7	47.4	0.141	6,971	8,952,038	77.9
Breast	Male	-	20,301	-	-	0.5	1.000	65	4,491,972	1.4
Breast	Female	37	19,767	187.2	127.8	44.8	0.270	6,906	4,460,066	154.8
Breast - in situ	Total	5	40,068	12.5	8.5	8.9	0.241	1,364	8,952,038	15.2
Breast - in situ	Male	-	20,301	-	-	0.0	1.000	4	4,491,972	0.1
Breast - in situ	Female	5	19,767	25.3	17.8	8.6	0.288	1,360	4,460,066	30.5
Cervix	Female	1	19,767	5.1	4.7	1.4	1.000	293	4,460,066	6.6
Colorectal	Total	20	40,068	49.9	31.4	25.7	0.302	3,612	8,952,038	40.3
Colorectal	Male	14	20,301	69.0	41.6	14.7	0.990	1,963	4,491,972	43.7
Colorectal	Female	6	19,767	30.4	19.9	11.2	0.145	1,649	4,460,066	37.0
Corpus Uteri	Female	7	19,767	35.4	23.7	8.9	0.668	1,347	4,460,066	30.2
Esophagus	Total	6	40,068	15.0	8.8	3.8	0.373	501	8,952,038	5.6
Esophagus	Male	6	20,301	29.6	16.4	3.4	0.271	423	4,491,972	9.4
Esophagus	Female	-	19,767	-	-	0.6	1.000	78	4,460,066	1.7
Hodgkin Lymphoma	Total	-	40,068	-	-	1.1	0.670	222	8,952,038	2.5
Hodgkin Lymphoma	Male	-	20,301	-	-	0.7	1.000	129	4,491,972	2.9
Hodgkin Lymphoma	Female	-	19,767	-	-	0.4	1.000	93	4,460,066	2.1
Kidney and Renal Pelvis	Total	12	40,068	29.9	18.9	13.8	0.766	1,939	8,952,038	21.7
Kidney and Renal Pelvis	Male	8	20,301	39.4	23.8	9.7	0.728	1,302	4,491,972	29.0
Kidney and Renal Pelvis	Female	4	19,767	20.2	13.3	4.3	1.000	637	4,460,066	14.3
Larynx	Total	-	40,068	-	-	1.6	0.386	220	8,952,038	2.5
Larynx	Male	-	20,301	-	-	1.3	0.520	167	4,491,972	3.7
Larynx	Female	-	19,767	-	-	0.4	1.000	53	4,460,066	1.2
Leukemia	Total	5	40,068	12.5	7.7	12.5	0.030 <<	1,722	8,952,038	19.2
Leukemia	Male	2	20,301	9.9	5.7	8.0	0.027 <<	1,034	4,491,972	23.0
Leukemia	Female	3	19,767	15.2	9.9	4.7	0.629	688	4,460,066	15.4
Liver and Bile Duct	Total	7	40,068	17.5	10.4	6.3	0.877	836	8,952,038	9.3
Liver and Bile Duct	Male	4	20,301	19.7	11.3	4.7	1.000	590	4,491,972	13.1
Liver and Bile Duct	Female	3	19,767	15.2	9.4	1.8	0.514	246	4,460,066	5.5
Lung and Bronchus	Total	39	40,068	97.3	54.3	39.5	1.000	4,920	8,952,038	55.0
Lung and Bronchus	Male	24	20,301	118.2	61.4	21.5	0.647	2,471	4,491,972	55.0
Lung and Bronchus	Female	15	19,767	75.9	45.2	18.2	0.536	2,449	4,460,066	54.9
Melanoma of the Skin	Total	18	40,068	44.9	29.1	21.6	0.514	3,126	8,952,038	34.9
Melanoma of the Skin	Male	10	20,301	49.3	28.8	14.6	0.284	1,885	4,491,972	42.0
Melanoma of the Skin	Female	8	19,767	40.5	29.1	7.6	0.994	1,241	4,460,066	27.8
Myeloma	Total	5	40,068	12.5	7.2	5.6	1.000	723	8,952,038	8.1
Myeloma	Male	3	20,301	14.8	8.1	3.7	0.997	444	4,491,972	9.9
Myeloma	Female	2	19,767	10.1	6.2	2.0	1.000	279	4,460,066	6.3
Non-Hodgkin Lymphoma	Total	11	40,068	27.5	17.0	14.3	0.470	1,981	8,952,038	22.1
Non-Hodgkin Lymphoma	Male	8	20,301	39.4	23.4	8.7	1.000	1,138	4,491,972	25.3
Non-Hodgkin Lymphoma	Female	3	19,767	15.2	9.8	5.8	0.338	843	4,460,066	18.9
Oral Cavity and Pharynx	Total	10	40,068	25.0	15.6	9.4	0.922	1,305	8,952,038	14.6
Oral Cavity and Pharynx	Male	8	20,301	39.4	23.8	7.0	0.799	932	4,491,972	20.7
Oral Cavity and Pharynx	Female	2	19,767	10.1	6.5	2.6	1.000	373	4,460,066	8.4
Ovary	Female	6	19,767	30.4	20.9	3.5	0.292	547	4,460,066	12.3
Pancreas	Total	13	40,068	32.4	18.7	11.5	0.729	1,475	8,952,038	16.5
Pancreas	Male	7	20,301	34.5	18.7	6.8	1.000	819	4,491,972	18.2
Pancreas	Female	6	19,767	30.4	18.4	4.8	0.693	656	4,460,066	14.7
Prostate	Male	75	20,301	369.4	204.3	54.7	0.011 >>	6,691	4,491,972	149.0
Stomach	Total	2	40,068	5.0	3.0	3.5	0.639	472	8,952,038	5.3
Stomach	Male	2	20,301	9.9	5.5	2.5	1.000	305	4,491,972	6.8
Stomach	Female	-	19,767	-	-	1.1	0.645	167	4,460,066	3.7
Testis	Male	1	20,301	4.9	6.2	1.0	1.000	273	4,491,972	6.1
Thyroid	Total	5	40,068	12.5	10.7	6.2	0.843	1,180	8,952,038	13.2
Thyroid	Male	-	20,301	-	-	2.3	0.201	372	4,491,972	8.3
Thyroid	Female	5	19,767	25.3	23.3	3.9	0.699	808	4,460,066	18.1
Pediatric Age 0 to 19	Total	1	8,021	12.5	12.5	1.4	1.000	424	2,491,303	17.0
Pediatric Age 0 to 19	Male	-	4,228	-	-	0.7	0.980	214	1,270,093	16.8
Pediatric Age 0 to 19	Female	1	3,793	26.4	26.4	0.7	0.956	210	1,221,210	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 LEMHI COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cause of Death Cancer Site/Type	Sex	Lemhi 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	630	40,471	1,556.7	895.8	612.7	0.496	79,905	9,170,923	871.3
All Causes of Death	Male	367	20,539	1,786.8	972.8	347.3	0.304	42,419	4,607,158	920.7
All Causes of Death	Female	263	19,932	1,319.5	797.8	270.8	0.665	37,486	4,563,765	821.4
All Malignant Cancers	Total	125	40,471	308.9	175.6	117.3	0.500	15,108	9,170,923	164.7
All Malignant Cancers	Male	77	20,539	374.9	197.1	69.2	0.376	8,158	4,607,158	177.1
All Malignant Cancers	Female	48	19,932	240.8	146.6	49.9	0.864	6,950	4,563,765	152.3
Bladder	Total	5	40,471	12.4	6.6	4.0	0.730	480	9,170,923	5.2
Bladder	Male	5	20,539	24.3	11.8	3.4	0.509	370	4,607,158	8.0
Bladder	Female	-	19,932	-	-	0.8	0.866	110	4,563,765	2.4
Brain and Other Nervous System	Total	1	40,471	2.5	1.6	3.5	0.263	517	9,170,923	5.6
Brain and Other Nervous System	Male	-	20,539	-	-	2.1	0.253	289	4,607,158	6.3
Brain and Other Nervous System	Female	1	19,932	5.0	3.3	1.5	1.000	228	4,563,765	5.0
Breast	Total	8	40,471	19.8	11.8	8.3	1.000	1,116	9,170,923	12.2
Breast	Male	-	20,539	-	-	0.1	1.000	13	4,607,158	0.3
Breast	Female	8	19,932	40.1	25.3	7.7	0.995	1,103	4,563,765	24.2
Cervix	Female	-	19,932	-	-	0.5	1.000	88	4,563,765	1.9
Colorectal	Total	13	40,471	32.1	19.1	9.8	0.376	1,319	9,170,923	14.4
Colorectal	Male	10	20,539	48.7	27.9	5.6	0.121	722	4,607,158	15.7
Colorectal	Female	3	19,932	15.1	9.3	4.2	0.786	597	4,563,765	13.1
Corpus Uteri	Female	-	19,932	-	-	1.2	0.587	169	4,563,765	3.7
Esophagus	Total	2	40,471	4.9	2.8	3.5	0.632	459	9,170,923	5.0
Esophagus	Male	2	20,539	9.7	5.3	3.2	0.759	389	4,607,158	8.4
Esophagus	Female	-	19,932	-	-	0.5	1.000	70	4,563,765	1.5
Hodgkin Lymphoma	Total	-	40,471	-	-	0.2	1.000	25	9,170,923	0.3
Hodgkin Lymphoma	Male	-	20,539	-	-	0.1	1.000	14	4,607,158	0.3
Hodgkin Lymphoma	Female	-	19,932	-	-	0.1	1.000	11	4,563,765	0.2
Kidney	Total	4	40,471	9.9	5.5	3.0	0.726	382	9,170,923	4.2
Kidney	Male	2	20,539	9.7	5.1	2.1	1.000	244	4,607,158	5.3
Kidney	Female	2	19,932	10.0	5.8	1.0	0.561	138	4,563,765	3.0
Larynx	Total	-	40,471	-	-	0.6	1.000	76	9,170,923	0.8
Larynx	Male	-	20,539	-	-	0.5	1.000	65	4,607,158	1.4
Larynx	Female	-	19,932	-	-	0.1	1.000	11	4,563,765	0.2
Leukemia	Total	3	40,471	7.4	4.2	5.2	0.473	662	9,170,923	7.2
Leukemia	Male	1	20,539	4.9	2.5	3.4	0.291	396	4,607,158	8.6
Leukemia	Female	2	19,932	10.0	6.0	1.9	1.000	266	4,563,765	5.8
Liver and Bile Duct	Total	7	40,471	17.3	10.0	4.8	0.419	628	9,170,923	6.8
Liver and Bile Duct	Male	4	20,539	19.5	10.7	3.4	0.881	419	4,607,158	9.1
Liver and Bile Duct	Female	3	19,932	15.1	9.1	1.5	0.388	209	4,563,765	4.6
Lung and Bronchus	Total	29	40,471	71.7	39.4	23.3	0.285	2,908	9,170,923	31.7
Lung and Bronchus	Male	19	20,539	92.5	47.6	13.2	0.156	1,522	4,607,158	33.0
Lung and Bronchus	Female	10	19,932	50.2	29.4	10.3	1.000	1,386	4,563,765	30.4
Melanoma of the Skin	Total	3	40,471	7.4	4.4	2.2	0.760	298	9,170,923	3.2
Melanoma of the Skin	Male	3	20,539	14.6	8.0	1.6	0.433	197	4,607,158	4.3
Melanoma of the Skin	Female	-	19,932	-	-	0.7	1.000	101	4,563,765	2.2
Myeloma	Total	2	40,471	4.9	2.7	2.6	1.000	323	9,170,923	3.5
Myeloma	Male	1	20,539	4.9	2.4	1.7	1.000	187	4,607,158	4.1
Myeloma	Female	1	19,932	5.0	2.9	1.0	1.000	136	4,563,765	3.0
Non-Hodgkin Lymphoma	Total	5	40,471	12.4	6.9	4.4	0.917	563	9,170,923	6.1
Non-Hodgkin Lymphoma	Male	4	20,539	19.5	10.3	2.6	0.522	306	4,607,158	6.6
Non-Hodgkin Lymphoma	Female	1	19,932	5.0	3.0	1.9	0.863	257	4,563,765	5.6
Oral Cavity and Pharynx	Total	2	40,471	4.9	2.9	2.1	1.000	273	9,170,923	3.0
Oral Cavity and Pharynx	Male	1	20,539	4.9	2.6	1.6	1.000	191	4,607,158	4.1
Oral Cavity and Pharynx	Female	1	19,932	5.0	3.1	0.6	0.879	82	4,563,765	1.8
Ovary	Female	4	19,932	20.1	12.3	2.6	0.508	357	4,563,765	7.8
Pancreas	Total	10	40,471	24.7	13.9	9.2	0.888	1,180	9,170,923	12.9
Pancreas	Male	5	20,539	24.3	12.9	5.4	1.000	645	4,607,158	14.0
Pancreas	Female	5	19,932	25.1	15.0	3.9	0.708	535	4,563,765	11.7
Prostate	Male	10	20,539	48.7	23.5	9.1	0.859	987	4,607,158	21.4
Stomach	Total	3	40,471	7.4	4.6	1.4	0.318	191	9,170,923	2.1
Stomach	Male	2	20,539	9.7	5.5	0.9	0.478	117	4,607,158	2.5
Stomach	Female	1	19,932	5.0	3.4	0.5	0.760	74	4,563,765	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	Lemhi County
<u>Access to Care</u>									
Have Health Insurance, Age < 65 (2021–2022)	90.0%	89.3%	87.8%	86.4%	92.6%	87.2%	89.1%	92.6%	.
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%	6.1%
<u>Cancer Screening</u>									
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%	53.2%
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%	.
Colorectal Cancer Screening, Age 45–75 (2022)	63.3%	61.0%	62.5%	60.8%	67.2%	65.0%	60.4%	60.2%	.
<u>Tobacco Use</u>									
Current Tobacco User (2020–2022)	22.1%	24.3%	20.4%	24.8%	21.3%	22.5%	22.6%	18.1%	27.2%
<u>Other Cancer-Related</u>									
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%	34.7%
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%	74.3%
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%	18.9%
Home Ever Tested for Radon (2016, 2018, 2020)	22.9%	30.8%	18.3%	16.9%	25.2%	20.1%	23.0%	21.0%	24.1%

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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LEWIS 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 153 cases of invasive cancer were diagnosed among Lewis County residents (Table 1).

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

Cancer Incidence 2017–2021	Lewis County	State of Idaho
All Sites/Types	153	47,333
Female Breast	23	6,943
Prostate	24	6,766
Lung & Bronchus	26	4,959
Colorectal	12	3,632

Table 3 (*Cancer Incidence 2017–2021, Comparison between Lewis 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 Lewis 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 Lewis County was 800.6 cases per 100,000 person-years per year during 2017–2021. Comparing this crude rate with the crude rate for the remainder of Idaho (525.8) gives an estimate of the relative burden of disease in Lewis County.

The age- and sex-adjusted incidence rate of invasive cancer in Lewis County, all sites combined, was 544.8 cases per 100,000 persons per year during 2017–2021. There were more cases of cancer in Lewis County (153) than expected (147.7) 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 55 Lewis 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 Lewis County and the State of Idaho, 2018–2022

Mortality 2018–2022	Lewis County	State of Idaho
All Deaths	280	80,538
Cancer Deaths	55	15,233
% of All Deaths	19.6%	18.9%
Lung & Bronchus	12	2,937
Colorectal	3	1,332
Pancreas	3	1,190
Female Breast	0	1,111
Prostate	4	997

Table 4 (*Cancer Mortality 2018–2022, Comparison between Lewis 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 Lewis 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 Lewis County, all sites combined, was 180.7 deaths per 100,000 persons per year during 2018–2022, compared with 165.1 for the remainder of the state. There were more cancer deaths in Lewis County (55) than expected (50.3) 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 LEWIS COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cancer Site/Type	Sex	Lewis 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	153	19,110	800.6	544.8	147.7	0.682	47,180	8,972,996	525.8
All Sites Combined	Male	90	9,693	928.5	586.2	85.9	0.683	25,180	4,502,580	559.2
All Sites Combined	Female	63	9,417	669.0	487.2	63.6	1.000	22,000	4,470,416	492.1
Bladder	Total	9	19,110	47.1	29.0	7.7	0.720	2,211	8,972,996	24.6
Bladder	Male	6	9,693	61.9	35.6	6.6	1.000	1,767	4,502,580	39.2
Bladder	Female	3	9,417	31.9	21.0	1.4	0.341	444	4,470,416	9.9
Brain - malignant	Total	-	19,110	-	-	1.8	0.319	657	8,972,996	7.3
Brain - malignant	Male	-	9,693	-	-	1.1	0.667	382	4,502,580	8.5
Brain - malignant	Female	-	9,417	-	-	0.7	0.946	275	4,470,416	6.2
Brain and other CNS - non-malignant	Total	5	19,110	26.2	18.9	4.6	0.956	1,542	8,972,996	17.2
Brain and other CNS - non-malignant	Male	3	9,693	31.0	21.9	1.5	0.388	497	4,502,580	11.0
Brain and other CNS - non-malignant	Female	2	9,417	21.2	15.7	3.0	0.859	1,045	4,470,416	23.4
Breast	Total	23	19,110	120.4	86.9	20.6	0.655	6,985	8,972,996	77.8
Breast	Male	-	9,693	-	-	0.2	1.000	65	4,502,580	1.4
Breast	Female	23	9,417	244.2	182.1	19.5	0.491	6,920	4,470,416	154.8
Breast - in situ	Total	2	19,110	10.5	7.8	3.9	0.511	1,367	8,972,996	15.2
Breast - in situ	Male	-	9,693	-	-	0.0	1.000	4	4,502,580	0.1
Breast - in situ	Female	2	9,417	21.2	16.3	3.7	0.557	1,363	4,470,416	30.5
Cervix	Female	-	9,417	-	-	0.6	1.000	294	4,470,416	6.6
Colorectal	Total	12	19,110	62.8	43.2	11.2	0.891	3,620	8,972,996	40.3
Colorectal	Male	10	9,693	103.2	68.3	6.4	0.228	1,967	4,502,580	43.7
Colorectal	Female	2	9,417	21.2	15.1	4.9	0.269	1,653	4,470,416	37.0
Corpus Uteri	Female	4	9,417	42.5	31.5	3.8	1.000	1,350	4,470,416	30.2
Esophagus	Total	2	19,110	10.5	6.8	1.7	0.990	505	8,972,996	5.6
Esophagus	Male	1	9,693	10.3	6.3	1.5	1.000	428	4,502,580	9.5
Esophagus	Female	1	9,417	10.6	7.2	0.2	0.424	77	4,470,416	1.7
Hodgkin Lymphoma	Total	-	19,110	-	-	0.5	1.000	222	8,972,996	2.5
Hodgkin Lymphoma	Male	-	9,693	-	-	0.3	1.000	129	4,502,580	2.9
Hodgkin Lymphoma	Female	-	9,417	-	-	0.2	1.000	93	4,470,416	2.1
Kidney and Renal Pelvis	Total	6	19,110	31.4	21.7	6.0	1.000	1,945	8,972,996	21.7
Kidney and Renal Pelvis	Male	3	9,693	31.0	20.6	4.2	0.779	1,307	4,502,580	29.0
Kidney and Renal Pelvis	Female	3	9,417	31.9	22.9	1.9	0.578	638	4,470,416	14.3
Larynx	Total	1	19,110	5.2	3.4	0.7	1.000	219	8,972,996	2.4
Larynx	Male	1	9,693	10.3	6.3	0.6	0.886	166	4,502,580	3.7
Larynx	Female	-	9,417	-	-	0.2	1.000	53	4,470,416	1.2
Leukemia	Total	3	19,110	15.7	10.6	5.4	0.421	1,724	8,972,996	19.2
Leukemia	Male	3	9,693	31.0	19.9	3.5	1.000	1,033	4,502,580	22.9
Leukemia	Female	-	9,417	-	-	2.1	0.257	691	4,470,416	15.5
Liver and Bile Duct	Total	2	19,110	10.5	6.9	2.7	0.988	841	8,972,996	9.4
Liver and Bile Duct	Male	2	9,693	20.6	13.1	2.0	1.000	592	4,502,580	13.1
Liver and Bile Duct	Female	-	9,417	-	-	0.8	0.936	249	4,470,416	5.6
Lung and Bronchus	Total	26	19,110	136.1	84.4	16.9	0.048 >>	4,933	8,972,996	55.0
Lung and Bronchus	Male	15	9,693	154.8	90.3	9.1	0.093	2,480	4,502,580	55.1
Lung and Bronchus	Female	11	9,417	116.8	76.6	7.9	0.346	2,453	4,470,416	54.9
Melanoma of the Skin	Total	7	19,110	36.6	26.0	9.4	0.555	3,137	8,972,996	35.0
Melanoma of the Skin	Male	5	9,693	51.6	33.5	6.3	0.806	1,890	4,502,580	42.0
Melanoma of the Skin	Female	2	9,417	21.2	16.6	3.4	0.692	1,247	4,470,416	27.9
Myeloma	Total	4	19,110	20.9	13.4	2.4	0.443	724	8,972,996	8.1
Myeloma	Male	3	9,693	31.0	18.8	1.6	0.420	444	4,502,580	9.9
Myeloma	Female	1	9,417	10.6	7.2	0.9	1.000	280	4,470,416	6.3
Non-Hodgkin Lymphoma	Total	4	19,110	20.9	14.3	6.2	0.514	1,988	8,972,996	22.2
Non-Hodgkin Lymphoma	Male	4	9,693	41.3	27.1	3.7	1.000	1,142	4,502,580	25.4
Non-Hodgkin Lymphoma	Female	-	9,417	-	-	2.5	0.158	846	4,470,416	18.9
Oral Cavity and Pharynx	Total	4	19,110	20.9	14.4	4.1	1.000	1,311	8,972,996	14.6
Oral Cavity and Pharynx	Male	3	9,693	31.0	20.5	3.0	1.000	937	4,502,580	20.8
Oral Cavity and Pharynx	Female	1	9,417	10.6	7.6	1.1	1.000	374	4,470,416	8.4
Ovary	Female	-	9,417	-	-	1.6	0.421	553	4,470,416	12.4
Pancreas	Total	7	19,110	36.6	23.3	5.0	0.461	1,481	8,972,996	16.5
Pancreas	Male	2	9,693	20.6	12.4	2.9	0.870	824	4,502,580	18.3
Pancreas	Female	5	9,417	53.1	35.6	2.1	0.117	657	4,470,416	14.7
Prostate	Male	24	9,693	247.6	153.1	23.5	0.967	6,742	4,502,580	149.7
Stomach	Total	3	19,110	15.7	10.4	1.5	0.388	471	8,972,996	5.2
Stomach	Male	1	9,693	10.3	6.4	1.1	1.000	306	4,502,580	6.8
Stomach	Female	2	9,417	21.2	15.2	0.5	0.173	165	4,470,416	3.7
Testis	Male	-	9,693	-	-	0.5	1.000	274	4,502,580	6.1
Thyroid	Total	5	19,110	26.2	23.9	2.8	0.290	1,180	8,972,996	13.2
Thyroid	Male	3	9,693	31.0	24.6	1.0	0.160	369	4,502,580	8.2
Thyroid	Female	2	9,417	21.2	20.5	1.8	1.000	811	4,470,416	18.1
Pediatric Age 0 to 19	Total	2	4,695	42.6	43.0	0.8	0.374	423	2,494,629	17.0
Pediatric Age 0 to 19	Male	2	2,503	79.9	80.4	0.4	0.131	212	1,271,818	16.7
Pediatric Age 0 to 19	Female	-	2,192	-	-	0.4	1.000	211	1,222,811	17.3

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 LEWIS COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cause of Death Cancer Site/Type	Sex	Lewis 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	280	18,990	1,474.5	924.8	264.3	0.350	80,255	9,192,404	873.1
All Causes of Death	Male	179	9,669	1,851.3	1,109.5	148.9	0.018 >>	42,607	4,618,028	922.6
All Causes of Death	Female	101	9,321	1,083.6	707.1	117.6	0.133	37,648	4,574,376	823.0
All Malignant Cancers	Total	55	18,990	289.6	180.7	50.3	0.540	15,178	9,192,404	165.1
All Malignant Cancers	Male	41	9,669	424.0	247.2	29.4	0.050	8,194	4,618,028	177.4
All Malignant Cancers	Female	14	9,321	150.2	99.4	21.5	0.117	6,984	4,574,376	152.7
Bladder	Total	4	18,990	21.1	12.3	1.7	0.186	481	9,192,404	5.2
Bladder	Male	3	9,669	31.0	16.7	1.4	0.354	372	4,618,028	8.1
Bladder	Female	1	9,321	10.7	6.7	0.4	0.600	109	4,574,376	2.4
Brain and Other Nervous System	Total	3	18,990	15.8	11.1	1.5	0.392	515	9,192,404	5.6
Brain and Other Nervous System	Male	3	9,669	31.0	21.0	0.9	0.120	286	4,618,028	6.2
Brain and Other Nervous System	Female	-	9,321	-	-	0.6	1.000	229	4,574,376	5.0
Breast	Total	-	18,990	-	-	3.6	0.056	1,124	9,192,404	12.2
Breast	Male	-	9,669	-	-	0.0	1.000	13	4,618,028	0.3
Breast	Female	-	9,321	-	-	3.3	0.073	1,111	4,574,376	24.3
Cervix	Female	-	9,321	-	-	0.2	1.000	88	4,574,376	1.9
Colorectal	Total	3	18,990	15.8	10.2	4.2	0.777	1,329	9,192,404	14.5
Colorectal	Male	2	9,669	20.7	12.9	2.4	1.000	730	4,618,028	15.8
Colorectal	Female	1	9,321	10.7	7.2	1.8	0.911	599	4,574,376	13.1
Corpus Uteri	Female	1	9,321	10.7	7.1	0.5	0.807	168	4,574,376	3.7
Esophagus	Total	2	18,990	10.5	6.6	1.5	0.886	459	9,192,404	5.0
Esophagus	Male	1	9,669	10.3	6.2	1.4	1.000	390	4,618,028	8.4
Esophagus	Female	1	9,321	10.7	7.0	0.2	0.385	69	4,574,376	1.5
Hodgkin Lymphoma	Total	-	18,990	-	-	0.1	1.000	25	9,192,404	0.3
Hodgkin Lymphoma	Male	-	9,669	-	-	0.0	1.000	14	4,618,028	0.3
Hodgkin Lymphoma	Female	-	9,321	-	-	0.0	1.000	11	4,574,376	0.2
Kidney	Total	3	18,990	15.8	9.7	1.3	0.283	383	9,192,404	4.2
Kidney	Male	2	9,669	20.7	12.1	0.9	0.437	244	4,618,028	5.3
Kidney	Female	1	9,321	10.7	6.8	0.4	0.723	139	4,574,376	3.0
Larynx	Total	2	18,990	10.5	6.5	0.2	0.052	74	9,192,404	0.8
Larynx	Male	1	9,669	10.3	5.9	0.2	0.418	64	4,618,028	1.4
Larynx	Female	1	9,321	10.7	7.8	0.0	0.056	10	4,574,376	0.2
Leukemia	Total	1	18,990	5.3	3.2	2.2	0.692	664	9,192,404	7.2
Leukemia	Male	1	9,669	10.3	5.9	1.4	1.000	396	4,618,028	8.6
Leukemia	Female	-	9,321	-	-	0.8	0.862	268	4,574,376	5.9
Liver and Bile Duct	Total	2	18,990	10.5	6.7	2.0	1.000	633	9,192,404	6.9
Liver and Bile Duct	Male	2	9,669	20.7	12.6	1.4	0.846	421	4,618,028	9.1
Liver and Bile Duct	Female	-	9,321	-	-	0.7	1.000	212	4,574,376	4.6
Lung and Bronchus	Total	12	18,990	63.2	38.4	9.9	0.593	2,925	9,192,404	31.8
Lung and Bronchus	Male	8	9,669	82.7	47.6	5.6	0.401	1,533	4,618,028	33.2
Lung and Bronchus	Female	4	9,321	42.9	27.4	4.4	1.000	1,392	4,574,376	30.4
Melanoma of the Skin	Total	-	18,990	-	-	1.0	0.763	301	9,192,404	3.3
Melanoma of the Skin	Male	-	9,669	-	-	0.7	0.998	200	4,618,028	4.3
Melanoma of the Skin	Female	-	9,321	-	-	0.3	1.000	101	4,574,376	2.2
Myeloma	Total	2	18,990	10.5	6.3	1.1	0.618	323	9,192,404	3.5
Myeloma	Male	2	9,669	20.7	11.5	0.7	0.311	186	4,618,028	4.0
Myeloma	Female	-	9,321	-	-	0.4	1.000	137	4,574,376	3.0
Non-Hodgkin Lymphoma	Total	3	18,990	15.8	9.6	1.9	0.604	565	9,192,404	6.1
Non-Hodgkin Lymphoma	Male	2	9,669	20.7	12.0	1.1	0.608	308	4,618,028	6.7
Non-Hodgkin Lymphoma	Female	1	9,321	10.7	6.8	0.8	1.000	257	4,574,376	5.6
Oral Cavity and Pharynx	Total	2	18,990	10.5	6.7	0.9	0.441	273	9,192,404	3.0
Oral Cavity and Pharynx	Male	2	9,669	20.7	12.6	0.7	0.281	190	4,618,028	4.1
Oral Cavity and Pharynx	Female	-	9,321	-	-	0.3	1.000	83	4,574,376	1.8
Ovary	Female	1	9,321	10.7	7.1	1.1	1.000	360	4,574,376	7.9
Pancreas	Total	3	18,990	15.8	9.8	3.9	0.890	1,187	9,192,404	12.9
Pancreas	Male	2	9,669	20.7	12.2	2.3	1.000	648	4,618,028	14.0
Pancreas	Female	1	9,321	10.7	7.0	1.7	1.000	539	4,574,376	11.8
Prostate	Male	4	9,669	41.4	22.1	3.9	1.000	993	4,618,028	21.5
Stomach	Total	1	18,990	5.3	3.5	0.6	0.904	193	9,192,404	2.1
Stomach	Male	-	9,669	-	-	0.4	1.000	119	4,618,028	2.6
Stomach	Female	1	9,321	10.7	7.8	0.2	0.376	74	4,574,376	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	Lewis County
<u>Access to Care</u>									
Have Health Insurance, Age < 65 (2021–2022)	90.0%	89.3%	87.8%	86.4%	92.6%	87.2%	89.1%	92.6%	.
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%	10.7%
<u>Cancer Screening</u>									
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%	64.9%
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%	.
Colorectal Cancer Screening, Age 45–75 (2022)	63.3%	61.0%	62.5%	60.8%	67.2%	65.0%	60.4%	60.2%	.
<u>Tobacco Use</u>									
Current Tobacco User (2020–2022)	22.1%	24.3%	20.4%	24.8%	21.3%	22.5%	22.6%	18.1%	20.1%
<u>Other Cancer-Related</u>									
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%	20.9%
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%	68.8%
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%	15.3%
Home Ever Tested for Radon (2016, 2018, 2020)	22.9%	30.8%	18.3%	16.9%	25.2%	20.1%	23.0%	21.0%	17.6%

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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LINCOLN 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 117 cases of invasive cancer were diagnosed among Lincoln County residents (Table 1).

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

Cancer Incidence 2017–2021	Lincoln County	State of Idaho
All Sites/Types	117	47,333
Female Breast	14	6,943
Prostate	17	6,766
Lung & Bronchus	21	4,959
Colorectal	6	3,632

Table 3 (*Cancer Incidence 2017–2021, Comparison between Lincoln 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 Lincoln 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 Lincoln County was 438.8 cases per 100,000 person-years per year during 2017–2021. Comparing this crude rate with the crude rate for the remainder of Idaho (526.6) gives an estimate of the relative burden of disease in Lincoln County.

The age- and sex-adjusted incidence rate of invasive cancer in Lincoln County, all sites combined, was 474.8 cases per 100,000 persons per year during 2017–2021. There were fewer cases of cancer in Lincoln County (117) than expected (129.8) 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 45 Lincoln 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 Lincoln County and the State of Idaho, 2018–2022

Mortality 2018–2022	Lincoln County	State of Idaho
All Deaths	228	80,538
Cancer Deaths	45	15,233
% of All Deaths	19.7%	18.9%
Lung & Bronchus	12	2,937
Colorectal	6	1,332
Pancreas	1	1,190
Female Breast	1	1,111
Prostate	3	997

Table 4 (*Cancer Mortality 2018–2022, Comparison between Lincoln 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 Lincoln 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 Lincoln County, all sites combined, was 187.6 deaths per 100,000 persons per year during 2018–2022, compared with 165.4 for the remainder of the state. There were more cancer deaths in Lincoln County (45) than expected (39.7) 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 LINCOLN COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cancer Site/Type	Sex	Lincoln 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	117	26,664	438.8	474.8	129.8	0.280	47,216	8,965,442	526.6
All Sites Combined	Male	62	13,822	448.6	472.9	73.5	0.196	25,208	4,498,451	560.4
All Sites Combined	Female	55	12,842	428.3	473.7	57.2	0.838	22,008	4,466,991	492.7
Bladder	Total	7	26,664	26.3	29.3	5.9	0.755	2,213	8,965,442	24.7
Bladder	Male	5	13,822	36.2	38.6	5.1	1.000	1,768	4,498,451	39.3
Bladder	Female	2	12,842	15.6	17.8	1.1	0.614	445	4,466,991	10.0
Brain - malignant	Total	1	26,664	3.8	3.9	1.9	0.890	656	8,965,442	7.3
Brain - malignant	Male	-	13,822	-	-	1.1	0.637	382	4,498,451	8.5
Brain - malignant	Female	1	12,842	7.8	8.3	0.7	1.000	274	4,466,991	6.1
Brain and other CNS - non-malignant	Total	1	26,664	3.8	4.0	4.3	0.143	1,546	8,965,442	17.2
Brain and other CNS - non-malignant	Male	1	13,822	7.2	7.4	1.5	1.000	499	4,498,451	11.1
Brain and other CNS - non-malignant	Female	-	12,842	-	-	2.7	0.131	1,047	4,466,991	23.4
Breast	Total	15	26,664	56.3	59.8	19.6	0.361	6,993	8,965,442	78.0
Breast	Male	1	13,822	7.2	7.6	0.2	0.343	64	4,498,451	1.4
Breast	Female	14	12,842	109.0	119.5	18.2	0.394	6,929	4,466,991	155.1
Breast - in situ	Total	1	26,664	3.8	3.9	3.9	0.203	1,368	8,965,442	15.3
Breast - in situ	Male	-	13,822	-	-	0.0	1.000	4	4,498,451	0.1
Breast - in situ	Female	1	12,842	7.8	8.4	3.6	0.248	1,364	4,466,991	30.5
Cervix	Female	1	12,842	7.8	8.1	0.8	1.000	293	4,466,991	6.6
Colorectal	Total	6	26,664	22.5	24.2	10.0	0.259	3,626	8,965,442	40.4
Colorectal	Male	6	13,822	43.4	44.9	5.9	1.000	1,971	4,498,451	43.8
Colorectal	Female	-	12,842	-	-	4.3	0.029 <<	1,655	4,466,991	37.0
Corpus Uteri	Female	3	12,842	23.4	25.4	3.6	1.000	1,351	4,466,991	30.2
Esophagus	Total	1	26,664	3.8	4.1	1.4	1.000	506	8,965,442	5.6
Esophagus	Male	-	13,822	-	-	1.2	0.575	429	4,498,451	9.5
Esophagus	Female	1	12,842	7.8	8.8	0.2	0.357	77	4,466,991	1.7
Hodgkin Lymphoma	Total	-	26,664	-	-	0.6	1.000	222	8,965,442	2.5
Hodgkin Lymphoma	Male	-	13,822	-	-	0.4	1.000	129	4,498,451	2.9
Hodgkin Lymphoma	Female	-	12,842	-	-	0.3	1.000	93	4,466,991	2.1
Kidney and Renal Pelvis	Total	6	26,664	22.5	24.2	5.4	0.898	1,945	8,965,442	21.7
Kidney and Renal Pelvis	Male	5	13,822	36.2	37.6	3.9	0.685	1,305	4,498,451	29.0
Kidney and Renal Pelvis	Female	1	12,842	7.8	8.7	1.6	1.000	640	4,466,991	14.3
Larynx	Total	-	26,664	-	-	0.6	1.000	220	8,965,442	2.5
Larynx	Male	-	13,822	-	-	0.5	1.000	167	4,498,451	3.7
Larynx	Female	-	12,842	-	-	0.1	1.000	53	4,466,991	1.2
Leukemia	Total	3	26,664	11.3	12.2	4.7	0.610	1,724	8,965,442	19.2
Leukemia	Male	2	13,822	14.5	15.1	3.0	0.829	1,034	4,498,451	23.0
Leukemia	Female	1	12,842	7.8	8.7	1.8	0.943	690	4,466,991	15.4
Liver and Bile Duct	Total	2	26,664	7.5	8.1	2.3	1.000	841	8,965,442	9.4
Liver and Bile Duct	Male	1	13,822	7.2	7.7	1.7	0.972	593	4,498,451	13.2
Liver and Bile Duct	Female	1	12,842	7.8	8.7	0.6	0.941	248	4,466,991	5.6
Lung and Bronchus	Total	21	26,664	78.8	87.7	13.2	0.057	4,938	8,965,442	55.1
Lung and Bronchus	Male	11	13,822	79.6	85.5	7.1	0.212	2,484	4,498,451	55.2
Lung and Bronchus	Female	10	12,842	77.9	89.1	6.2	0.191	2,454	4,466,991	54.9
Melanoma of the Skin	Total	5	26,664	18.8	20.1	8.7	0.271	3,139	8,965,442	35.0
Melanoma of the Skin	Male	2	13,822	14.5	15.1	5.6	0.167	1,893	4,498,451	42.1
Melanoma of the Skin	Female	3	12,842	23.4	25.4	3.3	1.000	1,246	4,466,991	27.9
Myeloma	Total	2	26,664	7.5	8.3	2.0	1.000	726	8,965,442	8.1
Myeloma	Male	1	13,822	7.2	7.7	1.3	1.000	446	4,498,451	9.9
Myeloma	Female	1	12,842	7.8	8.8	0.7	1.000	280	4,466,991	6.3
Non-Hodgkin Lymphoma	Total	4	26,664	15.0	16.2	5.5	0.725	1,988	8,965,442	22.2
Non-Hodgkin Lymphoma	Male	1	13,822	7.2	7.6	3.4	0.304	1,145	4,498,451	25.5
Non-Hodgkin Lymphoma	Female	3	12,842	23.4	26.1	2.2	0.736	843	4,466,991	18.9
Oral Cavity and Pharynx	Total	2	26,664	7.5	8.0	3.6	0.591	1,313	8,965,442	14.6
Oral Cavity and Pharynx	Male	2	13,822	14.5	15.1	2.8	0.956	938	4,498,451	20.9
Oral Cavity and Pharynx	Female	-	12,842	-	-	1.0	0.760	375	4,466,991	8.4
Ovary	Female	2	12,842	15.6	17.0	1.5	0.853	551	4,466,991	12.3
Pancreas	Total	3	26,664	11.3	12.4	4.0	0.862	1,485	8,965,442	16.6
Pancreas	Male	1	13,822	7.2	7.6	2.4	0.614	825	4,498,451	18.3
Pancreas	Female	2	12,842	15.6	17.8	1.7	0.991	660	4,466,991	14.8
Prostate	Male	17	13,822	123.0	131.2	19.4	0.681	6,749	4,498,451	150.0
Stomach	Total	2	26,664	7.5	8.2	1.3	0.738	472	8,965,442	5.3
Stomach	Male	1	13,822	7.2	7.6	0.9	1.000	306	4,498,451	6.8
Stomach	Female	1	12,842	7.8	8.8	0.4	0.690	166	4,466,991	3.7
Testis	Male	-	13,822	-	-	0.8	0.886	274	4,498,451	6.1
Thyroid	Total	3	26,664	11.3	11.6	3.4	1.000	1,182	8,965,442	13.2
Thyroid	Male	-	13,822	-	-	1.1	0.655	372	4,498,451	8.3
Thyroid	Female	3	12,842	23.4	24.3	2.2	0.776	810	4,466,991	18.1
Pediatric Age 0 to 19	Total	1	8,189	12.2	12.3	1.4	1.000	424	2,491,135	17.0
Pediatric Age 0 to 19	Male	1	4,222	23.7	23.8	0.7	1.000	213	1,270,099	16.8
Pediatric Age 0 to 19	Female	-	3,967	-	-	0.7	1.000	211	1,221,036	17.3

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 LINCOLN COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cause of Death Cancer Site/Type	Sex	Lincoln 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	228	26,632	856.1	952.0	209.4	0.213	80,307	9,184,762	874.4
All Causes of Death	Male	121	13,821	875.5	909.0	123.1	0.897	42,665	4,613,876	924.7
All Causes of Death	Female	107	12,811	835.2	998.5	88.2	0.058	37,642	4,570,886	823.5
All Malignant Cancers	Total	45	26,632	169.0	187.6	39.7	0.436	15,188	9,184,762	165.4
All Malignant Cancers	Male	21	13,821	151.9	160.4	23.3	0.732	8,214	4,613,876	178.0
All Malignant Cancers	Female	24	12,811	187.3	216.5	16.9	0.121	6,974	4,570,886	152.6
Bladder	Total	-	26,632	-	-	1.2	0.581	485	9,184,762	5.3
Bladder	Male	-	13,821	-	-	1.1	0.679	375	4,613,876	8.1
Bladder	Female	-	12,811	-	-	0.3	1.000	110	4,570,886	2.4
Brain and Other Nervous System	Total	2	26,632	7.5	8.0	1.4	0.816	516	9,184,762	5.6
Brain and Other Nervous System	Male	-	13,821	-	-	0.8	0.870	289	4,613,876	6.3
Brain and Other Nervous System	Female	2	12,811	15.6	17.2	0.6	0.229	227	4,570,886	5.0
Breast	Total	1	26,632	3.8	4.1	3.0	0.406	1,123	9,184,762	12.2
Breast	Male	-	13,821	-	-	0.0	1.000	13	4,613,876	0.3
Breast	Female	1	12,811	7.8	8.9	2.7	0.490	1,110	4,570,886	24.3
Cervix	Female	1	12,811	7.8	8.2	0.2	0.414	87	4,570,886	1.9
Colorectal	Total	6	26,632	22.5	24.6	3.5	0.290	1,326	9,184,762	14.4
Colorectal	Male	4	13,821	28.9	30.1	2.1	0.323	728	4,613,876	15.8
Colorectal	Female	2	12,811	15.6	18.1	1.4	0.850	598	4,570,886	13.1
Corpus Uteri	Female	-	12,811	-	-	0.4	1.000	169	4,570,886	3.7
Esophagus	Total	-	26,632	-	-	1.2	0.592	461	9,184,762	5.0
Esophagus	Male	-	13,821	-	-	1.1	0.660	391	4,613,876	8.5
Esophagus	Female	-	12,811	-	-	0.2	1.000	70	4,570,886	1.5
Hodgkin Lymphoma	Total	-	26,632	-	-	0.1	1.000	25	9,184,762	0.3
Hodgkin Lymphoma	Male	-	13,821	-	-	0.0	1.000	14	4,613,876	0.3
Hodgkin Lymphoma	Female	-	12,811	-	-	0.0	1.000	11	4,570,886	0.2
Kidney	Total	3	26,632	11.3	12.6	1.0	0.158	383	9,184,762	4.2
Kidney	Male	2	13,821	14.5	15.2	0.7	0.308	244	4,613,876	5.3
Kidney	Female	1	12,811	7.8	9.2	0.3	0.561	139	4,570,886	3.0
Larynx	Total	-	26,632	-	-	0.2	1.000	76	9,184,762	0.8
Larynx	Male	-	13,821	-	-	0.2	1.000	65	4,613,876	1.4
Larynx	Female	-	12,811	-	-	0.0	1.000	11	4,570,886	0.2
Leukemia	Total	-	26,632	-	-	1.7	0.359	665	9,184,762	7.2
Leukemia	Male	-	13,821	-	-	1.1	0.647	397	4,613,876	8.6
Leukemia	Female	-	12,811	-	-	0.6	1.000	268	4,570,886	5.9
Liver and Bile Duct	Total	1	26,632	3.8	4.1	1.7	1.000	634	9,184,762	6.9
Liver and Bile Duct	Male	-	13,821	-	-	1.2	0.602	423	4,613,876	9.2
Liver and Bile Duct	Female	1	12,811	7.8	9.0	0.5	0.805	211	4,570,886	4.6
Lung and Bronchus	Total	12	26,632	45.1	50.6	7.5	0.164	2,925	9,184,762	31.8
Lung and Bronchus	Male	7	13,821	50.6	54.5	4.3	0.282	1,534	4,613,876	33.2
Lung and Bronchus	Female	5	12,811	39.0	45.5	3.3	0.491	1,391	4,570,886	30.4
Melanoma of the Skin	Total	-	26,632	-	-	0.8	0.899	301	9,184,762	3.3
Melanoma of the Skin	Male	-	13,821	-	-	0.6	1.000	200	4,613,876	4.3
Melanoma of the Skin	Female	-	12,811	-	-	0.3	1.000	101	4,570,886	2.2
Myeloma	Total	-	26,632	-	-	0.8	0.871	325	9,184,762	3.5
Myeloma	Male	-	13,821	-	-	0.5	1.000	188	4,613,876	4.1
Myeloma	Female	-	12,811	-	-	0.3	1.000	137	4,570,886	3.0
Non-Hodgkin Lymphoma	Total	3	26,632	11.3	12.6	1.5	0.363	565	9,184,762	6.2
Non-Hodgkin Lymphoma	Male	2	13,821	14.5	15.4	0.9	0.431	308	4,613,876	6.7
Non-Hodgkin Lymphoma	Female	1	12,811	7.8	9.3	0.6	0.905	257	4,570,886	5.6
Oral Cavity and Pharynx	Total	1	26,632	3.8	4.1	0.7	1.000	274	9,184,762	3.0
Oral Cavity and Pharynx	Male	-	13,821	-	-	0.5	1.000	192	4,613,876	4.2
Oral Cavity and Pharynx	Female	1	12,811	7.8	8.9	0.2	0.366	82	4,570,886	1.8
Ovary	Female	2	12,811	15.6	17.8	0.9	0.441	359	4,570,886	7.9
Pancreas	Total	1	26,632	3.8	4.2	3.1	0.367	1,189	9,184,762	12.9
Pancreas	Male	-	13,821	-	-	1.8	0.320	650	4,613,876	14.1
Pancreas	Female	1	12,811	7.8	9.0	1.3	1.000	539	4,570,886	11.8
Prostate	Male	3	13,821	21.7	22.7	2.8	1.000	994	4,613,876	21.5
Stomach	Total	1	26,632	3.8	4.1	0.5	0.804	193	9,184,762	2.1
Stomach	Male	-	13,821	-	-	0.3	1.000	119	4,613,876	2.6
Stomach	Female	1	12,811	7.8	8.8	0.2	0.336	74	4,570,886	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	Lincoln County
<u>Access to Care</u>									
Have Health Insurance, Age < 65 (2021–2022)	90.0%	89.3%	87.8%	86.4%	92.6%	87.2%	89.1%	92.6%	.
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%	4.7%
<u>Cancer Screening</u>									
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%	.
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%	.
Colorectal Cancer Screening, Age 45–75 (2022)	63.3%	61.0%	62.5%	60.8%	67.2%	65.0%	60.4%	60.2%	.
<u>Tobacco Use</u>									
Current Tobacco User (2020–2022)	22.1%	24.3%	20.4%	24.8%	21.3%	22.5%	22.6%	18.1%	25.1%
<u>Other Cancer-Related</u>									
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%	21.8%
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%	70.5%
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%	18.2%
Home Ever Tested for Radon (2016, 2018, 2020)	22.9%	30.8%	18.3%	16.9%	25.2%	20.1%	23.0%	21.0%	13.7%

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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MADISON 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 485 cases of invasive cancer were diagnosed among Madison County residents (Table 1).

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

Cancer Incidence 2017–2021	Madison County	State of Idaho
All Sites/Types	485	47,333
Female Breast	75	6,943
Prostate	74	6,766
Lung & Bronchus	17	4,959
Colorectal	39	3,632

Table 3 (*Cancer Incidence 2017–2021, Comparison between Madison 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 Madison 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 Madison County was 227.0 cases per 100,000 person-years per year during 2017–2021. Comparing this crude rate with the crude rate for the remainder of Idaho (533.7) gives an estimate of the relative burden of disease in Madison County.

The age- and sex-adjusted incidence rate of invasive cancer in Madison County, all sites combined, was 480.0 cases per 100,000 persons per year during 2017–2021. There were statistically significantly fewer cases of cancer in Madison County (485) than expected (539.2) based upon rates in the remainder of the state ($p=.019$).

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 112 Madison 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 Madison County and the State of Idaho, 2018–2022

Mortality 2018–2022	Madison County	State of Idaho
All Deaths	983	80,538
Cancer Deaths	112	15,233
% of All Deaths	11.4%	18.9%
Lung & Bronchus	9	2,937
Colorectal	14	1,332
Pancreas	9	1,190
Female Breast	11	1,111
Prostate	9	997

Table 4 (*Cancer Mortality 2018–2022, Comparison between Madison 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 Madison 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 Madison County, all sites combined, was 115.5 deaths per 100,000 persons per year during 2018–2022, compared with 168.3 for the remainder of the state. There were statistically significantly fewer cancer deaths in Madison County (112) than expected (163.3) based upon rates in the remainder of the state ($p<.001$).

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 MADISON COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cancer Site/Type	Sex	Madison 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	485	213,628	227.0	480.0	539.2	0.019 <<	46,848	8,778,478	533.7
All Sites Combined	Male	240	105,405	227.7	489.1	278.7	0.020 <<	25,030	4,406,868	568.0
All Sites Combined	Female	245	108,223	226.4	471.0	259.6	0.383	21,818	4,371,610	499.1
Bladder	Total	13	213,628	6.1	14.1	23.2	0.032 <<	2,207	8,778,478	25.1
Bladder	Male	10	105,405	9.5	22.1	18.1	0.057	1,763	4,406,868	40.0
Bladder	Female	3	108,223	2.8	6.3	4.8	0.576	444	4,371,610	10.2
Brain - malignant	Total	8	213,628	3.7	6.0	9.8	0.711	649	8,778,478	7.4
Brain - malignant	Male	5	105,405	4.7	7.6	5.6	1.000	377	4,406,868	8.6
Brain - malignant	Female	3	108,223	2.8	4.4	4.2	0.787	272	4,371,610	6.2
Brain and other CNS - non-malignant	Total	23	213,628	10.8	20.8	19.2	0.442	1,524	8,778,478	17.4
Brain and other CNS - non-malignant	Male	9	105,405	8.5	15.5	6.5	0.406	491	4,406,868	11.1
Brain and other CNS - non-malignant	Female	14	108,223	12.9	25.7	12.8	0.821	1,033	4,371,610	23.6
Breast	Total	77	213,628	36.0	79.2	76.8	1.000	6,931	8,778,478	79.0
Breast	Male	2	105,405	1.9	4.3	0.7	0.290	63	4,406,868	1.4
Breast	Female	75	108,223	69.3	153.8	76.6	0.915	6,868	4,371,610	157.1
Breast - in situ	Total	11	213,628	5.1	11.5	14.8	0.391	1,358	8,778,478	15.5
Breast - in situ	Male	-	105,405	-	-	0.0	1.000	4	4,406,868	0.1
Breast - in situ	Female	11	108,223	10.2	22.8	14.9	0.379	1,354	4,371,610	31.0
Cervix	Female	4	108,223	3.7	6.8	3.9	1.000	290	4,371,610	6.6
Colorectal	Total	39	213,628	18.3	39.1	40.8	0.859	3,593	8,778,478	40.9
Colorectal	Male	19	105,405	18.0	39.1	21.6	0.676	1,958	4,406,868	44.4
Colorectal	Female	20	108,223	18.5	38.9	19.2	0.917	1,635	4,371,610	37.4
Corpus Uteri	Female	22	108,223	20.3	45.9	14.6	0.085	1,332	4,371,610	30.5
Esophagus	Total	2	213,628	0.9	2.1	5.4	0.189	505	8,778,478	5.8
Esophagus	Male	1	105,405	0.9	2.2	4.5	0.123	428	4,406,868	9.7
Esophagus	Female	1	108,223	0.9	2.0	0.9	1.000	77	4,371,610	1.8
Hodgkin Lymphoma	Total	1	213,628	0.5	0.4	6.3	0.028 <<	221	8,778,478	2.5
Hodgkin Lymphoma	Male	1	105,405	0.9	0.9	3.1	0.365	128	4,406,868	2.9
Hodgkin Lymphoma	Female	-	108,223	-	-	3.2	0.078	93	4,371,610	2.1
Kidney and Renal Pelvis	Total	17	213,628	8.0	17.3	21.6	0.381	1,934	8,778,478	22.0
Kidney and Renal Pelvis	Male	12	105,405	11.4	24.7	14.3	0.660	1,298	4,406,868	29.5
Kidney and Renal Pelvis	Female	5	108,223	4.6	10.0	7.2	0.542	636	4,371,610	14.5
Larynx	Total	2	213,628	0.9	2.1	2.4	1.000	218	8,778,478	2.5
Larynx	Male	2	105,405	1.9	4.3	1.7	1.000	165	4,406,868	3.7
Larynx	Female	-	108,223	-	-	0.6	1.000	53	4,371,610	1.2
Leukemia	Total	20	213,628	9.4	18.3	21.3	0.893	1,707	8,778,478	19.4
Leukemia	Male	11	105,405	10.4	20.6	12.4	0.823	1,025	4,406,868	23.3
Leukemia	Female	9	108,223	8.3	15.8	8.9	1.000	682	4,371,610	15.6
Liver and Bile Duct	Total	8	213,628	3.7	8.5	9.0	0.921	835	8,778,478	9.5
Liver and Bile Duct	Male	4	105,405	3.8	8.6	6.2	0.520	590	4,406,868	13.4
Liver and Bile Duct	Female	4	108,223	3.7	8.2	2.7	0.588	245	4,371,610	5.6
Lung and Bronchus	Total	17	213,628	8.0	18.6	51.6	0.000 <<	4,942	8,778,478	56.3
Lung and Bronchus	Male	6	105,405	5.7	13.3	25.5	0.000 <<	2,489	4,406,868	56.5
Lung and Bronchus	Female	11	108,223	10.2	23.7	26.1	0.001 <<	2,453	4,371,610	56.1
Melanoma of the Skin	Total	31	213,628	14.5	29.5	37.3	0.341	3,113	8,778,478	35.5
Melanoma of the Skin	Male	19	105,405	18.0	38.2	21.2	0.743	1,876	4,406,868	42.6
Melanoma of the Skin	Female	12	108,223	11.1	21.3	16.0	0.391	1,237	4,371,610	28.3
Myeloma	Total	5	213,628	2.3	5.4	7.7	0.450	723	8,778,478	8.2
Myeloma	Male	1	105,405	0.9	2.2	4.6	0.109	446	4,406,868	10.1
Myeloma	Female	4	108,223	3.7	8.5	3.0	0.693	277	4,371,610	6.3
Non-Hodgkin Lymphoma	Total	24	213,628	11.2	22.4	24.0	1.000	1,968	8,778,478	22.4
Non-Hodgkin Lymphoma	Male	15	105,405	14.2	27.8	13.8	0.825	1,131	4,406,868	25.7
Non-Hodgkin Lymphoma	Female	9	108,223	8.3	17.1	10.1	0.903	837	4,371,610	19.1
Oral Cavity and Pharynx	Total	7	213,628	3.3	7.3	14.2	0.057	1,308	8,778,478	14.9
Oral Cavity and Pharynx	Male	5	105,405	4.7	10.7	9.9	0.139	935	4,406,868	21.2
Oral Cavity and Pharynx	Female	2	108,223	1.8	4.1	4.1	0.436	373	4,371,610	8.5
Ovary	Female	6	108,223	5.5	10.9	6.9	0.942	547	4,371,610	12.5
Pancreas	Total	15	213,628	7.0	16.0	15.7	0.992	1,473	8,778,478	16.8
Pancreas	Male	10	105,405	9.5	21.7	8.5	0.704	816	4,406,868	18.5
Pancreas	Female	5	108,223	4.6	10.5	7.1	0.564	657	4,371,610	15.0
Prostate	Male	74	105,405	70.2	164.4	68.3	0.524	6,692	4,406,868	151.9
Stomach	Total	5	213,628	2.3	5.2	5.1	1.000	469	8,778,478	5.3
Stomach	Male	3	105,405	2.8	6.4	3.2	1.000	304	4,406,868	6.9
Stomach	Female	2	108,223	1.8	4.0	1.9	1.000	165	4,371,610	3.8
Testis	Male	8	105,405	7.6	6.3	7.7	1.000	266	4,406,868	6.0
Thyroid	Total	37	213,628	17.3	23.9	20.2	0.001 >>	1,148	8,778,478	13.1
Thyroid	Male	8	105,405	7.6	12.9	5.1	0.293	364	4,406,868	8.3
Thyroid	Female	29	108,223	26.8	34.7	15.0	0.002 >>	784	4,371,610	17.9
Pediatric Age 0 to 19	Total	11	79,164	13.9	12.6	14.9	0.377	414	2,420,160	17.1
Pediatric Age 0 to 19	Male	4	34,380	11.6	11.2	6.0	0.564	210	1,239,941	16.9
Pediatric Age 0 to 19	Female	7	44,784	15.6	12.7	9.5	0.534	204	1,180,219	17.3

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 MADISON COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cause of Death Cancer Site/Type	Sex	Madison 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	983	229,064	429.1	907.5	959.4	0.454	79,552	8,982,330	885.6
All Causes of Death	Male	495	110,233	449.0	893.3	518.7	0.308	42,291	4,517,464	936.2
All Causes of Death	Female	488	118,831	410.7	931.9	437.0	0.017 >>	37,261	4,464,866	834.5
All Malignant Cancers	Total	112	229,064	48.9	115.5	163.3	0.000 <<	15,121	8,982,330	168.3
All Malignant Cancers	Male	61	110,233	55.3	127.5	86.6	0.005 <<	8,174	4,517,464	180.9
All Malignant Cancers	Female	51	118,831	42.9	104.0	76.3	0.003 <<	6,947	4,464,866	155.6
Bladder	Total	6	229,064	2.6	6.3	5.0	0.784	479	8,982,330	5.3
Bladder	Male	6	110,233	5.4	12.9	3.8	0.371	369	4,517,464	8.2
Bladder	Female	-	118,831	-	-	1.2	0.616	110	4,464,866	2.5
Brain and Other Nervous System	Total	5	229,064	2.2	4.4	6.5	0.750	513	8,982,330	5.7
Brain and Other Nervous System	Male	4	110,233	3.6	6.7	3.8	1.000	285	4,517,464	6.3
Brain and Other Nervous System	Female	1	118,831	0.8	1.9	2.7	0.515	228	4,464,866	5.1
Breast	Total	12	229,064	5.2	12.5	11.9	1.000	1,112	8,982,330	12.4
Breast	Male	1	110,233	0.9	2.1	0.1	0.234	12	4,517,464	0.3
Breast	Female	11	118,831	9.3	22.8	11.9	0.947	1,100	4,464,866	24.6
Cervix	Female	-	118,831	-	-	1.1	0.654	88	4,464,866	2.0
Colorectal	Total	14	229,064	6.1	14.5	14.1	1.000	1,318	8,982,330	14.7
Colorectal	Male	7	110,233	6.4	14.6	7.7	1.000	725	4,517,464	16.0
Colorectal	Female	7	118,831	5.9	14.4	6.4	0.927	593	4,464,866	13.3
Corpus Uteri	Female	-	118,831	-	-	1.8	0.337	169	4,464,866	3.8
Esophagus	Total	3	229,064	1.3	3.2	4.8	0.589	458	8,982,330	5.1
Esophagus	Male	3	110,233	2.7	6.5	4.0	0.871	388	4,517,464	8.6
Esophagus	Female	-	118,831	-	-	0.8	0.940	70	4,464,866	1.6
Hodgkin Lymphoma	Total	-	229,064	-	-	0.4	1.000	25	8,982,330	0.3
Hodgkin Lymphoma	Male	-	110,233	-	-	0.2	1.000	14	4,517,464	0.3
Hodgkin Lymphoma	Female	-	118,831	-	-	0.2	1.000	11	4,464,866	0.2
Kidney	Total	2	229,064	0.9	2.1	4.0	0.467	384	8,982,330	4.3
Kidney	Male	1	110,233	0.9	2.1	2.5	0.560	245	4,517,464	5.4
Kidney	Female	1	118,831	0.8	2.1	1.5	1.000	139	4,464,866	3.1
Larynx	Total	-	229,064	-	-	0.8	0.895	76	8,982,330	0.8
Larynx	Male	-	110,233	-	-	0.7	1.000	65	4,517,464	1.4
Larynx	Female	-	118,831	-	-	0.1	1.000	11	4,464,866	0.2
Leukemia	Total	10	229,064	4.4	9.6	7.6	0.461	655	8,982,330	7.3
Leukemia	Male	7	110,233	6.4	14.0	4.3	0.295	390	4,517,464	8.6
Leukemia	Female	3	118,831	2.5	5.5	3.3	1.000	265	4,464,866	5.9
Liver and Bile Duct	Total	5	229,064	2.2	5.3	6.6	0.707	630	8,982,330	7.0
Liver and Bile Duct	Male	3	110,233	2.7	6.4	4.3	0.737	420	4,517,464	9.3
Liver and Bile Duct	Female	2	118,831	1.7	4.2	2.2	1.000	210	4,464,866	4.7
Lung and Bronchus	Total	9	229,064	3.9	9.6	30.6	0.000 <<	2,928	8,982,330	32.6
Lung and Bronchus	Male	3	110,233	2.7	6.5	15.7	0.000 <<	1,538	4,517,464	34.0
Lung and Bronchus	Female	6	118,831	5.0	12.6	14.8	0.018 <<	1,390	4,464,866	31.1
Melanoma of the Skin	Total	1	229,064	0.4	1.0	3.4	0.300	300	8,982,330	3.3
Melanoma of the Skin	Male	-	110,233	-	-	2.1	0.244	200	4,517,464	4.4
Melanoma of the Skin	Female	1	118,831	0.8	1.8	1.3	1.000	100	4,464,866	2.2
Myeloma	Total	4	229,064	1.7	4.2	3.4	0.872	321	8,982,330	3.6
Myeloma	Male	2	110,233	1.8	4.3	1.9	1.000	186	4,517,464	4.1
Myeloma	Female	2	118,831	1.7	4.2	1.4	0.850	135	4,464,866	3.0
Non-Hodgkin Lymphoma	Total	4	229,064	1.7	4.1	6.2	0.522	564	8,982,330	6.3
Non-Hodgkin Lymphoma	Male	3	110,233	2.7	6.0	3.4	1.000	307	4,517,464	6.8
Non-Hodgkin Lymphoma	Female	1	118,831	0.8	2.1	2.8	0.465	257	4,464,866	5.8
Oral Cavity and Pharynx	Total	-	229,064	-	-	2.9	0.108	275	8,982,330	3.1
Oral Cavity and Pharynx	Male	-	110,233	-	-	2.0	0.263	192	4,517,464	4.3
Oral Cavity and Pharynx	Female	-	118,831	-	-	0.9	0.825	83	4,464,866	1.9
Ovary	Female	4	118,831	3.4	8.4	3.8	1.000	357	4,464,866	8.0
Pancreas	Total	9	229,064	3.9	9.6	12.3	0.428	1,181	8,982,330	13.1
Pancreas	Male	4	110,233	3.6	8.7	6.6	0.424	646	4,517,464	14.3
Pancreas	Female	5	118,831	4.2	10.5	5.7	0.994	535	4,464,866	12.0
Prostate	Male	9	110,233	8.2	19.4	10.2	0.876	988	4,517,464	21.9
Stomach	Total	1	229,064	0.4	1.0	2.1	0.767	193	8,982,330	2.1
Stomach	Male	1	110,233	0.9	2.1	1.2	1.000	118	4,517,464	2.6
Stomach	Female	-	118,831	-	-	0.8	0.870	75	4,464,866	1.7

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	Madison 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%	95.5%
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%	12.4%
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%	61.9%
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%	65.8%
Colorectal Cancer Screening, Age 45–75 (2022)	63.3%	61.0%	62.5%	60.8%	67.2%	65.0%	60.4%	60.2%	.
Tobacco Use									
Current Tobacco User (2020–2022)	22.1%	24.3%	20.4%	24.8%	21.3%	22.5%	22.6%	18.1%	6.1%
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%	33.9%
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%	86.2%
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%	21.7%
Home Ever Tested for Radon (2016, 2018, 2020)	22.9%	30.8%	18.3%	16.9%	25.2%	20.1%	23.0%	21.0%	13.6%

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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MINIDOKA 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 524 cases of invasive cancer were diagnosed among Minidoka County residents (Table 1).

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

Cancer Incidence 2017–2021	Minidoka County	State of Idaho
All Sites/Types	524	47,333
Female Breast	73	6,943
Prostate	63	6,766
Lung & Bronchus	47	4,959
Colorectal	52	3,632

Table 3 (*Cancer Incidence 2017–2021, Comparison between Minidoka 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 Minidoka 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 Minidoka County was 497.1 cases per 100,000 person-years per year during 2017–2021. Comparing this crude rate with the crude rate for the remainder of Idaho (526.7) gives an estimate of the relative burden of disease in Minidoka County.

The age- and sex-adjusted incidence rate of invasive cancer in Minidoka County, all sites combined, was 499.5 cases per 100,000 persons per year during 2017–2021. There were fewer cases of cancer in Minidoka County (524) than expected (552.5) 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 177 Minidoka 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 Minidoka County and the State of Idaho, 2018–2022

Mortality 2018–2022	Minidoka County	State of Idaho
All Deaths	1,078	80,538
Cancer Deaths	177	15,233
% of All Deaths	16.4%	18.9%
Lung & Bronchus	19	2,937
Colorectal	16	1,332
Pancreas	17	1,190
Female Breast	13	1,111
Prostate	14	997

Table 4 (*Cancer Mortality 2018–2022, Comparison between Minidoka 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 Minidoka 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 Minidoka County, all sites combined, was 161.8 deaths per 100,000 persons per year during 2018–2022, compared with 165.4 for the remainder of the state. There were fewer cancer deaths in Minidoka County (177) than expected (180.9) 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 MINIDOKA COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cancer Site/Type	Sex	Minidoka 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	524	105,421	497.1	499.5	552.5	0.232	46,809	8,886,685	526.7
All Sites Combined	Male	290	52,807	549.2	551.2	294.7	0.813	24,980	4,459,466	560.2
All Sites Combined	Female	234	52,614	444.7	449.1	256.9	0.159	21,829	4,427,219	493.1
Bladder	Total	29	105,421	27.5	26.8	26.7	0.707	2,191	8,886,685	24.7
Bladder	Male	22	52,807	41.7	40.8	21.2	0.916	1,751	4,459,466	39.3
Bladder	Female	7	52,614	13.3	13.0	5.4	0.583	440	4,427,219	9.9
Brain - malignant	Total	10	105,421	9.5	9.5	7.6	0.481	647	8,886,685	7.3
Brain - malignant	Male	10	52,807	18.9	19.2	4.3	0.027 >>	372	4,459,466	8.3
Brain - malignant	Female	-	52,614	-	-	3.3	0.072	275	4,427,219	6.2
Brain and other CNS - non-malignant	Total	23	105,421	21.8	21.9	18.0	0.294	1,524	8,886,685	17.1
Brain and other CNS - non-malignant	Male	5	52,807	9.5	9.5	5.9	0.938	495	4,459,466	11.1
Brain and other CNS - non-malignant	Female	18	52,614	34.2	34.4	12.2	0.139	1,029	4,427,219	23.2
Breast	Total	74	105,421	70.2	72.0	80.2	0.531	6,934	8,886,685	78.0
Breast	Male	1	52,807	1.9	1.9	0.8	1.000	64	4,459,466	1.4
Breast	Female	73	52,614	138.7	143.3	79.1	0.540	6,870	4,427,219	155.2
Breast - in situ	Total	14	105,421	13.3	13.9	15.4	0.856	1,355	8,886,685	15.2
Breast - in situ	Male	-	52,807	-	-	0.0	1.000	4	4,459,466	0.1
Breast - in situ	Female	14	52,614	26.6	28.1	15.2	0.892	1,351	4,427,219	30.5
Cervix	Female	5	52,614	9.5	10.2	3.2	0.435	289	4,427,219	6.5
Colorectal	Total	52	105,421	49.3	49.1	42.6	0.181	3,580	8,886,685	40.3
Colorectal	Male	33	52,807	62.5	62.6	23.0	0.057	1,944	4,459,466	43.6
Colorectal	Female	19	52,614	36.1	35.7	19.7	0.999	1,636	4,427,219	37.0
Corpus Uteri	Female	21	52,614	39.9	41.4	15.3	0.191	1,333	4,427,219	30.1
Esophagus	Total	6	105,421	5.7	5.7	6.0	1.000	501	8,886,685	5.6
Esophagus	Male	6	52,807	11.4	11.3	5.0	0.774	423	4,459,466	9.5
Esophagus	Female	-	52,614	-	-	0.9	0.775	78	4,427,219	1.8
Hodgkin Lymphoma	Total	4	105,421	3.8	3.9	2.5	0.481	218	8,886,685	2.5
Hodgkin Lymphoma	Male	1	52,807	1.9	2.0	1.5	1.000	128	4,459,466	2.9
Hodgkin Lymphoma	Female	3	52,614	5.7	5.9	1.0	0.175	90	4,427,219	2.0
Kidney and Renal Pelvis	Total	29	105,421	27.5	27.8	22.6	0.220	1,922	8,886,685	21.6
Kidney and Renal Pelvis	Male	20	52,807	37.9	38.3	15.1	0.263	1,290	4,459,466	28.9
Kidney and Renal Pelvis	Female	9	52,614	17.1	17.2	7.5	0.669	632	4,427,219	14.3
Larynx	Total	8	105,421	7.6	7.5	2.5	0.009 >>	212	8,886,685	2.4
Larynx	Male	3	52,807	5.7	5.6	2.0	0.624	164	4,459,466	3.7
Larynx	Female	5	52,614	9.5	9.6	0.6	0.001 >>	48	4,427,219	1.1
Leukemia	Total	17	105,421	16.1	15.8	20.7	0.498	1,710	8,886,685	19.2
Leukemia	Male	13	52,807	24.6	24.3	12.3	0.913	1,023	4,459,466	22.9
Leukemia	Female	4	52,614	7.6	7.4	8.3	0.163	687	4,427,219	15.5
Liver and Bile Duct	Total	7	105,421	6.6	6.7	9.8	0.482	836	8,886,685	9.4
Liver and Bile Duct	Male	6	52,807	11.4	11.5	6.8	0.945	588	4,459,466	13.2
Liver and Bile Duct	Female	1	52,614	1.9	1.9	2.9	0.416	248	4,427,219	5.6
Lung and Bronchus	Total	47	105,421	44.6	44.0	59.0	0.125	4,912	8,886,685	55.3
Lung and Bronchus	Male	27	52,807	51.1	50.8	29.4	0.744	2,468	4,459,466	55.3
Lung and Bronchus	Female	20	52,614	38.0	37.3	29.6	0.083	2,444	4,427,219	55.2
Melanoma of the Skin	Total	25	105,421	23.7	23.9	36.7	0.054	3,119	8,886,685	35.1
Melanoma of the Skin	Male	14	52,807	26.5	26.5	22.3	0.085	1,881	4,459,466	42.2
Melanoma of the Skin	Female	11	52,614	20.9	21.5	14.3	0.467	1,238	4,427,219	28.0
Myeloma	Total	8	105,421	7.6	7.5	8.6	1.000	720	8,886,685	8.1
Myeloma	Male	4	52,807	7.6	7.5	5.3	0.785	443	4,459,466	9.9
Myeloma	Female	4	52,614	7.6	7.6	3.3	0.838	277	4,427,219	6.3
Non-Hodgkin Lymphoma	Total	20	105,421	19.0	19.0	23.4	0.566	1,972	8,886,685	22.2
Non-Hodgkin Lymphoma	Male	10	52,807	18.9	19.1	13.3	0.446	1,136	4,459,466	25.5
Non-Hodgkin Lymphoma	Female	10	52,614	19.0	18.8	10.0	1.000	836	4,427,219	18.9
Oral Cavity and Pharynx	Total	13	105,421	12.3	12.5	15.2	0.686	1,302	8,886,685	14.7
Oral Cavity and Pharynx	Male	7	52,807	13.3	13.5	10.9	0.303	933	4,459,466	20.9
Oral Cavity and Pharynx	Female	6	52,614	11.4	11.5	4.4	0.548	369	4,427,219	8.3
Ovary	Female	5	52,614	9.5	9.7	6.4	0.768	548	4,427,219	12.4
Pancreas	Total	21	105,421	19.9	19.6	17.7	0.493	1,467	8,886,685	16.5
Pancreas	Male	17	52,807	32.2	31.8	9.7	0.042 >>	809	4,459,466	18.1
Pancreas	Female	4	52,614	7.6	7.4	8.0	0.201	658	4,427,219	14.9
Prostate	Male	63	52,807	119.3	121.5	77.9	0.095	6,703	4,459,466	150.3
Stomach	Total	7	105,421	6.6	6.6	5.6	0.663	467	8,886,685	5.3
Stomach	Male	4	52,807	7.6	7.5	3.6	0.973	303	4,459,466	6.8
Stomach	Female	3	52,614	5.7	5.6	2.0	0.642	164	4,427,219	3.7
Testis	Male	2	52,807	3.8	4.0	3.0	0.832	272	4,459,466	6.1
Thyroid	Total	13	105,421	12.3	13.0	13.2	1.000	1,172	8,886,685	13.2
Thyroid	Male	7	52,807	13.3	13.7	4.2	0.263	365	4,459,466	8.2
Thyroid	Female	6	52,614	11.4	12.1	9.0	0.413	807	4,427,219	18.2
Pediatric Age 0 to 19	Total	5	32,751	15.3	15.4	5.5	1.000	420	2,466,573	17.0
Pediatric Age 0 to 19	Male	1	16,600	6.0	6.0	2.8	0.459	213	1,257,721	16.9
Pediatric Age 0 to 19	Female	4	16,151	24.8	25.4	2.7	0.570	207	1,208,852	17.1

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 MINIDOKA COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cause of Death Cancer Site/Type	Sex	Minidoka 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	1,078	106,932	1,008.1	951.1	989.2	0.006 >>	79,457	9,104,462	872.7
All Causes of Death	Male	601	53,709	1,119.0	1,099.6	504.1	0.000 >>	42,185	4,573,988	922.3
All Causes of Death	Female	477	53,223	896.2	810.8	484.0	0.774	37,272	4,530,474	822.7
All Malignant Cancers	Total	177	106,932	165.5	161.8	180.9	0.810	15,056	9,104,462	165.4
All Malignant Cancers	Male	103	53,709	191.8	191.1	95.8	0.491	8,132	4,573,988	177.8
All Malignant Cancers	Female	74	53,223	139.0	134.1	84.3	0.282	6,924	4,530,474	152.8
Bladder	Total	8	106,932	7.5	6.9	6.0	0.521	477	9,104,462	5.2
Bladder	Male	6	53,709	11.2	10.7	4.5	0.598	369	4,573,988	8.1
Bladder	Female	2	53,223	3.8	3.4	1.4	0.816	108	4,530,474	2.4
Brain and Other Nervous System	Total	8	106,932	7.5	7.6	5.9	0.488	510	9,104,462	5.6
Brain and Other Nervous System	Male	6	53,709	11.2	11.4	3.2	0.221	283	4,573,988	6.2
Brain and Other Nervous System	Female	2	53,223	3.8	3.8	2.7	1.000	227	4,530,474	5.0
Breast	Total	13	106,932	12.2	11.9	13.4	1.000	1,111	9,104,462	12.2
Breast	Male	-	53,709	-	-	0.2	1.000	13	4,573,988	0.3
Breast	Female	13	53,223	24.4	23.6	13.3	1.000	1,098	4,530,474	24.2
Cervix	Female	1	53,223	1.9	2.0	1.0	1.000	87	4,530,474	1.9
Colorectal	Total	16	106,932	15.0	14.7	15.8	1.000	1,316	9,104,462	14.5
Colorectal	Male	10	53,709	18.6	18.7	8.4	0.675	722	4,573,988	15.8
Colorectal	Female	6	53,223	11.3	10.7	7.3	0.801	594	4,530,474	13.1
Corpus Uteri	Female	-	53,223	-	-	2.0	0.272	169	4,530,474	3.7
Esophagus	Total	3	106,932	2.8	2.8	5.4	0.431	458	9,104,462	5.0
Esophagus	Male	3	53,709	5.6	5.7	4.5	0.685	388	4,573,988	8.5
Esophagus	Female	-	53,223	-	-	0.9	0.852	70	4,530,474	1.5
Hodgkin Lymphoma	Total	-	106,932	-	-	0.3	1.000	25	9,104,462	0.3
Hodgkin Lymphoma	Male	-	53,709	-	-	0.2	1.000	14	4,573,988	0.3
Hodgkin Lymphoma	Female	-	53,223	-	-	0.1	1.000	11	4,530,474	0.2
Kidney	Total	3	106,932	2.8	2.7	4.6	0.647	383	9,104,462	4.2
Kidney	Male	1	53,709	1.9	1.9	2.9	0.437	245	4,573,988	5.4
Kidney	Female	2	53,223	3.8	3.5	1.7	1.000	138	4,530,474	3.0
Larynx	Total	1	106,932	0.9	0.9	0.9	1.000	75	9,104,462	0.8
Larynx	Male	1	53,709	1.9	1.8	0.8	1.000	64	4,573,988	1.4
Larynx	Female	-	53,223	-	-	0.1	1.000	11	4,530,474	0.2
Leukemia	Total	7	106,932	6.5	6.3	8.0	0.894	658	9,104,462	7.2
Leukemia	Male	4	53,709	7.4	7.3	4.7	0.995	393	4,573,988	8.6
Leukemia	Female	3	53,223	5.6	5.3	3.3	1.000	265	4,530,474	5.8
Liver and Bile Duct	Total	8	106,932	7.5	7.6	7.3	0.890	627	9,104,462	6.9
Liver and Bile Duct	Male	7	53,709	13.0	13.3	4.8	0.413	416	4,573,988	9.1
Liver and Bile Duct	Female	1	53,223	1.9	1.9	2.5	0.571	211	4,530,474	4.7
Lung and Bronchus	Total	19	106,932	17.8	17.5	34.8	0.005 <<	2,918	9,104,462	32.1
Lung and Bronchus	Male	10	53,709	18.6	18.7	17.9	0.065	1,531	4,573,988	33.5
Lung and Bronchus	Female	9	53,223	16.9	16.3	16.9	0.056	1,387	4,530,474	30.6
Melanoma of the Skin	Total	2	106,932	1.9	1.8	3.6	0.617	299	9,104,462	3.3
Melanoma of the Skin	Male	-	53,709	-	-	2.4	0.190	200	4,573,988	4.4
Melanoma of the Skin	Female	2	53,223	3.8	3.7	1.2	0.669	99	4,530,474	2.2
Myeloma	Total	6	106,932	5.6	5.4	3.9	0.388	319	9,104,462	3.5
Myeloma	Male	4	53,709	7.4	7.4	2.2	0.354	184	4,573,988	4.0
Myeloma	Female	2	53,223	3.8	3.6	1.7	0.989	135	4,530,474	3.0
Non-Hodgkin Lymphoma	Total	7	106,932	6.5	6.3	6.8	1.000	561	9,104,462	6.2
Non-Hodgkin Lymphoma	Male	4	53,709	7.4	7.4	3.6	0.972	306	4,573,988	6.7
Non-Hodgkin Lymphoma	Female	3	53,223	5.6	5.2	3.2	1.000	255	4,530,474	5.6
Oral Cavity and Pharynx	Total	3	106,932	2.8	2.8	3.2	1.000	272	9,104,462	3.0
Oral Cavity and Pharynx	Male	2	53,709	3.7	3.8	2.2	1.000	190	4,573,988	4.2
Oral Cavity and Pharynx	Female	1	53,223	1.9	1.8	1.0	1.000	82	4,530,474	1.8
Ovary	Female	4	53,223	7.5	7.4	4.2	1.000	357	4,530,474	7.9
Pancreas	Total	17	106,932	15.9	15.8	13.9	0.464	1,173	9,104,462	12.9
Pancreas	Male	11	53,709	20.5	20.7	7.4	0.263	639	4,573,988	14.0
Pancreas	Female	6	53,223	11.3	11.0	6.4	1.000	534	4,530,474	11.8
Prostate	Male	14	53,709	26.1	25.1	12.0	0.634	983	4,573,988	21.5
Stomach	Total	4	106,932	3.7	3.7	2.3	0.387	190	9,104,462	2.1
Stomach	Male	3	53,709	5.6	5.6	1.4	0.318	116	4,573,988	2.5
Stomach	Female	1	53,223	1.9	1.9	0.9	1.000	74	4,530,474	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	Minidoka 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%	93.8%
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%	10.5%
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%	59.2%
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%	.
Colorectal Cancer Screening, Age 45–75 (2022)	63.3%	61.0%	62.5%	60.8%	67.2%	65.0%	60.4%	60.2%	.
Tobacco Use									
Current Tobacco User (2020–2022)	22.1%	24.3%	20.4%	24.8%	21.3%	22.5%	22.6%	18.1%	22.4%
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%	21.2%
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%	75.1%
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%	13.9%
Home Ever Tested for Radon (2016, 2018, 2020)	22.9%	30.8%	18.3%	16.9%	25.2%	20.1%	23.0%	21.0%	18.3%

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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NEZ PERCE 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 1,262 cases of invasive cancer were diagnosed among Nez Perce County residents (Table 1).

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

Cancer Incidence 2017–2021	Nez Perce County	State of Idaho
All Sites/Types	1,262	47,333
Female Breast	181	6,943
Prostate	187	6,766
Lung & Bronchus	180	4,959
Colorectal	97	3,632

Table 3 (*Cancer Incidence 2017–2021, Comparison between Nez Perce 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 Nez Perce 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 Nez Perce County was 616.7 cases per 100,000 person-years per year during 2017–2021. Comparing this crude rate with the crude rate for the remainder of Idaho (524.3) gives an estimate of the relative burden of disease in Nez Perce County.

The age- and sex-adjusted incidence rate of invasive cancer in Nez Perce County, all sites combined, was 516.4 cases per 100,000 persons per year during 2017–2021. There were fewer cases of cancer in Nez Perce County (1,262) than expected (1,281.3) 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 483 Nez Perce 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 Nez Perce County and the State of Idaho, 2018–2022

Mortality 2018–2022	Nez Perce County	State of Idaho
All Deaths	2,788	80,538
Cancer Deaths	483	15,233
% of All Deaths	17.3%	18.9%
Lung & Bronchus	105	2,937
Colorectal	45	1,332
Pancreas	39	1,190
Female Breast	22	1,111
Prostate	33	997

Table 4 (*Cancer Mortality 2018–2022, Comparison between Nez Perce 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 Nez Perce 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 Nez Perce County, all sites combined, was 180.6 deaths per 100,000 persons per year during 2018–2022, compared with 163.8 for the remainder of the state. There were statistically significantly more cancer deaths in Nez Perce County (483) than expected (438.2) based upon rates in the remainder of the state ($p=.037$).

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 NEZ PERCE COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cancer Site/Type	Sex	Nez Perce 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	1,262	204,649	616.7	516.4	1,281.3	0.601	46,071	8,787,457	524.3
All Sites Combined	Male	670	101,101	662.7	552.2	676.6	0.819	24,600	4,411,172	557.7
All Sites Combined	Female	592	103,548	571.7	482.9	601.5	0.718	21,471	4,376,285	490.6
Bladder	Total	61	204,649	29.8	23.4	63.9	0.776	2,159	8,787,457	24.6
Bladder	Male	47	101,101	46.5	36.8	50.0	0.738	1,726	4,411,172	39.1
Bladder	Female	14	103,548	13.5	10.7	13.0	0.843	433	4,376,285	9.9
Brain - malignant	Total	19	204,649	9.3	8.2	16.8	0.652	638	8,787,457	7.3
Brain - malignant	Male	12	101,101	11.9	10.6	9.5	0.491	370	4,411,172	8.4
Brain - malignant	Female	7	103,548	6.8	5.9	7.3	1.000	268	4,376,285	6.1
Brain and other CNS - non-malignant	Total	28	204,649	13.7	11.6	41.7	0.033 <<	1,519	8,787,457	17.3
Brain and other CNS - non-malignant	Male	8	101,101	7.9	6.8	13.1	0.193	492	4,411,172	11.2
Brain and other CNS - non-malignant	Female	20	103,548	19.3	16.3	28.8	0.109	1,027	4,376,285	23.5
Breast	Total	181	204,649	88.4	76.5	183.7	0.878	6,827	8,787,457	77.7
Breast	Male	-	101,101	-	-	1.8	0.315	65	4,411,172	1.5
Breast	Female	181	103,548	174.8	151.5	184.6	0.828	6,762	4,376,285	154.5
Breast - in situ	Total	32	204,649	15.6	13.9	34.9	0.701	1,337	8,787,457	15.2
Breast - in situ	Male	-	101,101	-	-	0.1	1.000	4	4,411,172	0.1
Breast - in situ	Female	32	103,548	30.9	27.6	35.3	0.653	1,333	4,376,285	30.5
Cervix	Female	5	103,548	4.8	4.7	7.1	0.582	289	4,376,285	6.6
Colorectal	Total	97	204,649	47.4	39.3	99.3	0.868	3,535	8,787,457	40.2
Colorectal	Male	52	101,101	51.4	43.2	52.6	1.000	1,925	4,411,172	43.6
Colorectal	Female	45	103,548	43.5	35.6	46.6	0.896	1,610	4,376,285	36.8
Corpus Uteri	Female	31	103,548	29.9	26.1	35.9	0.466	1,323	4,376,285	30.2
Esophagus	Total	15	204,649	7.3	6.0	14.1	0.873	492	8,787,457	5.6
Esophagus	Male	12	101,101	11.9	9.7	11.7	1.000	417	4,411,172	9.5
Esophagus	Female	3	103,548	2.9	2.3	2.2	0.761	75	4,376,285	1.7
Hodgkin Lymphoma	Total	4	204,649	2.0	1.9	5.2	0.796	218	8,787,457	2.5
Hodgkin Lymphoma	Male	2	101,101	2.0	1.9	3.0	0.826	127	4,411,172	2.9
Hodgkin Lymphoma	Female	2	103,548	1.9	1.9	2.2	1.000	91	4,376,285	2.1
Kidney and Renal Pelvis	Total	47	204,649	23.0	19.5	52.3	0.511	1,904	8,787,457	21.7
Kidney and Renal Pelvis	Male	33	101,101	32.6	27.8	34.4	0.902	1,277	4,411,172	28.9
Kidney and Renal Pelvis	Female	14	103,548	13.5	11.4	17.7	0.464	627	4,376,285	14.3
Larynx	Total	10	204,649	4.9	4.0	5.9	0.161	210	8,787,457	2.4
Larynx	Male	8	101,101	7.9	6.5	4.5	0.168	159	4,411,172	3.6
Larynx	Female	2	103,548	1.9	1.6	1.4	0.833	51	4,376,285	1.2
Leukemia	Total	39	204,649	19.1	15.8	47.4	0.245	1,688	8,787,457	19.2
Leukemia	Male	24	101,101	23.7	19.8	27.8	0.542	1,012	4,411,172	22.9
Leukemia	Female	15	103,548	14.5	11.9	19.4	0.378	676	4,376,285	15.4
Liver and Bile Duct	Total	20	204,649	9.8	8.2	22.8	0.649	823	8,787,457	9.4
Liver and Bile Duct	Male	12	101,101	11.9	10.0	15.8	0.413	582	4,411,172	13.2
Liver and Bile Duct	Female	8	103,548	7.7	6.4	6.9	0.769	241	4,376,285	5.5
Lung and Bronchus	Total	180	204,649	88.0	70.5	138.8	0.001 >>	4,779	8,787,457	54.4
Lung and Bronchus	Male	82	101,101	81.1	65.6	68.4	0.119	2,413	4,411,172	54.7
Lung and Bronchus	Female	98	103,548	94.6	75.5	70.2	0.002 >>	2,366	4,376,285	54.1
Melanoma of the Skin	Total	65	204,649	31.8	26.9	84.6	0.032 <<	3,079	8,787,457	35.0
Melanoma of the Skin	Male	34	101,101	33.6	28.0	51.2	0.014 <<	1,861	4,411,172	42.2
Melanoma of the Skin	Female	31	103,548	29.9	26.2	32.9	0.824	1,218	4,376,285	27.8
Myeloma	Total	11	204,649	5.4	4.4	20.6	0.032 <<	717	8,787,457	8.2
Myeloma	Male	8	101,101	7.9	6.4	12.4	0.265	439	4,411,172	10.0
Myeloma	Female	3	103,548	2.9	2.4	8.1	0.081	278	4,376,285	6.4
Non-Hodgkin Lymphoma	Total	55	204,649	26.9	22.5	53.9	0.919	1,937	8,787,457	22.0
Non-Hodgkin Lymphoma	Male	33	101,101	32.6	27.8	30.0	0.628	1,113	4,411,172	25.2
Non-Hodgkin Lymphoma	Female	22	103,548	21.2	17.4	23.8	0.818	824	4,376,285	18.8
Oral Cavity and Pharynx	Total	37	204,649	18.1	15.3	35.2	0.805	1,278	8,787,457	14.5
Oral Cavity and Pharynx	Male	30	101,101	29.7	25.2	24.6	0.317	910	4,411,172	20.6
Oral Cavity and Pharynx	Female	7	103,548	6.8	5.6	10.5	0.364	368	4,376,285	8.4
Ovary	Female	14	103,548	13.5	11.6	14.8	0.964	539	4,376,285	12.3
Pancreas	Total	44	204,649	21.5	17.2	42.0	0.796	1,444	8,787,457	16.4
Pancreas	Male	27	101,101	26.7	21.6	22.7	0.415	799	4,411,172	18.1
Pancreas	Female	17	103,548	16.4	13.1	19.2	0.730	645	4,376,285	14.7
Prostate	Male	187	101,101	185.0	155.3	179.5	0.597	6,579	4,411,172	149.1
Stomach	Total	12	204,649	5.9	4.8	13.2	0.877	462	8,787,457	5.3
Stomach	Male	8	101,101	7.9	6.5	8.3	1.000	299	4,411,172	6.8
Stomach	Female	4	103,548	3.9	3.1	4.8	0.961	163	4,376,285	3.7
Testis	Male	3	101,101	3.0	3.0	6.1	0.281	271	4,411,172	6.1
Thyroid	Total	28	204,649	13.7	12.9	28.5	1.000	1,157	8,787,457	13.2
Thyroid	Male	7	101,101	6.9	6.3	9.2	0.598	365	4,411,172	8.3
Thyroid	Female	21	103,548	20.3	19.6	19.4	0.778	792	4,376,285	18.1
Pediatric Age 0 to 19	Total	6	48,403	12.4	12.3	8.3	0.553	419	2,450,921	17.1
Pediatric Age 0 to 19	Male	2	24,561	8.1	8.1	4.2	0.426	212	1,249,760	17.0
Pediatric Age 0 to 19	Female	4	23,842	16.8	16.7	4.1	1.000	207	1,201,161	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 NEZ PERCE COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cause of Death Cancer Site/Type	Sex	Nez Perce 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	2,788	207,277	1,345.1	998.3	2,411.5	0.000 >>	77,747	9,004,117	863.5
All Causes of Death	Male	1,418	102,513	1,383.2	1,062.6	1,220.0	0.000 >>	41,368	4,525,184	914.2
All Causes of Death	Female	1,370	104,764	1,307.7	938.6	1,185.5	0.000 >>	36,379	4,478,933	812.2
All Malignant Cancers	Total	483	207,277	233.0	180.6	438.2	0.037 >>	14,750	9,004,117	163.8
All Malignant Cancers	Male	263	102,513	256.6	200.1	231.6	0.046 >>	7,972	4,525,184	176.2
All Malignant Cancers	Female	220	104,764	210.0	162.1	205.3	0.322	6,778	4,478,933	151.3
Bladder	Total	20	207,277	9.6	6.9	15.1	0.257	465	9,004,117	5.2
Bladder	Male	15	102,513	14.6	10.5	11.4	0.355	360	4,525,184	8.0
Bladder	Female	5	104,764	4.8	3.4	3.5	0.546	105	4,478,933	2.3
Brain and Other Nervous System	Total	17	207,277	8.2	7.0	13.6	0.419	501	9,004,117	5.6
Brain and Other Nervous System	Male	11	102,513	10.7	9.3	7.3	0.242	278	4,525,184	6.1
Brain and Other Nervous System	Female	6	104,764	5.7	4.8	6.2	1.000	223	4,478,933	5.0
Breast	Total	22	207,277	10.6	8.3	32.6	0.066	1,102	9,004,117	12.2
Breast	Male	-	102,513	-	-	0.4	1.000	13	4,525,184	0.3
Breast	Female	22	104,764	21.0	16.4	32.7	0.064	1,089	4,478,933	24.3
Cervix	Female	2	104,764	1.9	1.7	2.2	1.000	86	4,478,933	1.9
Colorectal	Total	45	207,277	21.7	17.1	37.7	0.272	1,287	9,004,117	14.3
Colorectal	Male	18	102,513	17.6	14.1	20.1	0.750	714	4,525,184	15.8
Colorectal	Female	27	104,764	25.8	19.7	17.6	0.043 >>	573	4,478,933	12.8
Corpus Uteri	Female	3	104,764	2.9	2.3	4.9	0.569	166	4,478,933	3.7
Esophagus	Total	12	207,277	5.8	4.6	12.9	0.942	449	9,004,117	5.0
Esophagus	Male	9	102,513	8.8	7.1	10.7	0.744	382	4,525,184	8.4
Esophagus	Female	3	104,764	2.9	2.2	2.1	0.676	67	4,478,933	1.5
Hodgkin Lymphoma	Total	-	207,277	-	-	0.7	0.978	25	9,004,117	0.3
Hodgkin Lymphoma	Male	-	102,513	-	-	0.4	1.000	14	4,525,184	0.3
Hodgkin Lymphoma	Female	-	104,764	-	-	0.3	1.000	11	4,478,933	0.2
Kidney	Total	12	207,277	5.8	4.4	11.2	0.895	374	9,004,117	4.2
Kidney	Male	9	102,513	8.8	6.9	6.9	0.504	237	4,525,184	5.2
Kidney	Female	3	104,764	2.9	2.1	4.3	0.750	137	4,478,933	3.1
Larynx	Total	1	207,277	0.5	0.4	2.2	0.709	75	9,004,117	0.8
Larynx	Male	1	102,513	1.0	0.8	1.9	0.885	64	4,525,184	1.4
Larynx	Female	-	104,764	-	-	0.3	1.000	11	4,478,933	0.2
Leukemia	Total	20	207,277	9.6	7.3	19.5	0.977	645	9,004,117	7.2
Leukemia	Male	13	102,513	12.7	9.8	11.3	0.689	384	4,525,184	8.5
Leukemia	Female	7	104,764	6.7	5.0	8.1	0.866	261	4,478,933	5.8
Liver and Bile Duct	Total	17	207,277	8.2	6.6	17.6	1.000	618	9,004,117	6.9
Liver and Bile Duct	Male	9	102,513	8.8	7.2	11.5	0.585	414	4,525,184	9.1
Liver and Bile Duct	Female	8	104,764	7.6	6.1	6.0	0.517	204	4,478,933	4.6
Lung and Bronchus	Total	105	207,277	50.7	39.4	83.8	0.028 >>	2,832	9,004,117	31.5
Lung and Bronchus	Male	50	102,513	48.8	38.5	42.8	0.303	1,491	4,525,184	32.9
Lung and Bronchus	Female	55	104,764	52.5	40.3	40.9	0.040 >>	1,341	4,478,933	29.9
Melanoma of the Skin	Total	5	207,277	2.4	1.9	8.6	0.281	296	9,004,117	3.3
Melanoma of the Skin	Male	4	102,513	3.9	3.1	5.6	0.687	196	4,525,184	4.3
Melanoma of the Skin	Female	1	104,764	1.0	0.8	3.0	0.410	100	4,478,933	2.2
Myeloma	Total	9	207,277	4.3	3.3	9.6	1.000	316	9,004,117	3.5
Myeloma	Male	7	102,513	6.8	5.2	5.4	0.593	181	4,525,184	4.0
Myeloma	Female	2	104,764	1.9	1.4	4.2	0.421	135	4,478,933	3.0
Non-Hodgkin Lymphoma	Total	25	207,277	12.1	9.1	16.5	0.062	543	9,004,117	6.0
Non-Hodgkin Lymphoma	Male	13	102,513	12.7	9.9	8.6	0.192	297	4,525,184	6.6
Non-Hodgkin Lymphoma	Female	12	104,764	11.5	8.3	7.9	0.210	246	4,478,933	5.5
Oral Cavity and Pharynx	Total	11	207,277	5.3	4.3	7.6	0.288	264	9,004,117	2.9
Oral Cavity and Pharynx	Male	7	102,513	6.8	5.5	5.2	0.528	185	4,525,184	4.1
Oral Cavity and Pharynx	Female	4	104,764	3.8	3.0	2.3	0.416	79	4,478,933	1.8
Ovary	Female	6	104,764	5.7	4.5	10.5	0.207	355	4,478,933	7.9
Pancreas	Total	39	207,277	18.8	14.9	33.5	0.387	1,151	9,004,117	12.8
Pancreas	Male	19	102,513	18.5	14.9	17.8	0.844	631	4,525,184	13.9
Pancreas	Female	20	104,764	19.1	14.9	15.6	0.321	520	4,478,933	11.6
Prostate	Male	33	102,513	32.2	23.1	30.4	0.686	964	4,525,184	21.3
Stomach	Total	7	207,277	3.4	2.7	5.4	0.603	187	9,004,117	2.1
Stomach	Male	6	102,513	5.9	4.6	3.3	0.223	113	4,525,184	2.5
Stomach	Female	1	104,764	1.0	0.8	2.1	0.742	74	4,478,933	1.7

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	Nez Perce County
<u>Access to Care</u>									
Have Health Insurance, Age < 65 (2021–2022)	90.0%	89.3%	87.8%	86.4%	92.6%	87.2%	89.1%	92.6%	92.2%
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%	9.5%
<u>Cancer Screening</u>									
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%	76.1%
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%	72.5%
Colorectal Cancer Screening, Age 45–75 (2022)	63.3%	61.0%	62.5%	60.8%	67.2%	65.0%	60.4%	60.2%	74.9%
<u>Tobacco Use</u>									
Current Tobacco User (2020–2022)	22.1%	24.3%	20.4%	24.8%	21.3%	22.5%	22.6%	18.1%	19.9%
<u>Other Cancer-Related</u>									
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%	25.3%
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%	77.0%
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%	18.2%
Home Ever Tested for Radon (2016, 2018, 2020)	22.9%	30.8%	18.3%	16.9%	25.2%	20.1%	23.0%	21.0%	18.8%

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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ONEIDA 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 129 cases of invasive cancer were diagnosed among Oneida County residents (Table 1).

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

Cancer Incidence 2017–2021	Oneida County	State of Idaho
All Sites/Types	129	47,333
Female Breast	11	6,943
Prostate	17	6,766
Lung & Bronchus	14	4,959
Colorectal	10	3,632

Table 3 (*Cancer Incidence 2017–2021, Comparison between Oneida 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 Oneida 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 Oneida County was 575.1 cases per 100,000 person-years per year during 2017–2021. Comparing this crude rate with the crude rate for the remainder of Idaho (526.3) gives an estimate of the relative burden of disease in Oneida County.

The age- and sex-adjusted incidence rate of invasive cancer in Oneida County, all sites combined, was 489.0 cases per 100,000 persons per year during 2017–2021. There were fewer cases of cancer in Oneida County (129) than expected (138.8) 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 38 Oneida 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 Oneida County and the State of Idaho, 2018–2022

Mortality 2018–2022	Oneida County	State of Idaho
All Deaths	255	80,538
Cancer Deaths	38	15,233
% of All Deaths	14.9%	18.9%
Lung & Bronchus	5	2,937
Colorectal	1	1,332
Pancreas	2	1,190
Female Breast	3	1,111
Prostate	9	997

Table 4 (*Cancer Mortality 2018–2022, Comparison between Oneida 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 Oneida 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 Oneida County, all sites combined, was 132.9 deaths per 100,000 persons per year during 2018–2022, compared with 165.4 for the remainder of the state. There were fewer cancer deaths in Oneida County (38) than expected (47.3) 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 ONEIDA COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cancer Site/Type	Sex	Oneida 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	129	22,430	575.1	489.0	138.8	0.432	47,204	8,969,676	526.3
All Sites Combined	Male	85	11,279	753.6	614.4	77.4	0.416	25,185	4,500,994	559.5
All Sites Combined	Female	44	11,151	394.6	348.0	62.3	0.018 <<	22,019	4,468,682	492.7
Bladder	Total	13	22,430	58.0	46.1	6.9	0.051	2,207	8,969,676	24.6
Bladder	Male	13	11,279	115.3	88.8	5.7	0.012 >>	1,760	4,500,994	39.1
Bladder	Female	-	11,151	-	-	1.3	0.519	447	4,468,682	10.0
Brain - malignant	Total	1	22,430	4.5	4.0	1.8	0.904	656	8,969,676	7.3
Brain - malignant	Male	1	11,279	8.9	7.9	1.1	1.000	381	4,500,994	8.5
Brain - malignant	Female	-	11,151	-	-	0.8	0.924	275	4,468,682	6.2
Brain and other CNS - non-malignant	Total	1	22,430	4.5	3.9	4.4	0.128	1,546	8,969,676	17.2
Brain and other CNS - non-malignant	Male	1	11,279	8.9	7.6	1.5	1.000	499	4,500,994	11.1
Brain and other CNS - non-malignant	Female	-	11,151	-	-	3.0	0.104	1,047	4,468,682	23.4
Breast	Total	11	22,430	49.0	43.3	19.8	0.046 <<	6,997	8,969,676	78.0
Breast	Male	-	11,279	-	-	0.2	1.000	65	4,500,994	1.4
Breast	Female	11	11,151	98.6	89.1	19.1	0.065	6,932	4,468,682	155.1
Breast - in situ	Total	4	22,430	17.8	16.2	3.8	1.000	1,365	8,969,676	15.2
Breast - in situ	Male	-	11,279	-	-	0.0	1.000	4	4,500,994	0.1
Breast - in situ	Female	4	11,151	35.9	33.4	3.6	0.990	1,361	4,468,682	30.5
Cervix	Female	-	11,151	-	-	0.7	0.974	294	4,468,682	6.6
Colorectal	Total	10	22,430	44.6	37.8	10.7	0.995	3,622	8,969,676	40.4
Colorectal	Male	7	11,279	62.1	51.8	5.9	0.760	1,970	4,500,994	43.8
Colorectal	Female	3	11,151	26.9	23.1	4.8	0.585	1,652	4,468,682	37.0
Corpus Uteri	Female	3	11,151	26.9	24.4	3.7	0.980	1,351	4,468,682	30.2
Esophagus	Total	1	22,430	4.5	3.7	1.5	1.000	506	8,969,676	5.6
Esophagus	Male	1	11,279	8.9	7.1	1.3	1.000	428	4,500,994	9.5
Esophagus	Female	-	11,151	-	-	0.2	1.000	78	4,468,682	1.7
Hodgkin Lymphoma	Total	-	22,430	-	-	0.5	1.000	222	8,969,676	2.5
Hodgkin Lymphoma	Male	-	11,279	-	-	0.3	1.000	129	4,500,994	2.9
Hodgkin Lymphoma	Female	-	11,151	-	-	0.2	1.000	93	4,468,682	2.1
Kidney and Renal Pelvis	Total	7	22,430	31.2	26.9	5.6	0.675	1,944	8,969,676	21.7
Kidney and Renal Pelvis	Male	6	11,279	53.2	44.7	3.9	0.396	1,304	4,500,994	29.0
Kidney and Renal Pelvis	Female	1	11,151	9.0	7.8	1.8	0.910	640	4,468,682	14.3
Larynx	Total	-	22,430	-	-	0.7	1.000	220	8,969,676	2.5
Larynx	Male	-	11,279	-	-	0.5	1.000	167	4,500,994	3.7
Larynx	Female	-	11,151	-	-	0.2	1.000	53	4,468,682	1.2
Leukemia	Total	7	22,430	31.2	26.1	5.1	0.518	1,720	8,969,676	19.2
Leukemia	Male	5	11,279	44.3	36.2	3.2	0.425	1,031	4,500,994	22.9
Leukemia	Female	2	11,151	17.9	15.3	2.0	1.000	689	4,468,682	15.4
Liver and Bile Duct	Total	2	22,430	8.9	7.5	2.5	1.000	841	8,969,676	9.4
Liver and Bile Duct	Male	2	11,279	17.7	14.5	1.8	1.000	592	4,500,994	13.2
Liver and Bile Duct	Female	-	11,151	-	-	0.7	0.972	249	4,468,682	5.6
Lung and Bronchus	Total	14	22,430	62.4	50.4	15.3	0.868	4,945	8,969,676	55.1
Lung and Bronchus	Male	10	11,279	88.7	69.3	8.0	0.559	2,485	4,500,994	55.2
Lung and Bronchus	Female	4	11,151	35.9	29.9	7.4	0.284	2,460	4,468,682	55.0
Melanoma of the Skin	Total	9	22,430	40.1	34.8	9.0	1.000	3,135	8,969,676	35.0
Melanoma of the Skin	Male	6	11,279	53.2	43.9	5.7	1.000	1,889	4,500,994	42.0
Melanoma of the Skin	Female	3	11,151	26.9	24.7	3.4	1.000	1,246	4,468,682	27.9
Myeloma	Total	1	22,430	4.5	3.7	2.2	0.706	727	8,969,676	8.1
Myeloma	Male	1	11,279	8.9	7.1	1.4	1.000	446	4,500,994	9.9
Myeloma	Female	-	11,151	-	-	0.8	0.882	281	4,468,682	6.3
Non-Hodgkin Lymphoma	Total	2	22,430	8.9	7.6	5.9	0.137	1,990	8,969,676	22.2
Non-Hodgkin Lymphoma	Male	2	11,279	17.7	14.7	3.4	0.662	1,144	4,500,994	25.4
Non-Hodgkin Lymphoma	Female	-	11,151	-	-	2.5	0.171	846	4,468,682	18.9
Oral Cavity and Pharynx	Total	-	22,430	-	-	3.8	0.043 <<	1,315	8,969,676	14.7
Oral Cavity and Pharynx	Male	-	11,279	-	-	2.8	0.119	940	4,500,994	20.9
Oral Cavity and Pharynx	Female	-	11,151	-	-	1.1	0.681	375	4,468,682	8.4
Ovary	Female	5	11,151	44.8	40.2	1.5	0.040 >>	548	4,468,682	12.3
Pancreas	Total	4	22,430	17.8	14.5	4.6	1.000	1,484	8,969,676	16.5
Pancreas	Male	2	11,279	17.7	14.0	2.6	1.000	824	4,500,994	18.3
Pancreas	Female	2	11,151	17.9	14.9	2.0	1.000	660	4,468,682	14.8
Prostate	Male	17	11,279	150.7	122.1	20.9	0.470	6,749	4,500,994	149.9
Stomach	Total	1	22,430	4.5	3.7	1.4	1.000	473	8,969,676	5.3
Stomach	Male	1	11,279	8.9	7.2	0.9	1.000	306	4,500,994	6.8
Stomach	Female	-	11,151	-	-	0.5	1.000	167	4,468,682	3.7
Testis	Male	1	11,279	8.9	10.6	0.6	0.870	273	4,500,994	6.1
Thyroid	Total	3	22,430	13.4	13.4	2.9	1.000	1,182	8,969,676	13.2
Thyroid	Male	-	11,279	-	-	1.0	0.728	372	4,500,994	8.3
Thyroid	Female	3	11,151	26.9	28.1	1.9	0.613	810	4,468,682	18.1
Pediatric Age 0 to 19	Total	4	6,792	58.9	59.6	1.1	0.056	421	2,492,532	16.9
Pediatric Age 0 to 19	Male	-	3,480	-	-	0.6	1.000	214	1,270,841	16.8
Pediatric Age 0 to 19	Female	4	3,312	120.8	123.5	0.5	0.005 >>	207	1,221,691	16.9

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 ONEIDA COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cause of Death Cancer Site/Type	Sex	Oneida 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	255	22,749	1,120.9	865.9	257.3	0.920	80,280	9,188,645	873.7
All Causes of Death	Male	145	11,458	1,265.5	982.7	136.3	0.478	42,641	4,616,239	923.7
All Causes of Death	Female	110	11,291	974.2	741.5	122.1	0.292	37,639	4,572,406	823.2
All Malignant Cancers	Total	38	22,749	167.0	132.9	47.3	0.196	15,195	9,188,645	165.4
All Malignant Cancers	Male	28	11,458	244.4	188.5	26.4	0.807	8,207	4,616,239	177.8
All Malignant Cancers	Female	10	11,291	88.6	72.4	21.1	0.012 <<	6,988	4,572,406	152.8
Bladder	Total	1	22,749	4.4	3.3	1.6	1.000	484	9,188,645	5.3
Bladder	Male	1	11,458	8.7	6.3	1.3	1.000	374	4,616,239	8.1
Bladder	Female	-	11,291	-	-	0.4	1.000	110	4,572,406	2.4
Brain and Other Nervous System	Total	2	22,749	8.8	7.6	1.5	0.869	516	9,188,645	5.6
Brain and Other Nervous System	Male	2	11,458	17.5	14.8	0.8	0.411	287	4,616,239	6.2
Brain and Other Nervous System	Female	-	11,291	-	-	0.6	1.000	229	4,572,406	5.0
Breast	Total	3	22,749	13.2	10.6	3.4	1.000	1,121	9,188,645	12.2
Breast	Male	-	11,458	-	-	0.0	1.000	13	4,616,239	0.3
Breast	Female	3	11,291	26.6	21.9	3.3	1.000	1,108	4,572,406	24.2
Cervix	Female	-	11,291	-	-	0.2	1.000	88	4,572,406	1.9
Colorectal	Total	1	22,749	4.4	3.6	4.1	0.173	1,331	9,188,645	14.5
Colorectal	Male	1	11,458	8.7	7.0	2.3	0.679	731	4,616,239	15.8
Colorectal	Female	-	11,291	-	-	1.8	0.320	600	4,572,406	13.1
Corpus Uteri	Female	-	11,291	-	-	0.5	1.000	169	4,572,406	3.7
Esophagus	Total	2	22,749	8.8	7.2	1.4	0.812	459	9,188,645	5.0
Esophagus	Male	2	11,458	17.5	13.8	1.2	0.691	389	4,616,239	8.4
Esophagus	Female	-	11,291	-	-	0.2	1.000	70	4,572,406	1.5
Hodgkin Lymphoma	Total	-	22,749	-	-	0.1	1.000	25	9,188,645	0.3
Hodgkin Lymphoma	Male	-	11,458	-	-	0.0	1.000	14	4,616,239	0.3
Hodgkin Lymphoma	Female	-	11,291	-	-	0.0	1.000	11	4,572,406	0.2
Kidney	Total	1	22,749	4.4	3.5	1.2	1.000	385	9,188,645	4.2
Kidney	Male	1	11,458	8.7	6.8	0.8	1.000	245	4,616,239	5.3
Kidney	Female	-	11,291	-	-	0.4	1.000	140	4,572,406	3.1
Larynx	Total	1	22,749	4.4	3.5	0.2	0.413	75	9,188,645	0.8
Larynx	Male	1	11,458	8.7	6.6	0.2	0.377	64	4,616,239	1.4
Larynx	Female	-	11,291	-	-	0.0	1.000	11	4,572,406	0.2
Leukemia	Total	1	22,749	4.4	3.4	2.1	0.757	664	9,188,645	7.2
Leukemia	Male	1	11,458	8.7	6.7	1.3	1.000	396	4,616,239	8.6
Leukemia	Female	-	11,291	-	-	0.8	0.868	268	4,572,406	5.9
Liver and Bile Duct	Total	1	22,749	4.4	3.6	1.9	0.867	634	9,188,645	6.9
Liver and Bile Duct	Male	1	11,458	8.7	7.0	1.3	1.000	422	4,616,239	9.1
Liver and Bile Duct	Female	-	11,291	-	-	0.6	1.000	212	4,572,406	4.6
Lung and Bronchus	Total	5	22,749	22.0	17.4	9.1	0.215	2,932	9,188,645	31.9
Lung and Bronchus	Male	4	11,458	34.9	26.9	4.9	0.900	1,537	4,616,239	33.3
Lung and Bronchus	Female	1	11,291	8.9	7.2	4.2	0.152	1,395	4,572,406	30.5
Melanoma of the Skin	Total	-	22,749	-	-	0.9	0.799	301	9,188,645	3.3
Melanoma of the Skin	Male	-	11,458	-	-	0.6	1.000	200	4,616,239	4.3
Melanoma of the Skin	Female	-	11,291	-	-	0.3	1.000	101	4,572,406	2.2
Myeloma	Total	1	22,749	4.4	3.4	1.0	1.000	324	9,188,645	3.5
Myeloma	Male	1	11,458	8.7	6.6	0.6	0.919	187	4,616,239	4.1
Myeloma	Female	-	11,291	-	-	0.4	1.000	137	4,572,406	3.0
Non-Hodgkin Lymphoma	Total	1	22,749	4.4	3.4	1.8	0.929	567	9,188,645	6.2
Non-Hodgkin Lymphoma	Male	-	11,458	-	-	1.0	0.739	310	4,616,239	6.7
Non-Hodgkin Lymphoma	Female	1	11,291	8.9	6.9	0.8	1.000	257	4,572,406	5.6
Oral Cavity and Pharynx	Total	-	22,749	-	-	0.8	0.874	275	9,188,645	3.0
Oral Cavity and Pharynx	Male	-	11,458	-	-	0.6	1.000	192	4,616,239	4.2
Oral Cavity and Pharynx	Female	-	11,291	-	-	0.2	1.000	83	4,572,406	1.8
Ovary	Female	1	11,291	8.9	7.4	1.1	1.000	360	4,572,406	7.9
Pancreas	Total	2	22,749	8.8	7.1	3.6	0.588	1,188	9,188,645	12.9
Pancreas	Male	-	11,458	-	-	2.1	0.256	650	4,616,239	14.1
Pancreas	Female	2	11,291	17.7	14.6	1.6	0.960	538	4,572,406	11.8
Prostate	Male	9	11,458	78.5	56.8	3.4	0.016 >>	988	4,616,239	21.4
Stomach	Total	-	22,749	-	-	0.6	1.000	194	9,188,645	2.1
Stomach	Male	-	11,458	-	-	0.4	1.000	119	4,616,239	2.6
Stomach	Female	-	11,291	-	-	0.2	1.000	75	4,572,406	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	Oneida County
<u>Access to Care</u>									
Have Health Insurance, Age < 65 (2021–2022)	90.0%	89.3%	87.8%	86.4%	92.6%	87.2%	89.1%	92.6%	.
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%	6.1%
<u>Cancer Screening</u>									
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%	51.6%
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%	.
Colorectal Cancer Screening, Age 45–75 (2022)	63.3%	61.0%	62.5%	60.8%	67.2%	65.0%	60.4%	60.2%	.
<u>Tobacco Use</u>									
Current Tobacco User (2020–2022)	22.1%	24.3%	20.4%	24.8%	21.3%	22.5%	22.6%	18.1%	18.9%
<u>Other Cancer-Related</u>									
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%	32.2%
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%	66.9%
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%	11.2%
Home Ever Tested for Radon (2016, 2018, 2020)	22.9%	30.8%	18.3%	16.9%	25.2%	20.1%	23.0%	21.0%	12.6%

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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OWYHEE 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 333 cases of invasive cancer were diagnosed among Owyhee County residents (Table 1).

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

Cancer Incidence 2017–2021	Owyhee County	State of Idaho
All Sites/Types	333	47,333
Female Breast	55	6,943
Prostate	43	6,766
Lung & Bronchus	39	4,959
Colorectal	23	3,632

Table 3 (*Cancer Incidence 2017–2021, Comparison between Owyhee 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 Owyhee 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 Owyhee County was 558.7 cases per 100,000 person-years per year during 2017–2021. Comparing this crude rate with the crude rate for the remainder of Idaho (526.2) gives an estimate of the relative burden of disease in Owyhee County.

The age- and sex-adjusted incidence rate of invasive cancer in Owyhee County, all sites combined, was 513.2 cases per 100,000 persons per year during 2017–2021. There were fewer cases of cancer in Owyhee County (333) than expected (341.4) 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 118 Owyhee 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 Owyhee County and the State of Idaho, 2018–2022

Mortality 2018–2022	Owyhee County	State of Idaho
All Deaths	624	80,538
Cancer Deaths	118	15,233
% of All Deaths	18.9%	18.9%
Lung & Bronchus	19	2,937
Colorectal	17	1,332
Pancreas	17	1,190
Female Breast	8	1,111
Prostate	10	997

Table 4 (*Cancer Mortality 2018–2022, Comparison between Owyhee 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 Owyhee 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 Owyhee County, all sites combined, was 178.0 deaths per 100,000 persons per year during 2018–2022, compared with 165.2 for the remainder of the state. There were more cancer deaths in Owyhee County (118) than expected (109.5) 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 OWYHEE COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cancer Site/Type	Sex	Owyhee 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	333	59,600	558.7	513.2	341.4	0.674	47,000	8,932,506	526.2
All Sites Combined	Male	176	30,398	579.0	506.6	194.5	0.193	25,094	4,481,875	559.9
All Sites Combined	Female	157	29,202	537.6	513.4	150.5	0.618	21,906	4,450,631	492.2
Bladder	Total	9	59,600	15.1	13.6	16.4	0.073	2,211	8,932,506	24.8
Bladder	Male	9	30,398	29.6	25.3	14.0	0.216	1,764	4,481,875	39.4
Bladder	Female	-	29,202	-	-	3.1	0.090	447	4,450,631	10.0
Brain - malignant	Total	2	59,600	3.4	3.2	4.6	0.318	655	8,932,506	7.3
Brain - malignant	Male	1	30,398	3.3	3.0	2.8	0.461	381	4,481,875	8.5
Brain - malignant	Female	1	29,202	3.4	3.3	1.9	0.890	274	4,450,631	6.2
Brain and other CNS - non-malignant	Total	6	59,600	10.1	9.4	11.0	0.155	1,541	8,932,506	17.3
Brain and other CNS - non-malignant	Male	1	30,398	3.3	3.0	3.7	0.225	499	4,481,875	11.1
Brain and other CNS - non-malignant	Female	5	29,202	17.1	16.4	7.1	0.568	1,042	4,450,631	23.4
Breast	Total	55	59,600	92.3	85.6	50.0	0.519	6,953	8,932,506	77.8
Breast	Male	-	30,398	-	-	0.5	1.000	65	4,481,875	1.5
Breast	Female	55	29,202	188.3	179.3	47.5	0.307	6,888	4,450,631	154.8
Breast - in situ	Total	10	59,600	16.8	15.6	9.8	1.000	1,359	8,932,506	15.2
Breast - in situ	Male	-	30,398	-	-	0.0	1.000	4	4,481,875	0.1
Breast - in situ	Female	10	29,202	34.2	32.4	9.4	0.928	1,355	4,450,631	30.4
Cervix	Female	2	29,202	6.8	6.9	1.9	1.000	292	4,450,631	6.6
Colorectal	Total	23	59,600	38.6	35.4	26.2	0.611	3,609	8,932,506	40.4
Colorectal	Male	12	30,398	39.5	34.8	15.1	0.515	1,965	4,481,875	43.8
Colorectal	Female	11	29,202	37.7	35.9	11.3	1.000	1,644	4,450,631	36.9
Corpus Uteri	Female	10	29,202	34.2	32.6	9.3	0.898	1,344	4,450,631	30.2
Esophagus	Total	1	59,600	1.7	1.5	3.7	0.225	506	8,932,506	5.7
Esophagus	Male	1	30,398	3.3	2.8	3.4	0.302	428	4,481,875	9.5
Esophagus	Female	-	29,202	-	-	0.5	1.000	78	4,450,631	1.8
Hodgkin Lymphoma	Total	2	59,600	3.4	3.3	1.5	0.865	220	8,932,506	2.5
Hodgkin Lymphoma	Male	2	30,398	6.6	6.5	0.9	0.439	127	4,481,875	2.8
Hodgkin Lymphoma	Female	-	29,202	-	-	0.6	1.000	93	4,450,631	2.1
Kidney and Renal Pelvis	Total	20	59,600	33.6	30.9	14.0	0.154	1,931	8,932,506	21.6
Kidney and Renal Pelvis	Male	15	30,398	49.3	43.7	9.9	0.158	1,295	4,481,875	28.9
Kidney and Renal Pelvis	Female	5	29,202	17.1	16.2	4.4	0.897	636	4,450,631	14.3
Larynx	Total	3	59,600	5.0	4.5	1.6	0.436	217	8,932,506	2.4
Larynx	Male	3	30,398	9.9	8.4	1.3	0.286	164	4,481,875	3.7
Larynx	Female	-	29,202	-	-	0.4	1.000	53	4,450,631	1.2
Leukemia	Total	11	59,600	18.5	17.0	12.5	0.822	1,716	8,932,506	19.2
Leukemia	Male	8	30,398	26.3	23.2	7.9	1.000	1,028	4,481,875	22.9
Leukemia	Female	3	29,202	10.3	9.8	4.7	0.606	688	4,450,631	15.5
Liver and Bile Duct	Total	8	59,600	13.4	12.2	6.1	0.545	835	8,932,506	9.3
Liver and Bile Duct	Male	7	30,398	23.0	20.1	4.6	0.353	587	4,481,875	13.1
Liver and Bile Duct	Female	1	29,202	3.4	3.2	1.7	0.975	248	4,450,631	5.6
Lung and Bronchus	Total	39	59,600	65.4	59.0	36.4	0.711	4,920	8,932,506	55.1
Lung and Bronchus	Male	21	30,398	69.1	59.4	19.5	0.799	2,474	4,481,875	55.2
Lung and Bronchus	Female	18	29,202	61.6	57.9	17.1	0.886	2,446	4,450,631	55.0
Melanoma of the Skin	Total	17	59,600	28.5	26.6	22.4	0.298	3,127	8,932,506	35.0
Melanoma of the Skin	Male	9	30,398	29.6	26.1	14.5	0.176	1,886	4,481,875	42.1
Melanoma of the Skin	Female	8	29,202	27.4	26.6	8.4	1.000	1,241	4,450,631	27.9
Myeloma	Total	4	59,600	6.7	6.1	5.3	0.768	724	8,932,506	8.1
Myeloma	Male	3	30,398	9.9	8.5	3.5	1.000	444	4,481,875	9.9
Myeloma	Female	1	29,202	3.4	3.2	1.9	0.843	280	4,450,631	6.3
Non-Hodgkin Lymphoma	Total	19	59,600	31.9	29.3	14.3	0.273	1,973	8,932,506	22.1
Non-Hodgkin Lymphoma	Male	7	30,398	23.0	20.5	8.7	0.721	1,139	4,481,875	25.4
Non-Hodgkin Lymphoma	Female	12	29,202	41.1	39.1	5.8	0.030 >>	834	4,450,631	18.7
Oral Cavity and Pharynx	Total	11	59,600	18.5	16.8	9.5	0.718	1,304	8,932,506	14.6
Oral Cavity and Pharynx	Male	8	30,398	26.3	23.1	7.2	0.864	932	4,481,875	20.8
Oral Cavity and Pharynx	Female	3	29,202	10.3	9.8	2.6	0.945	372	4,450,631	8.4
Ovary	Female	9	29,202	30.8	29.5	3.7	0.029 >>	544	4,450,631	12.2
Pancreas	Total	20	59,600	33.6	30.4	10.8	0.015 >>	1,468	8,932,506	16.4
Pancreas	Male	12	30,398	39.5	34.0	6.4	0.062	814	4,481,875	18.2
Pancreas	Female	8	29,202	27.4	26.0	4.5	0.177	654	4,450,631	14.7
Prostate	Male	43	30,398	141.5	122.8	52.5	0.209	6,723	4,481,875	150.0
Stomach	Total	4	59,600	6.7	6.1	3.4	0.896	470	8,932,506	5.3
Stomach	Male	4	30,398	13.2	11.4	2.4	0.430	303	4,481,875	6.8
Stomach	Female	-	29,202	-	-	1.1	0.645	167	4,450,631	3.8
Testis	Male	1	30,398	3.3	3.6	1.7	0.982	273	4,481,875	6.1
Thyroid	Total	5	59,600	8.4	8.3	8.0	0.388	1,180	8,932,506	13.2
Thyroid	Male	3	30,398	9.9	9.3	2.7	0.991	369	4,481,875	8.2
Thyroid	Female	2	29,202	6.8	6.9	5.3	0.204	811	4,450,631	18.2
Pediatric Age 0 to 19	Total	4	16,741	23.9	23.9	2.8	0.633	421	2,482,583	17.0
Pediatric Age 0 to 19	Male	3	8,520	35.2	35.3	1.4	0.341	211	1,265,801	16.7
Pediatric Age 0 to 19	Female	1	8,221	12.2	12.1	1.4	1.000	210	1,216,782	17.3

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 OWYHEE COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cause of Death Cancer Site/Type	Sex	Owyhee 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	624	60,581	1,030.0	949.6	573.9	0.040 >>	79,911	9,150,813	873.3
All Causes of Death	Male	378	30,960	1,220.9	1,052.4	331.4	0.013 >>	42,408	4,596,737	922.6
All Causes of Death	Female	246	29,621	830.5	820.6	246.9	0.989	37,503	4,554,076	823.5
All Malignant Cancers	Total	118	60,581	194.8	178.0	109.5	0.441	15,115	9,150,813	165.2
All Malignant Cancers	Male	72	30,960	232.6	200.0	63.9	0.342	8,163	4,596,737	177.6
All Malignant Cancers	Female	46	29,621	155.3	149.1	47.1	0.949	6,952	4,554,076	152.7
Bladder	Total	3	60,581	5.0	4.5	3.5	1.000	482	9,150,813	5.3
Bladder	Male	2	30,960	6.5	5.3	3.0	0.831	373	4,596,737	8.1
Bladder	Female	1	29,621	3.4	3.3	0.7	1.000	109	4,554,076	2.4
Brain and Other Nervous System	Total	-	60,581	-	-	3.7	0.050 <<	518	9,150,813	5.7
Brain and Other Nervous System	Male	-	30,960	-	-	2.2	0.231	289	4,596,737	6.3
Brain and Other Nervous System	Female	-	29,621	-	-	1.5	0.425	229	4,554,076	5.0
Breast	Total	8	60,581	13.2	12.1	8.0	1.000	1,116	9,150,813	12.2
Breast	Male	-	30,960	-	-	0.1	1.000	13	4,596,737	0.3
Breast	Female	8	29,621	27.0	26.1	7.4	0.931	1,103	4,554,076	24.2
Cervix	Female	-	29,621	-	-	0.6	1.000	88	4,554,076	1.9
Colorectal	Total	17	60,581	28.1	25.7	9.5	0.035 >>	1,315	9,150,813	14.4
Colorectal	Male	12	30,960	38.8	33.8	5.6	0.024 >>	720	4,596,737	15.7
Colorectal	Female	5	29,621	16.9	16.3	4.0	0.745	595	4,554,076	13.1
Corpus Uteri	Female	2	29,621	6.8	6.4	1.1	0.630	167	4,554,076	3.7
Esophagus	Total	2	60,581	3.3	3.0	3.3	0.703	459	9,150,813	5.0
Esophagus	Male	2	30,960	6.5	5.6	3.0	0.837	389	4,596,737	8.5
Esophagus	Female	-	29,621	-	-	0.5	1.000	70	4,554,076	1.5
Hodgkin Lymphoma	Total	-	60,581	-	-	0.2	1.000	25	9,150,813	0.3
Hodgkin Lymphoma	Male	-	30,960	-	-	0.1	1.000	14	4,596,737	0.3
Hodgkin Lymphoma	Female	-	29,621	-	-	0.1	1.000	11	4,554,076	0.2
Kidney	Total	5	60,581	8.3	7.5	2.8	0.294	381	9,150,813	4.2
Kidney	Male	2	30,960	6.5	5.6	1.9	1.000	244	4,596,737	5.3
Kidney	Female	3	29,621	10.1	9.7	0.9	0.134	137	4,554,076	3.0
Larynx	Total	1	60,581	1.7	1.5	0.6	0.847	75	9,150,813	0.8
Larynx	Male	1	30,960	3.2	2.7	0.5	0.798	64	4,596,737	1.4
Larynx	Female	-	29,621	-	-	0.1	1.000	11	4,554,076	0.2
Leukemia	Total	2	60,581	3.3	3.0	4.8	0.287	663	9,150,813	7.2
Leukemia	Male	1	30,960	3.2	2.8	3.1	0.368	396	4,596,737	8.6
Leukemia	Female	1	29,621	3.4	3.3	1.8	0.925	267	4,554,076	5.9
Liver and Bile Duct	Total	6	60,581	9.9	9.1	4.6	0.613	629	9,150,813	6.9
Liver and Bile Duct	Male	5	30,960	16.1	14.1	3.2	0.449	418	4,596,737	9.1
Liver and Bile Duct	Female	1	29,621	3.4	3.2	1.4	1.000	211	4,554,076	4.6
Lung and Bronchus	Total	19	60,581	31.4	28.5	21.3	0.726	2,918	9,150,813	31.9
Lung and Bronchus	Male	9	30,960	29.1	25.1	11.9	0.495	1,532	4,596,737	33.3
Lung and Bronchus	Female	10	29,621	33.8	32.0	9.5	0.957	1,386	4,554,076	30.4
Melanoma of the Skin	Total	2	60,581	3.3	3.0	2.2	1.000	299	9,150,813	3.3
Melanoma of the Skin	Male	1	30,960	3.2	2.8	1.5	1.000	199	4,596,737	4.3
Melanoma of the Skin	Female	1	29,621	3.4	3.3	0.7	0.982	100	4,554,076	2.2
Myeloma	Total	4	60,581	6.6	6.0	2.3	0.417	321	9,150,813	3.5
Myeloma	Male	3	30,960	9.7	8.3	1.5	0.363	185	4,596,737	4.0
Myeloma	Female	1	29,621	3.4	3.2	0.9	1.000	136	4,554,076	3.0
Non-Hodgkin Lymphoma	Total	3	60,581	5.0	4.5	4.1	0.823	565	9,150,813	6.2
Non-Hodgkin Lymphoma	Male	2	30,960	6.5	5.6	2.4	1.000	308	4,596,737	6.7
Non-Hodgkin Lymphoma	Female	1	29,621	3.4	3.2	1.7	0.961	257	4,554,076	5.6
Oral Cavity and Pharynx	Total	1	60,581	1.7	1.5	2.0	0.820	274	9,150,813	3.0
Oral Cavity and Pharynx	Male	1	30,960	3.2	2.8	1.5	1.000	191	4,596,737	4.2
Oral Cavity and Pharynx	Female	-	29,621	-	-	0.6	1.000	83	4,554,076	1.8
Ovary	Female	1	29,621	3.4	3.2	2.5	0.593	360	4,554,076	7.9
Pancreas	Total	17	60,581	28.1	25.6	8.5	0.013 >>	1,173	9,150,813	12.8
Pancreas	Male	10	30,960	32.3	28.0	5.0	0.061	640	4,596,737	13.9
Pancreas	Female	7	29,621	23.6	22.6	3.6	0.151	533	4,554,076	11.7
Prostate	Male	10	30,960	32.3	26.8	8.0	0.569	987	4,596,737	21.5
Stomach	Total	1	60,581	1.7	1.5	1.4	1.000	193	9,150,813	2.1
Stomach	Male	1	30,960	3.2	2.8	0.9	1.000	118	4,596,737	2.6
Stomach	Female	-	29,621	-	-	0.5	1.000	75	4,554,076	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	Owyhee County
<u>Access to Care</u>									
Have Health Insurance, Age < 65 (2021–2022)	90.0%	89.3%	87.8%	86.4%	92.6%	87.2%	89.1%	92.6%	74.3%
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%	12.4%
<u>Cancer Screening</u>									
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%	41.6%
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%	.
Colorectal Cancer Screening, Age 45–75 (2022)	63.3%	61.0%	62.5%	60.8%	67.2%	65.0%	60.4%	60.2%	.
<u>Tobacco Use</u>									
Current Tobacco User (2020–2022)	22.1%	24.3%	20.4%	24.8%	21.3%	22.5%	22.6%	18.1%	26.6%
<u>Other Cancer-Related</u>									
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%	30.4%
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%	71.0%
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%	25.9%
Home Ever Tested for Radon (2016, 2018, 2020)	22.9%	30.8%	18.3%	16.9%	25.2%	20.1%	23.0%	21.0%	16.7%

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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PAYETTE 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 783 cases of invasive cancer were diagnosed among Payette County residents (Table 1).

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

Cancer Incidence 2017–2021	Payette County	State of Idaho
All Sites/Types	783	47,333
Female Breast	110	6,943
Prostate	102	6,766
Lung & Bronchus	122	4,959
Colorectal	65	3,632

Table 3 (*Cancer Incidence 2017–2021, Comparison between Payette 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 Payette 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 Payette County was 641.9 cases per 100,000 person-years per year during 2017–2021. Comparing this crude rate with the crude rate for the remainder of Idaho (524.8) gives an estimate of the relative burden of disease in Payette County.

The age- and sex-adjusted incidence rate of invasive cancer in Payette County, all sites combined, was 576.9 cases per 100,000 persons per year during 2017–2021. There were statistically significantly more cases of cancer in Payette County (783) than expected (712.3) based upon rates in the remainder of the state ($p=.009$).

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 283 Payette 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 Payette County and the State of Idaho, 2018–2022

Mortality 2018–2022	Payette County	State of Idaho
All Deaths	1,407	80,538
Cancer Deaths	283	15,233
% of All Deaths	20.1%	18.9%
Lung & Bronchus	74	2,937
Colorectal	30	1,332
Pancreas	11	1,190
Female Breast	27	1,111
Prostate	21	997

Table 4 (*Cancer Mortality 2018–2022, Comparison between Payette 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 Payette 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 Payette County, all sites combined, was 196.3 deaths per 100,000 persons per year during 2018–2022, compared with 164.5 for the remainder of the state. There were statistically significantly more cancer deaths in Payette County (283) than expected (237.2) based upon rates in the remainder of the state ($p=.004$).

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 PAYETTE COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cancer Site/Type	Sex	Payette 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	783	121,977	641.9	576.9	712.3	0.009 >>	46,550	8,870,129	524.8
All Sites Combined	Male	410	61,046	671.6	590.0	388.1	0.278	24,860	4,451,227	558.5
All Sites Combined	Female	373	60,931	612.2	559.9	327.0	0.013 >>	21,690	4,418,902	490.8
Bladder	Total	26	121,977	21.3	18.4	35.0	0.141	2,194	8,870,129	24.7
Bladder	Male	18	61,046	29.5	24.7	28.7	0.044 <<	1,755	4,451,227	39.4
Bladder	Female	8	60,931	13.1	11.7	6.8	0.749	439	4,418,902	9.9
Brain - malignant	Total	9	121,977	7.4	6.9	9.6	1.000	648	8,870,129	7.3
Brain - malignant	Male	5	61,046	8.2	7.6	5.6	1.000	377	4,451,227	8.5
Brain - malignant	Female	4	60,931	6.6	6.1	4.0	1.000	271	4,418,902	6.1
Brain and other CNS - non-malignant	Total	22	121,977	18.0	16.4	23.0	0.939	1,525	8,870,129	17.2
Brain and other CNS - non-malignant	Male	8	61,046	13.1	11.9	7.5	0.939	492	4,451,227	11.1
Brain and other CNS - non-malignant	Female	14	60,931	23.0	21.1	15.5	0.824	1,033	4,418,902	23.4
Breast	Total	110	121,977	90.2	82.5	103.8	0.565	6,898	8,870,129	77.8
Breast	Male	-	61,046	-	-	1.0	0.706	65	4,451,227	1.5
Breast	Female	110	60,931	180.5	165.7	102.6	0.492	6,833	4,418,902	154.6
Breast - in situ	Total	19	121,977	15.6	14.4	20.1	0.927	1,350	8,870,129	15.2
Breast - in situ	Male	-	61,046	-	-	0.1	1.000	4	4,451,227	0.1
Breast - in situ	Female	19	60,931	31.2	28.8	20.1	0.922	1,346	4,418,902	30.5
Cervix	Female	8	60,931	13.1	13.0	4.0	0.101	286	4,418,902	6.5
Colorectal	Total	65	121,977	53.3	47.8	54.7	0.191	3,567	8,870,129	40.2
Colorectal	Male	41	61,046	67.2	59.4	30.0	0.066	1,936	4,451,227	43.5
Colorectal	Female	24	60,931	39.4	35.8	24.7	0.990	1,631	4,418,902	36.9
Corpus Uteri	Female	13	60,931	21.3	19.7	20.0	0.133	1,341	4,418,902	30.3
Esophagus	Total	5	121,977	4.1	3.6	7.8	0.413	502	8,870,129	5.7
Esophagus	Male	4	61,046	6.6	5.7	6.7	0.398	425	4,451,227	9.5
Esophagus	Female	1	60,931	1.6	1.5	1.2	1.000	77	4,418,902	1.7
Hodgkin Lymphoma	Total	2	121,977	1.6	1.6	3.0	0.843	220	8,870,129	2.5
Hodgkin Lymphoma	Male	1	61,046	1.6	1.6	1.8	0.952	128	4,451,227	2.9
Hodgkin Lymphoma	Female	1	60,931	1.6	1.7	1.2	1.000	92	4,418,902	2.1
Kidney and Renal Pelvis	Total	39	121,977	32.0	28.7	29.3	0.097	1,912	8,870,129	21.6
Kidney and Renal Pelvis	Male	29	61,046	47.5	42.4	19.7	0.059	1,281	4,451,227	28.8
Kidney and Renal Pelvis	Female	10	60,931	16.4	14.8	9.6	0.989	631	4,418,902	14.3
Larynx	Total	5	121,977	4.1	3.6	3.3	0.484	215	8,870,129	2.4
Larynx	Male	5	61,046	8.2	7.1	2.6	0.235	162	4,451,227	3.6
Larynx	Female	-	60,931	-	-	0.8	0.901	53	4,418,902	1.2
Leukemia	Total	28	121,977	23.0	20.4	26.3	0.790	1,699	8,870,129	19.2
Leukemia	Male	16	61,046	26.2	22.8	16.1	1.000	1,020	4,451,227	22.9
Leukemia	Female	12	60,931	19.7	17.8	10.4	0.692	679	4,418,902	15.4
Liver and Bile Duct	Total	18	121,977	14.8	13.3	12.6	0.177	825	8,870,129	9.3
Liver and Bile Duct	Male	15	61,046	24.6	22.0	8.9	0.075	579	4,451,227	13.0
Liver and Bile Duct	Female	3	60,931	4.9	4.5	3.7	0.970	246	4,418,902	5.6
Lung and Bronchus	Total	122	121,977	100.0	86.7	76.7	0.000 >>	4,837	8,870,129	54.5
Lung and Bronchus	Male	59	61,046	96.6	82.1	39.3	0.004 >>	2,436	4,451,227	54.7
Lung and Bronchus	Female	63	60,931	103.4	91.1	37.6	0.000 >>	2,401	4,418,902	54.3
Melanoma of the Skin	Total	27	121,977	22.1	20.2	47.1	0.002 <<	3,117	8,870,129	35.1
Melanoma of the Skin	Male	15	61,046	24.6	21.6	29.3	0.006 <<	1,880	4,451,227	42.2
Melanoma of the Skin	Female	12	60,931	19.7	18.5	18.2	0.170	1,237	4,418,902	28.0
Myeloma	Total	14	121,977	11.5	10.0	11.2	0.478	714	8,870,129	8.0
Myeloma	Male	9	61,046	14.7	12.6	7.0	0.548	438	4,451,227	9.8
Myeloma	Female	5	60,931	8.2	7.3	4.3	0.846	276	4,418,902	6.2
Non-Hodgkin Lymphoma	Total	40	121,977	32.8	29.4	29.9	0.089	1,952	8,870,129	22.0
Non-Hodgkin Lymphoma	Male	15	61,046	24.6	21.9	17.4	0.670	1,131	4,451,227	25.4
Non-Hodgkin Lymphoma	Female	25	60,931	41.0	37.2	12.5	0.002 >>	821	4,418,902	18.6
Oral Cavity and Pharynx	Total	15	121,977	12.3	11.2	19.7	0.345	1,300	8,870,129	14.7
Oral Cavity and Pharynx	Male	10	61,046	16.4	14.8	14.2	0.331	930	4,451,227	20.9
Oral Cavity and Pharynx	Female	5	60,931	8.2	7.5	5.6	1.000	370	4,418,902	8.4
Ovary	Female	10	60,931	16.4	15.2	8.1	0.590	543	4,418,902	12.3
Pancreas	Total	22	121,977	18.0	15.8	23.0	0.944	1,466	8,870,129	16.5
Pancreas	Male	12	61,046	19.7	16.8	13.0	0.916	814	4,451,227	18.3
Pancreas	Female	10	60,931	16.4	14.7	10.1	1.000	652	4,418,902	14.8
Prostate	Male	102	61,046	167.1	148.2	103.0	0.970	6,664	4,451,227	149.7
Stomach	Total	6	121,977	4.9	4.4	7.3	0.821	468	8,870,129	5.3
Stomach	Male	4	61,046	6.6	5.7	4.8	0.946	303	4,451,227	6.8
Stomach	Female	2	60,931	3.3	3.0	2.5	1.000	165	4,418,902	3.7
Testis	Male	2	61,046	3.3	3.6	3.4	0.686	272	4,451,227	6.1
Thyroid	Total	24	121,977	19.7	19.4	16.2	0.081	1,161	8,870,129	13.1
Thyroid	Male	11	61,046	18.0	17.2	5.2	0.035 >>	361	4,451,227	8.1
Thyroid	Female	13	60,931	21.3	21.3	11.1	0.638	800	4,418,902	18.1
Pediatric Age 0 to 19	Total	9	34,505	26.1	26.2	5.8	0.264	416	2,464,819	16.9
Pediatric Age 0 to 19	Male	4	17,921	22.3	22.4	3.0	0.700	210	1,256,400	16.7
Pediatric Age 0 to 19	Female	5	16,584	30.1	30.4	2.8	0.305	206	1,208,419	17.0

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 PAYETTE COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cause of Death Cancer Site/Type	Sex	Payette 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	1,407	125,715	1,119.2	982.7	1,246.9	0.000 >>	79,128	9,085,679	870.9
All Causes of Death	Male	780	63,112	1,235.9	1,050.2	683.5	0.000 >>	42,006	4,564,585	920.3
All Causes of Death	Female	627	62,603	1,001.5	910.1	565.7	0.012 >>	37,122	4,521,094	821.1
All Malignant Cancers	Total	283	125,715	225.1	196.3	237.2	0.004 >>	14,950	9,085,679	164.5
All Malignant Cancers	Male	153	63,112	242.4	205.2	132.0	0.080	8,082	4,564,585	177.1
All Malignant Cancers	Female	130	62,603	207.7	185.3	106.6	0.030 >>	6,868	4,521,094	151.9
Bladder	Total	9	125,715	7.2	6.1	7.7	0.732	476	9,085,679	5.2
Bladder	Male	8	63,112	12.7	10.3	6.3	0.583	367	4,564,585	8.0
Bladder	Female	1	62,603	1.6	1.4	1.7	0.983	109	4,521,094	2.4
Brain and Other Nervous System	Total	9	125,715	7.2	6.5	7.7	0.742	509	9,085,679	5.6
Brain and Other Nervous System	Male	4	63,112	6.3	5.7	4.4	1.000	285	4,564,585	6.2
Brain and Other Nervous System	Female	5	62,603	8.0	7.3	3.4	0.502	224	4,521,094	5.0
Breast	Total	27	125,715	21.5	19.1	17.1	0.032 >>	1,097	9,085,679	12.1
Breast	Male	-	63,112	-	-	0.2	1.000	13	4,564,585	0.3
Breast	Female	27	62,603	43.1	39.1	16.6	0.023 >>	1,084	4,521,094	24.0
Cervix	Female	-	62,603	-	-	1.3	0.563	88	4,521,094	1.9
Colorectal	Total	30	125,715	23.9	21.1	20.4	0.055	1,302	9,085,679	14.3
Colorectal	Male	16	63,112	25.4	22.0	11.4	0.230	716	4,564,585	15.7
Colorectal	Female	14	62,603	22.4	20.1	9.0	0.149	586	4,521,094	13.0
Corpus Uteri	Female	2	62,603	3.2	2.9	2.6	1.000	167	4,521,094	3.7
Esophagus	Total	8	125,715	6.4	5.6	7.2	0.849	453	9,085,679	5.0
Esophagus	Male	8	63,112	12.7	11.0	6.1	0.547	383	4,564,585	8.4
Esophagus	Female	-	62,603	-	-	1.1	0.664	70	4,521,094	1.5
Hodgkin Lymphoma	Total	-	125,715	-	-	0.4	1.000	25	9,085,679	0.3
Hodgkin Lymphoma	Male	-	63,112	-	-	0.2	1.000	14	4,564,585	0.3
Hodgkin Lymphoma	Female	-	62,603	-	-	0.2	1.000	11	4,521,094	0.2
Kidney	Total	4	125,715	3.2	2.8	6.1	0.551	382	9,085,679	4.2
Kidney	Male	4	63,112	6.3	5.4	3.9	1.000	242	4,564,585	5.3
Kidney	Female	-	62,603	-	-	2.2	0.225	140	4,521,094	3.1
Larynx	Total	1	125,715	0.8	0.7	1.2	1.000	75	9,085,679	0.8
Larynx	Male	1	63,112	1.6	1.3	1.0	1.000	64	4,564,585	1.4
Larynx	Female	-	62,603	-	-	0.2	1.000	11	4,521,094	0.2
Leukemia	Total	10	125,715	8.0	6.8	10.5	1.000	655	9,085,679	7.2
Leukemia	Male	9	63,112	14.3	11.9	6.4	0.401	388	4,564,585	8.5
Leukemia	Female	1	62,603	1.6	1.4	4.2	0.156	267	4,521,094	5.9
Liver and Bile Duct	Total	10	125,715	8.0	7.0	9.8	1.000	625	9,085,679	6.9
Liver and Bile Duct	Male	8	63,112	12.7	11.1	6.5	0.665	415	4,564,585	9.1
Liver and Bile Duct	Female	2	62,603	3.2	2.8	3.3	0.728	210	4,521,094	4.6
Lung and Bronchus	Total	74	125,715	58.9	50.7	46.0	0.000 >>	2,863	9,085,679	31.5
Lung and Bronchus	Male	35	63,112	55.5	46.9	24.6	0.056	1,506	4,564,585	33.0
Lung and Bronchus	Female	39	62,603	62.3	54.5	21.5	0.001 >>	1,357	4,521,094	30.0
Melanoma of the Skin	Total	4	125,715	3.2	2.8	4.7	1.000	297	9,085,679	3.3
Melanoma of the Skin	Male	2	63,112	3.2	2.7	3.2	0.760	198	4,564,585	4.3
Melanoma of the Skin	Female	2	62,603	3.2	2.9	1.5	0.895	99	4,521,094	2.2
Myeloma	Total	6	125,715	4.8	4.1	5.2	0.830	319	9,085,679	3.5
Myeloma	Male	4	63,112	6.3	5.3	3.1	0.734	184	4,564,585	4.0
Myeloma	Female	2	62,603	3.2	2.8	2.2	1.000	135	4,521,094	3.0
Non-Hodgkin Lymphoma	Total	9	125,715	7.2	6.1	9.0	1.000	559	9,085,679	6.2
Non-Hodgkin Lymphoma	Male	3	63,112	4.8	4.0	5.1	0.512	307	4,564,585	6.7
Non-Hodgkin Lymphoma	Female	6	62,603	9.6	8.4	4.0	0.427	252	4,521,094	5.6
Oral Cavity and Pharynx	Total	6	125,715	4.8	4.2	4.2	0.500	269	9,085,679	3.0
Oral Cavity and Pharynx	Male	5	63,112	7.9	6.9	3.0	0.363	187	4,564,585	4.1
Oral Cavity and Pharynx	Female	1	62,603	1.6	1.4	1.3	1.000	82	4,521,094	1.8
Ovary	Female	8	62,603	12.8	11.4	5.5	0.375	353	4,521,094	7.8
Pancreas	Total	11	125,715	8.7	7.6	18.7	0.080	1,179	9,085,679	13.0
Pancreas	Male	6	63,112	9.5	8.1	10.4	0.215	644	4,564,585	14.1
Pancreas	Female	5	62,603	8.0	7.1	8.3	0.324	535	4,521,094	11.8
Prostate	Male	21	63,112	33.3	26.9	16.7	0.349	976	4,564,585	21.4
Stomach	Total	2	125,715	1.6	1.4	3.0	0.843	192	9,085,679	2.1
Stomach	Male	1	63,112	1.6	1.3	1.9	0.854	118	4,564,585	2.6
Stomach	Female	1	62,603	1.6	1.5	1.1	1.000	74	4,521,094	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	Payette County
<u>Access to Care</u>									
Have Health Insurance, Age < 65 (2021–2022)	90.0%	89.3%	87.8%	86.4%	92.6%	87.2%	89.1%	92.6%	90.1%
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%	11.9%
<u>Cancer Screening</u>									
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%	68.9%
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%	71.1%
Colorectal Cancer Screening, Age 45–75 (2022)	63.3%	61.0%	62.5%	60.8%	67.2%	65.0%	60.4%	60.2%	72.3%
<u>Tobacco Use</u>									
Current Tobacco User (2020–2022)	22.1%	24.3%	20.4%	24.8%	21.3%	22.5%	22.6%	18.1%	27.5%
<u>Other Cancer-Related</u>									
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%	18.7%
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%	76.4%
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%	14.1%
Home Ever Tested for Radon (2016, 2018, 2020)	22.9%	30.8%	18.3%	16.9%	25.2%	20.1%	23.0%	21.0%	14.7%

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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POWER 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 179 cases of invasive cancer were diagnosed among Power County residents (Table 1).

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

Cancer Incidence 2017–2021	Power County	State of Idaho
All Sites/Types	179	47,333
Female Breast	23	6,943
Prostate	27	6,766
Lung & Bronchus	21	4,959
Colorectal	22	3,632

Table 3 (*Cancer Incidence 2017–2021, Comparison between Power 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 Power 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 Power County was 465.2 cases per 100,000 person-years per year during 2017–2021. Comparing this crude rate with the crude rate for the remainder of Idaho (526.6) gives an estimate of the relative burden of disease in Power County.

The age- and sex-adjusted incidence rate of invasive cancer in Power County, all sites combined, was 475.7 cases per 100,000 persons per year during 2017–2021. There were fewer cases of cancer in Power County (179) than expected (198.2) 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 62 Power 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 Power County and the State of Idaho, 2018–2022

Mortality 2018–2022	Power County	State of Idaho
All Deaths	348	80,538
Cancer Deaths	62	15,233
% of All Deaths	17.8%	18.9%
Lung & Bronchus	11	2,937
Colorectal	7	1,332
Pancreas	4	1,190
Female Breast	5	1,111
Prostate	4	997

Table 4 (*Cancer Mortality 2018–2022, Comparison between Power 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 Power 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 Power County, all sites combined, was 159.8 deaths per 100,000 persons per year during 2018–2022, compared with 165.4 for the remainder of the state. There were fewer cancer deaths in Power County (62) than expected (64.2) 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 POWER COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cancer Site/Type	Sex	Power 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	179	38,479	465.2	475.7	198.2	0.182	47,154	8,953,627	526.6
All Sites Combined	Male	96	19,513	492.0	489.7	109.8	0.199	25,174	4,492,760	560.3
All Sites Combined	Female	83	18,966	437.6	458.2	89.3	0.550	21,980	4,460,867	492.7
Bladder	Total	5	38,479	13.0	13.1	9.5	0.179	2,215	8,953,627	24.7
Bladder	Male	4	19,513	20.5	20.1	7.8	0.220	1,769	4,492,760	39.4
Bladder	Female	1	18,966	5.3	5.4	1.8	0.899	446	4,460,867	10.0
Brain - malignant	Total	1	38,479	2.6	2.6	2.8	0.473	656	8,953,627	7.3
Brain - malignant	Male	-	19,513	-	-	1.6	0.388	382	4,492,760	8.5
Brain - malignant	Female	1	18,966	5.3	5.4	1.1	1.000	274	4,460,867	6.1
Brain and other CNS - non-malignant	Total	8	38,479	20.8	21.4	6.4	0.634	1,539	8,953,627	17.2
Brain and other CNS - non-malignant	Male	3	19,513	15.4	15.6	2.1	0.719	497	4,492,760	11.1
Brain and other CNS - non-malignant	Female	5	18,966	26.4	27.6	4.2	0.834	1,042	4,460,867	23.4
Breast	Total	23	38,479	59.8	62.2	28.8	0.319	6,985	8,953,627	78.0
Breast	Male	-	19,513	-	-	0.3	1.000	65	4,492,760	1.4
Breast	Female	23	18,966	121.3	128.4	27.8	0.421	6,920	4,460,867	155.1
Breast - in situ	Total	5	38,479	13.0	13.6	5.6	1.000	1,364	8,953,627	15.2
Breast - in situ	Male	-	19,513	-	-	0.0	1.000	4	4,492,760	0.1
Breast - in situ	Female	5	18,966	26.4	28.1	5.4	1.000	1,360	4,460,867	30.5
Cervix	Female	1	18,966	5.3	5.8	1.1	1.000	293	4,460,867	6.6
Colorectal	Total	22	38,479	57.2	58.6	15.1	0.115	3,610	8,953,627	40.3
Colorectal	Male	15	19,513	76.9	77.1	8.5	0.055	1,962	4,492,760	43.7
Colorectal	Female	7	18,966	36.9	38.5	6.7	1.000	1,648	4,460,867	36.9
Corpus Uteri	Female	6	18,966	31.6	33.2	5.5	0.927	1,348	4,460,867	30.2
Esophagus	Total	2	38,479	5.2	5.2	2.2	1.000	505	8,953,627	5.6
Esophagus	Male	2	19,513	10.2	10.1	1.9	1.000	427	4,492,760	9.5
Esophagus	Female	-	18,966	-	-	0.3	1.000	78	4,460,867	1.7
Hodgkin Lymphoma	Total	1	38,479	2.6	2.7	0.9	1.000	221	8,953,627	2.5
Hodgkin Lymphoma	Male	1	19,513	5.1	5.3	0.5	0.828	128	4,492,760	2.8
Hodgkin Lymphoma	Female	-	18,966	-	-	0.4	1.000	93	4,460,867	2.1
Kidney and Renal Pelvis	Total	11	38,479	28.6	29.3	8.1	0.394	1,940	8,953,627	21.7
Kidney and Renal Pelvis	Male	8	19,513	41.0	41.4	5.6	0.407	1,302	4,492,760	29.0
Kidney and Renal Pelvis	Female	3	18,966	15.8	16.4	2.6	0.972	638	4,460,867	14.3
Larynx	Total	1	38,479	2.6	2.6	0.9	1.000	219	8,953,627	2.4
Larynx	Male	1	19,513	5.1	5.1	0.7	1.000	166	4,492,760	3.7
Larynx	Female	-	18,966	-	-	0.2	1.000	53	4,460,867	1.2
Leukemia	Total	12	38,479	31.2	31.4	7.3	0.139	1,715	8,953,627	19.2
Leukemia	Male	2	19,513	10.2	10.1	4.6	0.336	1,034	4,492,760	23.0
Leukemia	Female	10	18,966	52.7	53.9	2.8	0.001 >>	681	4,460,867	15.3
Liver and Bile Duct	Total	-	38,479	-	-	3.6	0.057	843	8,953,627	9.4
Liver and Bile Duct	Male	-	19,513	-	-	2.6	0.150	594	4,492,760	13.2
Liver and Bile Duct	Female	-	18,966	-	-	1.0	0.717	249	4,460,867	5.6
Lung and Bronchus	Total	21	38,479	54.6	55.0	21.1	1.000	4,938	8,953,627	55.2
Lung and Bronchus	Male	13	19,513	66.6	65.6	10.9	0.611	2,482	4,492,760	55.2
Lung and Bronchus	Female	8	18,966	42.2	43.3	10.2	0.630	2,456	4,460,867	55.1
Melanoma of the Skin	Total	4	38,479	10.4	10.8	13.0	0.007 <<	3,140	8,953,627	35.1
Melanoma of the Skin	Male	2	19,513	10.2	10.3	8.2	0.024 <<	1,893	4,492,760	42.1
Melanoma of the Skin	Female	2	18,966	10.5	11.2	5.0	0.251	1,247	4,460,867	28.0
Myeloma	Total	1	38,479	2.6	2.6	3.1	0.375	727	8,953,627	8.1
Myeloma	Male	1	19,513	5.1	5.1	2.0	0.835	446	4,492,760	9.9
Myeloma	Female	-	18,966	-	-	1.1	0.633	281	4,460,867	6.3
Non-Hodgkin Lymphoma	Total	4	38,479	10.4	10.6	8.4	0.160	1,988	8,953,627	22.2
Non-Hodgkin Lymphoma	Male	1	19,513	5.1	5.1	5.0	0.083	1,145	4,492,760	25.5
Non-Hodgkin Lymphoma	Female	3	18,966	15.8	16.4	3.5	1.000	843	4,460,867	18.9
Oral Cavity and Pharynx	Total	3	38,479	7.8	8.0	5.5	0.399	1,312	8,953,627	14.7
Oral Cavity and Pharynx	Male	1	19,513	5.1	5.1	4.1	0.170	939	4,492,760	20.9
Oral Cavity and Pharynx	Female	2	18,966	10.5	11.0	1.5	0.899	373	4,460,867	8.4
Ovary	Female	3	18,966	15.8	16.7	2.2	0.766	550	4,460,867	12.3
Pancreas	Total	7	38,479	18.2	18.4	6.3	0.880	1,481	8,953,627	16.5
Pancreas	Male	5	19,513	25.6	25.4	3.6	0.586	821	4,492,760	18.3
Pancreas	Female	2	18,966	10.5	10.9	2.7	0.975	660	4,460,867	14.8
Prostate	Male	27	19,513	138.4	137.1	29.5	0.729	6,739	4,492,760	150.0
Stomach	Total	2	38,479	5.2	5.3	2.0	1.000	472	8,953,627	5.3
Stomach	Male	1	19,513	5.1	5.1	1.3	1.000	306	4,492,760	6.8
Stomach	Female	1	18,966	5.3	5.5	0.7	0.981	166	4,460,867	3.7
Testis	Male	-	19,513	-	-	1.1	0.683	274	4,492,760	6.1
Thyroid	Total	4	38,479	10.4	11.2	4.7	0.980	1,181	8,953,627	13.2
Thyroid	Male	1	19,513	5.1	5.4	1.5	1.000	371	4,492,760	8.3
Thyroid	Female	3	18,966	15.8	17.3	3.2	1.000	810	4,460,867	18.2
Pediatric Age 0 to 19	Total	2	12,841	15.6	15.7	2.2	1.000	423	2,486,483	17.0
Pediatric Age 0 to 19	Male	-	6,512	-	-	1.1	0.669	214	1,267,809	16.9
Pediatric Age 0 to 19	Female	2	6,329	31.6	32.3	1.1	0.573	209	1,218,674	17.1

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 POWER COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cause of Death Cancer Site/Type	Sex	Power 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	348	38,960	893.2	888.4	342.4	0.778	80,187	9,172,434	874.2
All Causes of Death	Male	178	19,748	901.4	882.9	186.4	0.567	42,608	4,607,949	924.7
All Causes of Death	Female	170	19,212	884.9	889.2	157.4	0.334	37,579	4,564,485	823.3
All Malignant Cancers	Total	62	38,960	159.1	159.8	64.2	0.851	15,171	9,172,434	165.4
All Malignant Cancers	Male	33	19,748	167.1	164.1	35.8	0.720	8,202	4,607,949	178.0
All Malignant Cancers	Female	29	19,212	150.9	154.3	28.7	1.000	6,969	4,564,485	152.7
Bladder	Total	-	38,960	-	-	2.1	0.246	485	9,172,434	5.3
Bladder	Male	-	19,748	-	-	1.7	0.372	375	4,607,949	8.1
Bladder	Female	-	19,212	-	-	0.5	1.000	110	4,564,485	2.4
Brain and Other Nervous System	Total	1	38,960	2.6	2.6	2.2	0.733	517	9,172,434	5.6
Brain and Other Nervous System	Male	-	19,748	-	-	1.2	0.582	289	4,607,949	6.3
Brain and Other Nervous System	Female	1	19,212	5.2	5.4	0.9	1.000	228	4,564,485	5.0
Breast	Total	5	38,960	12.8	13.0	4.7	1.000	1,119	9,172,434	12.2
Breast	Male	-	19,748	-	-	0.1	1.000	13	4,607,949	0.3
Breast	Female	5	19,212	26.0	26.8	4.5	0.943	1,106	4,564,485	24.2
Cervix	Female	1	19,212	5.2	5.6	0.3	0.578	87	4,564,485	1.9
Colorectal	Total	7	38,960	18.0	18.2	5.6	0.648	1,325	9,172,434	14.4
Colorectal	Male	5	19,748	25.3	25.1	3.1	0.416	727	4,607,949	15.8
Colorectal	Female	2	19,212	10.4	10.7	2.5	1.000	598	4,564,485	13.1
Corpus Uteri	Female	-	19,212	-	-	0.7	1.000	169	4,564,485	3.7
Esophagus	Total	1	38,960	2.6	2.6	1.9	0.848	460	9,172,434	5.0
Esophagus	Male	1	19,748	5.1	5.0	1.7	0.996	390	4,607,949	8.5
Esophagus	Female	-	19,212	-	-	0.3	1.000	70	4,564,485	1.5
Hodgkin Lymphoma	Total	-	38,960	-	-	0.1	1.000	25	9,172,434	0.3
Hodgkin Lymphoma	Male	-	19,748	-	-	0.1	1.000	14	4,607,949	0.3
Hodgkin Lymphoma	Female	-	19,212	-	-	0.0	1.000	11	4,564,485	0.2
Kidney	Total	1	38,960	2.6	2.6	1.6	1.000	385	9,172,434	4.2
Kidney	Male	1	19,748	5.1	5.0	1.1	1.000	245	4,607,949	5.3
Kidney	Female	-	19,212	-	-	0.6	1.000	140	4,564,485	3.1
Larynx	Total	-	38,960	-	-	0.3	1.000	76	9,172,434	0.8
Larynx	Male	-	19,748	-	-	0.3	1.000	65	4,607,949	1.4
Larynx	Female	-	19,212	-	-	0.0	1.000	11	4,564,485	0.2
Leukemia	Total	5	38,960	12.8	12.8	2.8	0.310	660	9,172,434	7.2
Leukemia	Male	1	19,748	5.1	4.9	1.7	0.961	396	4,607,949	8.6
Leukemia	Female	4	19,212	20.8	21.0	1.1	0.051	264	4,564,485	5.8
Liver and Bile Duct	Total	1	38,960	2.6	2.6	2.7	0.514	634	9,172,434	6.9
Liver and Bile Duct	Male	1	19,748	5.1	5.0	1.8	0.917	422	4,607,949	9.2
Liver and Bile Duct	Female	-	19,212	-	-	0.9	0.838	212	4,564,485	4.6
Lung and Bronchus	Total	11	38,960	28.2	28.3	12.4	0.833	2,926	9,172,434	31.9
Lung and Bronchus	Male	7	19,748	35.4	34.9	6.7	1.000	1,534	4,607,949	33.3
Lung and Bronchus	Female	4	19,212	20.8	21.2	5.8	0.636	1,392	4,564,485	30.5
Melanoma of the Skin	Total	2	38,960	5.1	5.2	1.3	0.716	299	9,172,434	3.3
Melanoma of the Skin	Male	-	19,748	-	-	0.9	0.842	200	4,607,949	4.3
Melanoma of the Skin	Female	2	19,212	10.4	10.7	0.4	0.126	99	4,564,485	2.2
Myeloma	Total	1	38,960	2.6	2.6	1.4	1.000	324	9,172,434	3.5
Myeloma	Male	1	19,748	5.1	4.9	0.8	1.000	187	4,607,949	4.1
Myeloma	Female	-	19,212	-	-	0.6	1.000	137	4,564,485	3.0
Non-Hodgkin Lymphoma	Total	2	38,960	5.1	5.1	2.4	1.000	566	9,172,434	6.2
Non-Hodgkin Lymphoma	Male	-	19,748	-	-	1.4	0.514	310	4,607,949	6.7
Non-Hodgkin Lymphoma	Female	2	19,212	10.4	10.5	1.1	0.581	256	4,564,485	5.6
Oral Cavity and Pharynx	Total	1	38,960	2.6	2.6	1.1	1.000	274	9,172,434	3.0
Oral Cavity and Pharynx	Male	1	19,748	5.1	5.0	0.8	1.000	191	4,607,949	4.1
Oral Cavity and Pharynx	Female	-	19,212	-	-	0.3	1.000	83	4,564,485	1.8
Ovary	Female	5	19,212	26.0	26.9	1.5	0.033 >>	356	4,564,485	7.8
Pancreas	Total	4	38,960	10.3	10.4	5.0	0.885	1,186	9,172,434	12.9
Pancreas	Male	3	19,748	15.2	15.1	2.8	1.000	647	4,607,949	14.0
Pancreas	Female	1	19,212	5.2	5.3	2.2	0.698	539	4,564,485	11.8
Prostate	Male	4	19,748	20.3	19.4	4.4	1.000	993	4,607,949	21.5
Stomach	Total	1	38,960	2.6	2.6	0.8	1.000	193	9,172,434	2.1
Stomach	Male	-	19,748	-	-	0.5	1.000	119	4,607,949	2.6
Stomach	Female	1	19,212	5.2	5.4	0.3	0.516	74	4,564,485	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	Power County
<u>Access to Care</u>									
Have Health Insurance, Age < 65 (2021–2022)	90.0%	89.3%	87.8%	86.4%	92.6%	87.2%	89.1%	92.6%	.
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%	8.7%
<u>Cancer Screening</u>									
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%	71.4%
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%	.
Colorectal Cancer Screening, Age 45–75 (2022)	63.3%	61.0%	62.5%	60.8%	67.2%	65.0%	60.4%	60.2%	.
<u>Tobacco Use</u>									
Current Tobacco User (2020–2022)	22.1%	24.3%	20.4%	24.8%	21.3%	22.5%	22.6%	18.1%	24.3%
<u>Other Cancer-Related</u>									
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%	11.7%
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%	71.6%
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%	16.5%
Home Ever Tested for Radon (2016, 2018, 2020)	22.9%	30.8%	18.3%	16.9%	25.2%	20.1%	23.0%	21.0%	20.7%

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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SHOSHONE 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 496 cases of invasive cancer were diagnosed among Shoshone County residents (Table 1).

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

Cancer Incidence 2017–2021	Shoshone County	State of Idaho
All Sites/Types	496	47,333
Female Breast	44	6,943
Prostate	69	6,766
Lung & Bronchus	90	4,959
Colorectal	58	3,632

Table 3 (*Cancer Incidence 2017–2021, Comparison between Shoshone 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 Shoshone 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 Shoshone County was 766.3 cases per 100,000 person-years per year during 2017–2021. Comparing this crude rate with the crude rate for the remainder of Idaho (524.6) gives an estimate of the relative burden of disease in Shoshone County.

The age- and sex-adjusted incidence rate of invasive cancer in Shoshone County, all sites combined, was 572.1 cases per 100,000 persons per year during 2017–2021. There were more cases of cancer in Shoshone County (496) than expected (454.8) 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 166 Shoshone 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 Shoshone County and the State of Idaho, 2018–2022

Mortality 2018–2022	Shoshone County	State of Idaho
All Deaths	1,009	80,538
Cancer Deaths	166	15,233
% of All Deaths	16.5%	18.9%
Lung & Bronchus	42	2,937
Colorectal	21	1,332
Pancreas	13	1,190
Female Breast	9	1,111
Prostate	15	997

Table 4 (*Cancer Mortality 2018–2022, Comparison between Shoshone 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 Shoshone 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 Shoshone County, all sites combined, was 181.7 deaths per 100,000 persons per year during 2018–2022, compared with 164.8 for the remainder of the state. There were more cancer deaths in Shoshone County (166) than expected (150.5) 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 SHOSHONE COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cancer Site/Type	Sex	Shoshone 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	496	64,730	766.3	572.1	454.8	0.059	46,837	8,927,376	524.6
All Sites Combined	Male	308	32,653	943.3	689.5	248.9	0.000 >>	24,962	4,479,620	557.2
All Sites Combined	Female	188	32,077	586.1	448.5	206.2	0.216	21,875	4,447,756	491.8
Bladder	Total	17	64,730	26.3	18.6	22.5	0.285	2,203	8,927,376	24.7
Bladder	Male	14	32,653	42.9	30.5	18.0	0.417	1,759	4,479,620	39.3
Bladder	Female	3	32,077	9.4	6.7	4.5	0.692	444	4,447,756	10.0
Brain - malignant	Total	4	64,730	6.2	5.0	5.8	0.620	653	8,927,376	7.3
Brain - malignant	Male	3	32,653	9.2	7.5	3.4	1.000	379	4,479,620	8.5
Brain - malignant	Female	1	32,077	3.1	2.5	2.5	0.592	274	4,447,756	6.2
Brain and other CNS - non-malignant	Total	10	64,730	15.4	12.1	14.3	0.318	1,537	8,927,376	17.2
Brain and other CNS - non-malignant	Male	1	32,653	3.1	2.4	4.6	0.115	499	4,479,620	11.1
Brain and other CNS - non-malignant	Female	9	32,077	28.1	21.8	9.6	1.000	1,038	4,447,756	23.3
Breast	Total	45	64,730	69.5	53.4	65.7	0.009 <<	6,963	8,927,376	78.0
Breast	Male	1	32,653	3.1	2.3	0.6	0.931	64	4,479,620	1.4
Breast	Female	44	32,077	137.2	106.4	64.1	0.010 <<	6,899	4,447,756	155.1
Breast - in situ	Total	9	64,730	13.9	10.8	12.7	0.372	1,360	8,927,376	15.2
Breast - in situ	Male	-	32,653	-	-	0.0	1.000	4	4,479,620	0.1
Breast - in situ	Female	9	32,077	28.1	22.1	12.4	0.419	1,356	4,447,756	30.5
Cervix	Female	4	32,077	12.5	11.6	2.2	0.378	290	4,447,756	6.5
Colorectal	Total	58	64,730	89.6	67.4	34.4	0.000 >>	3,574	8,927,376	40.0
Colorectal	Male	40	32,653	122.5	92.1	18.8	0.000 >>	1,937	4,479,620	43.2
Colorectal	Female	18	32,077	56.1	42.2	15.7	0.627	1,637	4,447,756	36.8
Corpus Uteri	Female	14	32,077	43.6	33.5	12.6	0.766	1,340	4,447,756	30.1
Esophagus	Total	5	64,730	7.7	5.6	5.0	1.000	502	8,927,376	5.6
Esophagus	Male	5	32,653	15.3	11.0	4.3	0.860	424	4,479,620	9.5
Esophagus	Female	-	32,077	-	-	0.8	0.916	78	4,447,756	1.8
Hodgkin Lymphoma	Total	-	64,730	-	-	1.7	0.367	222	8,927,376	2.5
Hodgkin Lymphoma	Male	-	32,653	-	-	1.0	0.712	129	4,479,620	2.9
Hodgkin Lymphoma	Female	-	32,077	-	-	0.7	1.000	93	4,447,756	2.1
Kidney and Renal Pelvis	Total	15	64,730	23.2	17.4	18.6	0.477	1,936	8,927,376	21.7
Kidney and Renal Pelvis	Male	10	32,653	30.6	22.9	12.7	0.561	1,300	4,479,620	29.0
Kidney and Renal Pelvis	Female	5	32,077	15.6	11.8	6.0	0.879	636	4,447,756	14.3
Larynx	Total	5	64,730	7.7	5.6	2.2	0.137	215	8,927,376	2.4
Larynx	Male	4	32,653	12.3	8.8	1.7	0.173	163	4,479,620	3.6
Larynx	Female	1	32,077	3.1	2.3	0.5	0.792	52	4,447,756	1.2
Leukemia	Total	16	64,730	24.7	18.6	16.4	1.000	1,711	8,927,376	19.2
Leukemia	Male	12	32,653	36.8	27.8	9.9	0.579	1,024	4,479,620	22.9
Leukemia	Female	4	32,077	12.5	9.4	6.6	0.435	687	4,447,756	15.4
Liver and Bile Duct	Total	16	64,730	24.7	18.0	8.2	0.021 >>	827	8,927,376	9.3
Liver and Bile Duct	Male	12	32,653	36.8	26.4	5.9	0.036 >>	582	4,479,620	13.0
Liver and Bile Duct	Female	4	32,077	12.5	9.2	2.4	0.443	245	4,447,756	5.5
Lung and Bronchus	Total	90	64,730	139.0	98.5	49.8	0.000 >>	4,869	8,927,376	54.5
Lung and Bronchus	Male	52	32,653	159.3	112.2	25.3	0.000 >>	2,443	4,479,620	54.5
Lung and Bronchus	Female	38	32,077	118.5	84.4	24.5	0.014 >>	2,426	4,447,756	54.5
Melanoma of the Skin	Total	19	64,730	29.4	22.6	29.4	0.055	3,125	8,927,376	35.0
Melanoma of the Skin	Male	16	32,653	49.0	36.9	18.2	0.713	1,879	4,479,620	41.9
Melanoma of the Skin	Female	3	32,077	9.4	7.5	11.2	0.009 <<	1,246	4,447,756	28.0
Myeloma	Total	3	64,730	4.6	3.3	7.3	0.136	725	8,927,376	8.1
Myeloma	Male	-	32,653	-	-	4.5	0.022 <<	447	4,479,620	10.0
Myeloma	Female	3	32,077	9.4	6.8	2.8	1.000	278	4,447,756	6.3
Non-Hodgkin Lymphoma	Total	15	64,730	23.2	17.4	19.1	0.415	1,977	8,927,376	22.1
Non-Hodgkin Lymphoma	Male	7	32,653	21.4	16.1	11.1	0.278	1,139	4,479,620	25.4
Non-Hodgkin Lymphoma	Female	8	32,077	24.9	18.6	8.1	1.000	838	4,447,756	18.8
Oral Cavity and Pharynx	Total	20	64,730	30.9	22.9	12.7	0.070	1,295	8,927,376	14.5
Oral Cavity and Pharynx	Male	17	32,653	52.1	38.1	9.2	0.027 >>	923	4,479,620	20.6
Oral Cavity and Pharynx	Female	3	32,077	9.4	7.0	3.6	1.000	372	4,447,756	8.4
Ovary	Female	4	32,077	12.5	9.7	5.1	0.848	549	4,447,756	12.3
Pancreas	Total	17	64,730	26.3	18.9	14.8	0.633	1,471	8,927,376	16.5
Pancreas	Male	8	32,653	24.5	17.7	8.3	1.000	818	4,479,620	18.3
Pancreas	Female	9	32,077	28.1	20.3	6.5	0.420	653	4,447,756	14.7
Prostate	Male	69	32,653	211.3	148.5	69.5	1.000	6,697	4,479,620	149.5
Stomach	Total	3	64,730	4.6	3.4	4.6	0.646	471	8,927,376	5.3
Stomach	Male	3	32,653	9.2	6.7	3.0	1.000	304	4,479,620	6.8
Stomach	Female	-	32,077	-	-	1.6	0.402	167	4,447,756	3.8
Testis	Male	4	32,653	12.3	13.5	1.8	0.213	270	4,479,620	6.0
Thyroid	Total	8	64,730	12.4	11.1	9.5	0.791	1,177	8,927,376	13.2
Thyroid	Male	6	32,653	18.4	15.3	3.2	0.211	366	4,479,620	8.2
Thyroid	Female	2	32,077	6.2	5.9	6.2	0.107	811	4,447,756	18.2
Pediatric Age 0 to 19	Total	1	14,400	6.9	6.9	2.5	0.584	424	2,484,924	17.1
Pediatric Age 0 to 19	Male	1	7,417	13.5	13.3	1.3	1.000	213	1,266,904	16.8
Pediatric Age 0 to 19	Female	-	6,983	-	-	1.2	0.595	211	1,218,020	17.3

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 SHOSHONE COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cause of Death Cancer Site/Type	Sex	Shoshone 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	1,009	66,231	1,523.5	1,125.7	779.5	0.000 >>	79,526	9,145,163	869.6
All Causes of Death	Male	561	33,464	1,676.4	1,305.9	394.8	0.000 >>	42,225	4,594,233	919.1
All Causes of Death	Female	448	32,767	1,367.2	953.8	385.0	0.002 >>	37,301	4,550,930	819.6
All Malignant Cancers	Total	166	66,231	250.6	181.7	150.5	0.224	15,067	9,145,163	164.8
All Malignant Cancers	Male	97	33,464	289.9	214.1	80.3	0.076	8,138	4,594,233	177.1
All Malignant Cancers	Female	69	32,767	210.6	151.2	69.5	1.000	6,929	4,550,930	152.3
Bladder	Total	3	66,231	4.5	3.2	4.9	0.551	482	9,145,163	5.3
Bladder	Male	3	33,464	9.0	6.8	3.6	1.000	372	4,594,233	8.1
Bladder	Female	-	32,767	-	-	1.2	0.627	110	4,550,930	2.4
Brain and Other Nervous System	Total	2	66,231	3.0	2.3	4.9	0.274	516	9,145,163	5.6
Brain and Other Nervous System	Male	1	33,464	3.0	2.3	2.7	0.484	288	4,594,233	6.3
Brain and Other Nervous System	Female	1	32,767	3.1	2.3	2.1	0.735	228	4,550,930	5.0
Breast	Total	10	66,231	15.1	11.2	10.9	0.952	1,114	9,145,163	12.2
Breast	Male	1	33,464	3.0	2.3	0.1	0.218	12	4,594,233	0.3
Breast	Female	9	32,767	27.5	20.0	10.9	0.707	1,102	4,550,930	24.2
Cervix	Female	-	32,767	-	-	0.7	0.950	88	4,550,930	1.9
Colorectal	Total	21	66,231	31.7	23.4	12.8	0.045 >>	1,311	9,145,163	14.3
Colorectal	Male	13	33,464	38.8	29.4	6.9	0.050	719	4,594,233	15.7
Colorectal	Female	8	32,767	24.4	17.5	5.9	0.498	592	4,550,930	13.0
Corpus Uteri	Female	1	32,767	3.1	2.2	1.7	1.000	168	4,550,930	3.7
Esophagus	Total	7	66,231	10.6	7.6	4.6	0.353	454	9,145,163	5.0
Esophagus	Male	7	33,464	20.9	15.1	3.9	0.196	384	4,594,233	8.4
Esophagus	Female	-	32,767	-	-	0.7	0.986	70	4,550,930	1.5
Hodgkin Lymphoma	Total	-	66,231	-	-	0.2	1.000	25	9,145,163	0.3
Hodgkin Lymphoma	Male	-	33,464	-	-	0.1	1.000	14	4,594,233	0.3
Hodgkin Lymphoma	Female	-	32,767	-	-	0.1	1.000	11	4,550,930	0.2
Kidney	Total	6	66,231	9.1	6.5	3.8	0.381	380	9,145,163	4.2
Kidney	Male	3	33,464	9.0	6.6	2.4	0.866	243	4,594,233	5.3
Kidney	Female	3	32,767	9.2	6.4	1.4	0.343	137	4,550,930	3.0
Larynx	Total	-	66,231	-	-	0.8	0.924	76	9,145,163	0.8
Larynx	Male	-	33,464	-	-	0.7	1.000	65	4,594,233	1.4
Larynx	Female	-	32,767	-	-	0.1	1.000	11	4,550,930	0.2
Leukemia	Total	4	66,231	6.0	4.4	6.6	0.428	661	9,145,163	7.2
Leukemia	Male	4	33,464	12.0	8.9	3.8	1.000	393	4,594,233	8.6
Leukemia	Female	-	32,767	-	-	2.7	0.134	268	4,550,930	5.9
Liver and Bile Duct	Total	6	66,231	9.1	6.6	6.3	1.000	629	9,145,163	6.9
Liver and Bile Duct	Male	4	33,464	12.0	8.6	4.2	1.000	419	4,594,233	9.1
Liver and Bile Duct	Female	2	32,767	6.1	4.4	2.1	1.000	210	4,550,930	4.6
Lung and Bronchus	Total	42	66,231	63.4	45.1	29.5	0.034 >>	2,895	9,145,163	31.7
Lung and Bronchus	Male	22	33,464	65.7	47.3	15.4	0.132	1,519	4,594,233	33.1
Lung and Bronchus	Female	20	32,767	61.0	43.1	14.0	0.156	1,376	4,550,930	30.2
Melanoma of the Skin	Total	5	66,231	7.5	5.6	2.9	0.335	296	9,145,163	3.2
Melanoma of the Skin	Male	2	33,464	6.0	4.5	1.9	1.000	198	4,594,233	4.3
Melanoma of the Skin	Female	3	32,767	9.2	6.8	1.0	0.144	98	4,550,930	2.2
Myeloma	Total	2	66,231	3.0	2.1	3.3	0.719	323	9,145,163	3.5
Myeloma	Male	-	33,464	-	-	1.9	0.306	188	4,594,233	4.1
Myeloma	Female	2	32,767	6.1	4.3	1.4	0.809	135	4,550,930	3.0
Non-Hodgkin Lymphoma	Total	4	66,231	6.0	4.3	5.7	0.656	564	9,145,163	6.2
Non-Hodgkin Lymphoma	Male	1	33,464	3.0	2.2	3.1	0.383	309	4,594,233	6.7
Non-Hodgkin Lymphoma	Female	3	32,767	9.2	6.3	2.7	0.991	255	4,550,930	5.6
Oral Cavity and Pharynx	Total	4	66,231	6.0	4.4	2.7	0.571	271	9,145,163	3.0
Oral Cavity and Pharynx	Male	4	33,464	12.0	8.7	1.9	0.244	188	4,594,233	4.1
Oral Cavity and Pharynx	Female	-	32,767	-	-	0.8	0.876	83	4,550,930	1.8
Ovary	Female	2	32,767	6.1	4.4	3.6	0.613	359	4,550,930	7.9
Pancreas	Total	13	66,231	19.6	14.1	11.8	0.812	1,177	9,145,163	12.9
Pancreas	Male	6	33,464	17.9	12.9	6.5	1.000	644	4,594,233	14.0
Pancreas	Female	7	32,767	21.4	15.3	5.4	0.581	533	4,550,930	11.7
Prostate	Male	15	33,464	44.8	33.6	9.5	0.122	982	4,594,233	21.4
Stomach	Total	1	66,231	1.5	1.1	1.9	0.890	193	9,145,163	2.1
Stomach	Male	1	33,464	3.0	2.2	1.1	1.000	118	4,594,233	2.6
Stomach	Female	-	32,767	-	-	0.7	0.989	75	4,550,930	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	Shoshone 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%	95.9%
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%	9.8%
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%	55.9%
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%	.
Colorectal Cancer Screening, Age 45–75 (2022)	63.3%	61.0%	62.5%	60.8%	67.2%	65.0%	60.4%	60.2%	.
Tobacco Use									
Current Tobacco User (2020–2022)	22.1%	24.3%	20.4%	24.8%	21.3%	22.5%	22.6%	18.1%	24.0%
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%	33.2%
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%	68.7%
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%	19.7%
Home Ever Tested for Radon (2016, 2018, 2020)	22.9%	30.8%	18.3%	16.9%	25.2%	20.1%	23.0%	21.0%	29.3%

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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TETON 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 261 cases of invasive cancer were diagnosed among Teton County residents (Table 1).

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

Cancer Incidence 2017–2021	Teton County	State of Idaho
All Sites/Types	261	47,333
Female Breast	40	6,943
Prostate	35	6,766
Lung & Bronchus	18	4,959
Colorectal	15	3,632

Table 3 (*Cancer Incidence 2017–2021, Comparison between Teton 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 Teton 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 Teton County was 435.0 cases per 100,000 person-years per year during 2017–2021. Comparing this crude rate with the crude rate for the remainder of Idaho (527.0) gives an estimate of the relative burden of disease in Teton County.

The age- and sex-adjusted incidence rate of invasive cancer in Teton County, all sites combined, was 487.9 cases per 100,000 persons per year during 2017–2021. There were fewer cases of cancer in Teton County (261) than expected (281.9) 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 73 Teton 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 Teton County and the State of Idaho, 2018–2022

Mortality 2018–2022	Teton County	State of Idaho
All Deaths	280	80,538
Cancer Deaths	73	15,233
% of All Deaths	26.1%	18.9%
Lung & Bronchus	13	2,937
Colorectal	7	1,332
Pancreas	8	1,190
Female Breast	6	1,111
Prostate	2	997

Table 4 (*Cancer Mortality 2018–2022, Comparison between Teton 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 Teton 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 Teton County, all sites combined, was 149.1 deaths per 100,000 persons per year during 2018–2022, compared with 165.7 for the remainder of the state. There were fewer cancer deaths in Teton County (73) than expected (81.1) 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 TETON COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cancer Site/Type	Sex	Teton 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	261	59,994	435.0	487.9	281.9	0.222	47,072	8,932,112	527.0
All Sites Combined	Male	149	31,360	475.1	526.0	158.8	0.464	25,121	4,480,913	560.6
All Sites Combined	Female	112	28,634	391.1	439.5	125.7	0.238	21,951	4,451,199	493.1
Bladder	Total	10	59,994	16.7	21.2	11.7	0.762	2,210	8,932,112	24.7
Bladder	Male	10	31,360	31.9	38.9	10.1	1.000	1,763	4,480,913	39.3
Bladder	Female	-	28,634	-	-	2.2	0.212	447	4,451,199	10.0
Brain - malignant	Total	4	59,994	6.7	7.1	4.1	1.000	653	8,932,112	7.3
Brain - malignant	Male	4	31,360	12.8	13.1	2.6	0.521	378	4,480,913	8.4
Brain - malignant	Female	-	28,634	-	-	1.6	0.406	275	4,451,199	6.2
Brain and other CNS - non-malignant	Total	5	59,994	8.3	9.1	9.5	0.175	1,542	8,932,112	17.3
Brain and other CNS - non-malignant	Male	3	31,360	9.6	10.0	3.3	1.000	497	4,480,913	11.1
Brain and other CNS - non-malignant	Female	2	28,634	7.0	7.8	6.0	0.124	1,045	4,451,199	23.5
Breast	Total	41	59,994	68.3	71.2	44.9	0.621	6,967	8,932,112	78.0
Breast	Male	1	31,360	3.2	3.7	0.4	0.643	64	4,480,913	1.4
Breast	Female	40	28,634	139.7	148.8	41.7	0.875	6,903	4,451,199	155.1
Breast - in situ	Total	10	59,994	16.7	16.5	9.2	0.881	1,359	8,932,112	15.2
Breast - in situ	Male	-	31,360	-	-	0.0	1.000	4	4,480,913	0.1
Breast - in situ	Female	10	28,634	34.9	35.4	8.6	0.719	1,355	4,451,199	30.4
Cervix	Female	-	28,634	-	-	2.1	0.235	294	4,451,199	6.6
Colorectal	Total	15	59,994	25.0	27.8	21.8	0.165	3,617	8,932,112	40.5
Colorectal	Male	11	31,360	35.1	37.4	12.9	0.724	1,966	4,480,913	43.9
Colorectal	Female	4	28,634	14.0	16.3	9.1	0.103	1,651	4,451,199	37.1
Corpus Uteri	Female	7	28,634	24.4	26.0	8.2	0.864	1,347	4,451,199	30.3
Esophagus	Total	5	59,994	8.3	9.8	2.9	0.327	502	8,932,112	5.6
Esophagus	Male	5	31,360	15.9	18.0	2.6	0.254	424	4,480,913	9.5
Esophagus	Female	-	28,634	-	-	0.4	1.000	78	4,451,199	1.8
Hodgkin Lymphoma	Total	1	59,994	1.7	1.7	1.4	1.000	221	8,932,112	2.5
Hodgkin Lymphoma	Male	1	31,360	3.2	3.2	0.9	1.000	128	4,480,913	2.9
Hodgkin Lymphoma	Female	-	28,634	-	-	0.5	1.000	93	4,451,199	2.1
Kidney and Renal Pelvis	Total	5	59,994	8.3	9.1	11.9	0.042 <<	1,946	8,932,112	21.8
Kidney and Renal Pelvis	Male	3	31,360	9.6	10.1	8.7	0.054	1,307	4,480,913	29.2
Kidney and Renal Pelvis	Female	2	28,634	7.0	8.0	3.6	0.606	639	4,451,199	14.4
Larynx	Total	2	59,994	3.3	3.8	1.3	0.727	218	8,932,112	2.4
Larynx	Male	2	31,360	6.4	7.2	1.0	0.549	165	4,480,913	3.7
Larynx	Female	-	28,634	-	-	0.3	1.000	53	4,451,199	1.2
Leukemia	Total	13	59,994	21.7	25.3	9.9	0.393	1,714	8,932,112	19.2
Leukemia	Male	12	31,360	38.3	43.2	6.3	0.058	1,024	4,480,913	22.9
Leukemia	Female	1	28,634	3.5	4.2	3.7	0.233	690	4,451,199	15.5
Liver and Bile Duct	Total	3	59,994	5.0	5.6	5.0	0.519	840	8,932,112	9.4
Liver and Bile Duct	Male	1	31,360	3.2	3.4	3.9	0.203	593	4,480,913	13.2
Liver and Bile Duct	Female	2	28,634	7.0	8.3	1.3	0.775	247	4,451,199	5.5
Lung and Bronchus	Total	18	59,994	30.0	37.2	26.8	0.096	4,941	8,932,112	55.3
Lung and Bronchus	Male	9	31,360	28.7	34.1	14.6	0.165	2,486	4,480,913	55.5
Lung and Bronchus	Female	9	28,634	31.4	40.4	12.3	0.437	2,455	4,451,199	55.2
Melanoma of the Skin	Total	33	59,994	55.0	60.0	19.2	0.005 >>	3,111	8,932,112	34.8
Melanoma of the Skin	Male	18	31,360	57.4	62.6	12.0	0.129	1,877	4,480,913	41.9
Melanoma of the Skin	Female	15	28,634	52.4	55.4	7.5	0.021 >>	1,234	4,451,199	27.7
Myeloma	Total	4	59,994	6.7	7.9	4.1	1.000	724	8,932,112	8.1
Myeloma	Male	1	31,360	3.2	3.7	2.7	0.489	446	4,480,913	10.0
Myeloma	Female	3	28,634	10.5	12.8	1.5	0.364	278	4,451,199	6.2
Non-Hodgkin Lymphoma	Total	9	59,994	15.0	17.0	11.8	0.526	1,983	8,932,112	22.2
Non-Hodgkin Lymphoma	Male	5	31,360	15.9	17.3	7.4	0.514	1,141	4,480,913	25.5
Non-Hodgkin Lymphoma	Female	4	28,634	14.0	16.6	4.6	1.000	842	4,451,199	18.9
Oral Cavity and Pharynx	Total	6	59,994	10.0	10.8	8.1	0.595	1,309	8,932,112	14.7
Oral Cavity and Pharynx	Male	3	31,360	9.6	9.9	6.3	0.251	937	4,480,913	20.9
Oral Cavity and Pharynx	Female	3	28,634	10.5	12.0	2.1	0.696	372	4,451,199	8.4
Ovary	Female	5	28,634	17.5	19.0	3.2	0.454	548	4,451,199	12.3
Pancreas	Total	11	59,994	18.3	22.1	8.2	0.413	1,477	8,932,112	16.5
Pancreas	Male	7	31,360	22.3	25.8	5.0	0.465	819	4,480,913	18.3
Pancreas	Female	4	28,634	14.0	17.6	3.4	0.868	658	4,451,199	14.8
Prostate	Male	35	31,360	111.6	122.0	43.1	0.242	6,731	4,480,913	150.2
Stomach	Total	1	59,994	1.7	1.9	2.7	0.488	473	8,932,112	5.3
Stomach	Male	-	31,360	-	-	1.9	0.299	307	4,480,913	6.9
Stomach	Female	1	28,634	3.5	4.1	0.9	1.000	166	4,451,199	3.7
Testis	Male	1	31,360	3.2	3.0	2.0	0.800	273	4,480,913	6.1
Thyroid	Total	6	59,994	10.0	9.6	8.3	0.567	1,179	8,932,112	13.2
Thyroid	Male	2	31,360	6.4	6.2	2.7	1.000	370	4,480,913	8.3
Thyroid	Female	4	28,634	14.0	13.3	5.5	0.724	809	4,451,199	18.2
Pediatric Age 0 to 19	Total	3	15,531	19.3	19.7	2.6	0.958	422	2,483,793	17.0
Pediatric Age 0 to 19	Male	1	7,992	12.5	12.6	1.3	1.000	213	1,266,329	16.8
Pediatric Age 0 to 19	Female	2	7,539	26.5	27.5	1.3	0.711	209	1,217,464	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 TETON COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cause of Death Cancer Site/Type	Sex	Teton 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	280	61,075	458.5	601.2	408.5	0.000 <<	80,255	9,150,319	877.1
All Causes of Death	Male	159	31,945	497.7	597.6	246.8	0.000 <<	42,627	4,595,752	927.5
All Causes of Death	Female	121	29,130	415.4	599.4	166.8	0.000 <<	37,628	4,554,567	826.2
All Malignant Cancers	Total	73	61,075	119.5	149.1	81.1	0.400	15,160	9,150,319	165.7
All Malignant Cancers	Male	42	31,945	131.5	156.6	47.8	0.448	8,193	4,595,752	178.3
All Malignant Cancers	Female	31	29,130	106.4	137.7	34.4	0.632	6,967	4,554,567	153.0
Bladder	Total	3	61,075	4.9	7.0	2.2	0.780	482	9,150,319	5.3
Bladder	Male	3	31,945	9.4	12.4	2.0	0.622	372	4,595,752	8.1
Bladder	Female	-	29,130	-	-	0.5	1.000	110	4,554,567	2.4
Brain and Other Nervous System	Total	1	61,075	1.6	1.8	3.2	0.350	517	9,150,319	5.7
Brain and Other Nervous System	Male	1	31,945	3.1	3.3	1.9	0.865	288	4,595,752	6.3
Brain and Other Nervous System	Female	-	29,130	-	-	1.3	0.547	229	4,554,567	5.0
Breast	Total	7	61,075	11.5	13.6	6.3	0.881	1,117	9,150,319	12.2
Breast	Male	1	31,945	3.1	3.6	0.1	0.140	12	4,595,752	0.3
Breast	Female	6	29,130	20.6	25.3	5.8	1.000	1,105	4,554,567	24.3
Cervix	Female	1	29,130	3.4	3.3	0.6	0.885	87	4,554,567	1.9
Colorectal	Total	7	61,075	11.5	13.6	7.5	1.000	1,325	9,150,319	14.5
Colorectal	Male	3	31,945	9.4	10.3	4.6	0.649	729	4,595,752	15.9
Colorectal	Female	4	29,130	13.7	17.7	2.9	0.683	596	4,554,567	13.1
Corpus Uteri	Female	-	29,130	-	-	0.9	0.827	169	4,554,567	3.7
Esophagus	Total	2	61,075	3.3	3.9	2.6	1.000	459	9,150,319	5.0
Esophagus	Male	2	31,945	6.3	7.1	2.4	1.000	389	4,595,752	8.5
Esophagus	Female	-	29,130	-	-	0.3	1.000	70	4,554,567	1.5
Hodgkin Lymphoma	Total	-	61,075	-	-	0.1	1.000	25	9,150,319	0.3
Hodgkin Lymphoma	Male	-	31,945	-	-	0.1	1.000	14	4,595,752	0.3
Hodgkin Lymphoma	Female	-	29,130	-	-	0.1	1.000	11	4,554,567	0.2
Kidney	Total	1	61,075	1.6	2.1	2.0	0.801	385	9,150,319	4.2
Kidney	Male	-	31,945	-	-	1.4	0.469	246	4,595,752	5.4
Kidney	Female	1	29,130	3.4	4.9	0.6	0.934	139	4,554,567	3.1
Larynx	Total	-	61,075	-	-	0.4	1.000	76	9,150,319	0.8
Larynx	Male	-	31,945	-	-	0.4	1.000	65	4,595,752	1.4
Larynx	Female	-	29,130	-	-	0.1	1.000	11	4,554,567	0.2
Leukemia	Total	4	61,075	6.5	8.7	3.3	0.852	661	9,150,319	7.2
Leukemia	Male	4	31,945	12.5	15.6	2.2	0.356	393	4,595,752	8.6
Leukemia	Female	-	29,130	-	-	1.2	0.590	268	4,554,567	5.9
Liver and Bile Duct	Total	2	61,075	3.3	3.8	3.6	0.597	633	9,150,319	6.9
Liver and Bile Duct	Male	1	31,945	3.1	3.5	2.7	0.512	422	4,595,752	9.2
Liver and Bile Duct	Female	1	29,130	3.4	4.3	1.1	1.000	211	4,554,567	4.6
Lung and Bronchus	Total	13	61,075	21.3	27.1	15.3	0.669	2,924	9,150,319	32.0
Lung and Bronchus	Male	8	31,945	25.0	30.0	8.9	0.939	1,533	4,595,752	33.4
Lung and Bronchus	Female	5	29,130	17.2	23.2	6.6	0.716	1,391	4,554,567	30.5
Melanoma of the Skin	Total	4	61,075	6.5	7.8	1.7	0.174	297	9,150,319	3.2
Melanoma of the Skin	Male	2	31,945	6.3	7.2	1.2	0.669	198	4,595,752	4.3
Melanoma of the Skin	Female	2	29,130	6.9	8.4	0.5	0.192	99	4,554,567	2.2
Myeloma	Total	3	61,075	4.9	6.6	1.6	0.436	322	9,150,319	3.5
Myeloma	Male	-	31,945	-	-	1.0	0.706	188	4,595,752	4.1
Myeloma	Female	3	29,130	10.3	14.7	0.6	0.047 >>	134	4,554,567	2.9
Non-Hodgkin Lymphoma	Total	2	61,075	3.3	4.3	2.9	0.909	566	9,150,319	6.2
Non-Hodgkin Lymphoma	Male	2	31,945	6.3	7.6	1.8	1.000	308	4,595,752	6.7
Non-Hodgkin Lymphoma	Female	-	29,130	-	-	1.1	0.639	258	4,554,567	5.7
Oral Cavity and Pharynx	Total	3	61,075	4.9	5.8	1.5	0.405	272	9,150,319	3.0
Oral Cavity and Pharynx	Male	2	31,945	6.3	7.0	1.2	0.657	190	4,595,752	4.1
Oral Cavity and Pharynx	Female	1	29,130	3.4	4.2	0.4	0.697	82	4,554,567	1.8
Ovary	Female	1	29,130	3.4	4.2	1.9	0.885	360	4,554,567	7.9
Pancreas	Total	8	61,075	13.1	16.0	6.4	0.637	1,182	9,150,319	12.9
Pancreas	Male	6	31,945	18.8	21.8	3.9	0.387	644	4,595,752	14.0
Pancreas	Female	2	29,130	6.9	8.9	2.7	1.000	538	4,554,567	11.8
Prostate	Male	2	31,945	6.3	8.4	5.2	0.224	995	4,595,752	21.7
Stomach	Total	-	61,075	-	-	1.1	0.655	194	9,150,319	2.1
Stomach	Male	-	31,945	-	-	0.7	0.971	119	4,595,752	2.6
Stomach	Female	-	29,130	-	-	0.4	1.000	75	4,554,567	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	Teton County
<u>Access to Care</u>									
Have Health Insurance, Age < 65 (2021–2022)	90.0%	89.3%	87.8%	86.4%	92.6%	87.2%	89.1%	92.6%	90.0%
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%	10.4%
<u>Cancer Screening</u>									
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%	72.0%
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%	.
Colorectal Cancer Screening, Age 45–75 (2022)	63.3%	61.0%	62.5%	60.8%	67.2%	65.0%	60.4%	60.2%	.
<u>Tobacco Use</u>									
Current Tobacco User (2020–2022)	22.1%	24.3%	20.4%	24.8%	21.3%	22.5%	22.6%	18.1%	18.4%
<u>Other Cancer-Related</u>									
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%	39.4%
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%	88.3%
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%	20.4%
Home Ever Tested for Radon (2016, 2018, 2020)	22.9%	30.8%	18.3%	16.9%	25.2%	20.1%	23.0%	21.0%	40.9%

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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TWIN FALLS 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 2,192 cases of invasive cancer were diagnosed among Twin Falls County residents (Table 1).

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

Cancer Incidence 2017–2021	Twin Falls County	State of Idaho
All Sites/Types	2,192	47,333
Female Breast	278	6,943
Prostate	238	6,766
Lung & Bronchus	247	4,959
Colorectal	168	3,632

Table 3 (*Cancer Incidence 2017–2021, Comparison between Twin Falls 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 Twin Falls 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 Twin Falls County was 498.7 cases per 100,000 person-years per year during 2017–2021. Comparing this crude rate with the crude rate for the remainder of Idaho (527.8) gives an estimate of the relative burden of disease in Twin Falls County.

The age- and sex-adjusted incidence rate of invasive cancer in Twin Falls County, all sites combined, was 515.6 cases per 100,000 persons per year during 2017–2021. There were fewer cases of cancer in Twin Falls County (2,192) than expected (2,244.1) 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 776 Twin Falls 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 Twin Falls County and the State of Idaho, 2018–2022

Mortality 2018–2022	Twin Falls County	State of Idaho
All Deaths	4,527	80,538
Cancer Deaths	776	15,233
% of All Deaths	17.1%	18.9%
Lung & Bronchus	144	2,937
Colorectal	62	1,332
Pancreas	52	1,190
Female Breast	41	1,111
Prostate	63	997

Table 4 (*Cancer Mortality 2018–2022, Comparison between Twin Falls 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 Twin Falls 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 Twin Falls County, all sites combined, was 174.3 deaths per 100,000 persons per year during 2018–2022, compared with 165.0 for the remainder of the state. There were more cancer deaths in Twin Falls County (776) than expected (734.3) 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 TWIN FALLS COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cancer Site/Type	Sex	Twin Falls 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	2,192	439,500	498.7	515.6	2,244.1	0.276	45,141	8,552,606	527.8
All Sites Combined	Male	1,160	217,016	534.5	559.5	1,163.9	0.926	24,110	4,295,257	561.3
All Sites Combined	Female	1,032	222,484	463.9	476.9	1,069.1	0.263	21,031	4,257,349	494.0
Bladder	Total	120	439,500	27.3	27.7	106.2	0.200	2,100	8,552,606	24.6
Bladder	Male	105	217,016	48.4	50.2	81.3	0.013 >>	1,668	4,295,257	38.8
Bladder	Female	15	222,484	6.7	6.8	22.4	0.134	432	4,257,349	10.1
Brain - malignant	Total	29	439,500	6.6	6.7	31.6	0.732	628	8,552,606	7.3
Brain - malignant	Male	17	217,016	7.8	8.1	17.9	0.960	365	4,295,257	8.5
Brain - malignant	Female	12	222,484	5.4	5.5	13.6	0.801	263	4,257,349	6.2
Brain and other CNS - non-malignant	Total	65	439,500	14.8	15.2	74.3	0.304	1,482	8,552,606	17.3
Brain and other CNS - non-malignant	Male	20	217,016	9.2	9.5	23.5	0.554	480	4,295,257	11.2
Brain and other CNS - non-malignant	Female	45	222,484	20.2	20.6	51.4	0.415	1,002	4,257,349	23.5
Breast	Total	280	439,500	63.7	66.6	330.9	0.005 <<	6,728	8,552,606	78.7
Breast	Male	2	217,016	0.9	1.0	3.1	0.808	63	4,295,257	1.5
Breast	Female	278	222,484	125.0	130.6	333.3	0.002 <<	6,665	4,257,349	156.6
Breast - in situ	Total	35	439,500	8.0	8.5	64.6	0.000 <<	1,334	8,552,606	15.6
Breast - in situ	Male	-	217,016	-	-	0.2	1.000	4	4,295,257	0.1
Breast - in situ	Female	35	222,484	15.7	16.8	65.2	0.000 <<	1,330	4,257,349	31.2
Cervix	Female	8	222,484	3.6	3.7	14.5	0.099	286	4,257,349	6.7
Colorectal	Total	168	439,500	38.2	39.3	173.0	0.739	3,464	8,552,606	40.5
Colorectal	Male	95	217,016	43.8	45.7	91.1	0.713	1,882	4,295,257	43.8
Colorectal	Female	73	222,484	32.8	33.3	81.5	0.377	1,582	4,257,349	37.2
Corpus Uteri	Female	86	222,484	38.7	40.7	62.9	0.006 >>	1,268	4,257,349	29.8
Esophagus	Total	27	439,500	6.1	6.3	23.9	0.584	480	8,552,606	5.6
Esophagus	Male	21	217,016	9.7	10.1	19.7	0.830	408	4,295,257	9.5
Esophagus	Female	6	222,484	2.7	2.7	3.7	0.343	72	4,257,349	1.7
Hodgkin Lymphoma	Total	14	439,500	3.2	3.3	10.4	0.336	208	8,552,606	2.4
Hodgkin Lymphoma	Male	12	217,016	5.5	5.7	5.7	0.029 >>	117	4,295,257	2.7
Hodgkin Lymphoma	Female	2	222,484	0.9	0.9	4.7	0.309	91	4,257,349	2.1
Kidney and Renal Pelvis	Total	75	439,500	17.1	17.7	93.0	0.063	1,876	8,552,606	21.9
Kidney and Renal Pelvis	Male	50	217,016	23.0	24.1	60.8	0.179	1,260	4,295,257	29.3
Kidney and Renal Pelvis	Female	25	222,484	11.2	11.5	31.4	0.291	616	4,257,349	14.5
Larynx	Total	10	439,500	2.3	2.4	10.4	1.000	210	8,552,606	2.5
Larynx	Male	5	217,016	2.3	2.4	7.8	0.413	162	4,295,257	3.8
Larynx	Female	5	222,484	2.2	2.3	2.4	0.193	48	4,257,349	1.1
Leukemia	Total	105	439,500	23.9	24.3	82.1	0.017 >>	1,622	8,552,606	19.0
Leukemia	Male	57	217,016	26.3	27.0	48.1	0.228	979	4,295,257	22.8
Leukemia	Female	48	222,484	21.6	21.7	33.4	0.020 >>	643	4,257,349	15.1
Liver and Bile Duct	Total	29	439,500	6.6	6.9	40.0	0.087	814	8,552,606	9.5
Liver and Bile Duct	Male	20	217,016	9.2	9.8	27.4	0.179	574	4,295,257	13.4
Liver and Bile Duct	Female	9	222,484	4.0	4.2	12.2	0.449	240	4,257,349	5.6
Lung and Bronchus	Total	247	439,500	56.2	57.6	236.2	0.498	4,712	8,552,606	55.1
Lung and Bronchus	Male	138	217,016	63.6	66.4	114.0	0.032 >>	2,357	4,295,257	54.9
Lung and Bronchus	Female	109	222,484	49.0	49.6	121.5	0.274	2,355	4,257,349	55.3
Melanoma of the Skin	Total	152	439,500	34.6	35.5	149.6	0.868	2,992	8,552,606	35.0
Melanoma of the Skin	Male	89	217,016	41.0	42.6	87.9	0.935	1,806	4,295,257	42.0
Melanoma of the Skin	Female	63	222,484	28.3	29.1	60.3	0.759	1,186	4,257,349	27.9
Myeloma	Total	35	439,500	8.0	8.2	34.6	0.994	693	8,552,606	8.1
Myeloma	Male	22	217,016	10.1	10.6	20.6	0.817	425	4,295,257	9.9
Myeloma	Female	13	222,484	5.8	6.0	13.7	0.994	268	4,257,349	6.3
Non-Hodgkin Lymphoma	Total	114	439,500	25.9	26.7	93.6	0.045 >>	1,878	8,552,606	22.0
Non-Hodgkin Lymphoma	Male	59	217,016	27.2	28.4	52.6	0.409	1,087	4,295,257	25.3
Non-Hodgkin Lymphoma	Female	55	222,484	24.7	25.2	40.6	0.036 >>	791	4,257,349	18.6
Oral Cavity and Pharynx	Total	68	439,500	15.5	16.2	61.1	0.411	1,247	8,552,606	14.6
Oral Cavity and Pharynx	Male	45	217,016	20.7	21.9	42.8	0.773	895	4,295,257	20.8
Oral Cavity and Pharynx	Female	23	222,484	10.3	10.7	17.8	0.273	352	4,257,349	8.3
Ovary	Female	36	222,484	16.2	16.8	26.0	0.074	517	4,257,349	12.1
Pancreas	Total	72	439,500	16.4	16.8	71.1	0.948	1,416	8,552,606	16.6
Pancreas	Male	48	217,016	22.1	23.0	37.7	0.120	778	4,295,257	18.1
Pancreas	Female	24	222,484	10.8	10.9	33.0	0.128	638	4,257,349	15.0
Prostate	Male	238	217,016	109.7	116.5	310.4	0.000 <<	6,528	4,295,257	152.0
Stomach	Total	16	439,500	3.6	3.7	23.0	0.162	458	8,552,606	5.4
Stomach	Male	6	217,016	2.8	2.9	14.6	0.020 <<	301	4,295,257	7.0
Stomach	Female	10	222,484	4.5	4.5	8.2	0.612	157	4,257,349	3.7
Testis	Male	21	217,016	9.7	9.8	12.7	0.040 >>	253	4,295,257	5.9
Thyroid	Total	50	439,500	11.4	11.7	56.5	0.428	1,135	8,552,606	13.3
Thyroid	Male	17	217,016	7.8	8.1	17.3	1.000	355	4,295,257	8.3
Thyroid	Female	33	222,484	14.8	15.3	39.5	0.342	780	4,257,349	18.3
Pediatric Age 0 to 19	Total	29	130,236	22.3	22.5	21.6	0.145	396	2,369,088	16.7
Pediatric Age 0 to 19	Male	18	66,041	27.3	27.3	10.7	0.051	196	1,208,280	16.2
Pediatric Age 0 to 19	Female	11	64,195	17.1	17.5	10.8	1.000	200	1,160,808	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 TWIN FALLS COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cause of Death Cancer Site/Type	Sex	Twin Falls 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	4,527	447,757	1,011.0	990.6	3,963.5	0.000 >>	76,008	8,763,637	867.3
All Causes of Death	Male	2,378	221,372	1,074.2	1,097.4	1,987.3	0.000 >>	40,408	4,406,325	917.0
All Causes of Death	Female	2,149	226,385	949.3	895.9	1,959.7	0.000 >>	35,600	4,357,312	817.0
All Malignant Cancers	Total	776	447,757	173.3	174.3	734.3	0.131	14,457	8,763,637	165.0
All Malignant Cancers	Male	432	221,372	195.1	201.6	379.5	0.009 >>	7,803	4,406,325	177.1
All Malignant Cancers	Female	344	226,385	152.0	150.3	349.6	0.793	6,654	4,357,312	152.7
Bladder	Total	26	447,757	5.8	5.6	24.1	0.759	459	8,763,637	5.2
Bladder	Male	20	221,372	9.0	9.2	17.6	0.624	355	4,406,325	8.1
Bladder	Female	6	226,385	2.7	2.5	5.7	1.000	104	4,357,312	2.4
Brain and Other Nervous System	Total	19	447,757	4.2	4.4	24.8	0.288	499	8,763,637	5.7
Brain and Other Nervous System	Male	7	221,372	3.2	3.3	13.6	0.079	282	4,406,325	6.4
Brain and Other Nervous System	Female	12	226,385	5.3	5.4	11.1	0.867	217	4,357,312	5.0
Breast	Total	41	447,757	9.2	9.2	55.0	0.060	1,083	8,763,637	12.4
Breast	Male	-	221,372	-	-	0.6	1.000	13	4,406,325	0.3
Breast	Female	41	226,385	18.1	18.0	56.0	0.045 <<	1,070	4,357,312	24.6
Cervix	Female	4	226,385	1.8	1.8	4.2	1.000	84	4,357,312	1.9
Colorectal	Total	62	447,757	13.8	14.0	64.3	0.836	1,270	8,763,637	14.5
Colorectal	Male	39	221,372	17.6	18.3	33.6	0.390	693	4,406,325	15.7
Colorectal	Female	23	226,385	10.2	10.0	30.6	0.191	577	4,357,312	13.2
Corpus Uteri	Female	10	226,385	4.4	4.5	8.1	0.591	159	4,357,312	3.6
Esophagus	Total	20	447,757	4.5	4.6	22.0	0.772	441	8,763,637	5.0
Esophagus	Male	13	221,372	5.9	6.1	18.2	0.266	378	4,406,325	8.6
Esophagus	Female	7	226,385	3.1	3.1	3.3	0.102	63	4,357,312	1.4
Hodgkin Lymphoma	Total	-	447,757	-	-	1.2	0.574	25	8,763,637	0.3
Hodgkin Lymphoma	Male	-	221,372	-	-	0.7	1.000	14	4,406,325	0.3
Hodgkin Lymphoma	Female	-	226,385	-	-	0.6	1.000	11	4,357,312	0.3
Kidney	Total	25	447,757	5.6	5.6	18.3	0.159	361	8,763,637	4.1
Kidney	Male	18	221,372	8.1	8.4	11.0	0.066	228	4,406,325	5.2
Kidney	Female	7	226,385	3.1	3.0	7.1	1.000	133	4,357,312	3.1
Larynx	Total	3	447,757	0.7	0.7	3.7	1.000	73	8,763,637	0.8
Larynx	Male	3	221,372	1.4	1.4	3.0	1.000	62	4,406,325	1.4
Larynx	Female	-	226,385	-	-	0.5	1.000	11	4,357,312	0.3
Leukemia	Total	40	447,757	8.9	8.8	32.2	0.207	625	8,763,637	7.1
Leukemia	Male	28	221,372	12.6	12.9	18.1	0.038 >>	369	4,406,325	8.4
Leukemia	Female	12	226,385	5.3	5.1	13.7	0.769	256	4,357,312	5.9
Liver and Bile Duct	Total	30	447,757	6.7	6.9	30.1	1.000	605	8,763,637	6.9
Liver and Bile Duct	Male	21	221,372	9.5	9.9	19.3	0.752	402	4,406,325	9.1
Liver and Bile Duct	Female	9	226,385	4.0	4.0	10.5	0.797	203	4,357,312	4.7
Lung and Bronchus	Total	144	447,757	32.2	32.5	141.1	0.829	2,793	8,763,637	31.9
Lung and Bronchus	Male	80	221,372	36.1	37.6	70.6	0.292	1,461	4,406,325	33.2
Lung and Bronchus	Female	64	226,385	28.3	28.0	69.9	0.527	1,332	4,357,312	30.6
Melanoma of the Skin	Total	13	447,757	2.9	2.9	14.6	0.798	288	8,763,637	3.3
Melanoma of the Skin	Male	7	221,372	3.2	3.3	9.4	0.553	193	4,406,325	4.4
Melanoma of the Skin	Female	6	226,385	2.7	2.6	5.0	0.762	95	4,357,312	2.2
Myeloma	Total	20	447,757	4.5	4.5	15.6	0.326	305	8,763,637	3.5
Myeloma	Male	10	221,372	4.5	4.6	8.7	0.745	178	4,406,325	4.0
Myeloma	Female	10	226,385	4.4	4.3	6.8	0.291	127	4,357,312	2.9
Non-Hodgkin Lymphoma	Total	36	447,757	8.0	8.0	27.3	0.126	532	8,763,637	6.1
Non-Hodgkin Lymphoma	Male	20	221,372	9.0	9.3	14.1	0.165	290	4,406,325	6.6
Non-Hodgkin Lymphoma	Female	16	226,385	7.1	6.8	13.1	0.484	242	4,357,312	5.6
Oral Cavity and Pharynx	Total	18	447,757	4.0	4.1	12.8	0.197	257	8,763,637	2.9
Oral Cavity and Pharynx	Male	11	221,372	5.0	5.2	8.7	0.516	181	4,406,325	4.1
Oral Cavity and Pharynx	Female	7	226,385	3.1	3.1	3.9	0.204	76	4,357,312	1.7
Ovary	Female	24	226,385	10.6	10.7	17.3	0.148	337	4,357,312	7.7
Pancreas	Total	52	447,757	11.6	11.8	57.1	0.550	1,138	8,763,637	13.0
Pancreas	Male	32	221,372	14.5	15.1	29.8	0.734	618	4,406,325	14.0
Pancreas	Female	20	226,385	8.8	8.8	27.1	0.198	520	4,357,312	11.9
Prostate	Male	63	221,372	28.5	28.9	46.2	0.022 >>	934	4,406,325	21.2
Stomach	Total	7	447,757	1.6	1.6	9.5	0.543	187	8,763,637	2.1
Stomach	Male	4	221,372	1.8	1.9	5.6	0.685	115	4,406,325	2.6
Stomach	Female	3	226,385	1.3	1.3	3.7	0.971	72	4,357,312	1.7

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	Twin Falls 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%	89.7%
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%	11.2%
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%	58.1%
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%	66.3%
Colorectal Cancer Screening, Age 45–75 (2022)	63.3%	61.0%	62.5%	60.8%	67.2%	65.0%	60.4%	60.2%	67.8%
Tobacco Use									
Current Tobacco User (2020–2022)	22.1%	24.3%	20.4%	24.8%	21.3%	22.5%	22.6%	18.1%	24.9%
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%	26.2%
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%	76.1%
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%	20.8%
Home Ever Tested for Radon (2016, 2018, 2020)	22.9%	30.8%	18.3%	16.9%	25.2%	20.1%	23.0%	21.0%	16.9%

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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VALLEY 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 410 cases of invasive cancer were diagnosed among Valley County residents (Table 1).

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

Cancer Incidence 2017–2021	Valley County	State of Idaho
All Sites/Types	410	47,333
Female Breast	58	6,943
Prostate	94	6,766
Lung & Bronchus	29	4,959
Colorectal	27	3,632

Table 3 (*Cancer Incidence 2017–2021, Comparison between Valley 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 Valley 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 Valley County was 716.1 cases per 100,000 person-years per year during 2017–2021. Comparing this crude rate with the crude rate for the remainder of Idaho (525.2) gives an estimate of the relative burden of disease in Valley County.

The age- and sex-adjusted incidence rate of invasive cancer in Valley County, all sites combined, was 500.5 cases per 100,000 persons per year during 2017–2021. There were fewer cases of cancer in Valley County (410) than expected (430.2) 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 113 Valley 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 Valley County and the State of Idaho, 2018–2022

Mortality 2018–2022	Valley County	State of Idaho
All Deaths	434	80,538
Cancer Deaths	113	15,233
% of All Deaths	26.0%	18.9%
Lung & Bronchus	18	2,937
Colorectal	8	1,332
Pancreas	9	1,190
Female Breast	7	1,111
Prostate	10	997

Table 4 (*Cancer Mortality 2018–2022, Comparison between Valley 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 Valley 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 Valley County, all sites combined, was 134.7 deaths per 100,000 persons per year during 2018–2022, compared with 165.2 for the remainder of the state. There were statistically significantly fewer cancer deaths in Valley County (113) than expected (138.6) based upon rates in the remainder of the state ($p=.029$).

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 VALLEY COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cancer Site/Type	Sex	Valley 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	410	57,253	716.1	500.5	430.2	0.342	46,923	8,934,853	525.2
All Sites Combined	Male	252	29,534	853.3	548.2	256.5	0.809	25,018	4,482,739	558.1
All Sites Combined	Female	158	27,719	570.0	429.9	180.8	0.092	21,905	4,452,114	492.0
Bladder	Total	20	57,253	34.9	23.7	20.8	0.979	2,200	8,934,853	24.6
Bladder	Male	16	29,534	54.2	33.7	18.6	0.646	1,757	4,482,739	39.2
Bladder	Female	4	27,719	14.4	10.6	3.8	1.000	443	4,452,114	10.0
Brain - malignant	Total	4	57,253	7.0	5.4	5.4	0.752	653	8,934,853	7.3
Brain - malignant	Male	2	29,534	6.8	5.0	3.4	0.695	380	4,482,739	8.5
Brain - malignant	Female	2	27,719	7.2	5.9	2.1	1.000	273	4,452,114	6.1
Brain and other CNS - non-malignant	Total	6	57,253	10.5	7.8	13.3	0.045 <<	1,541	8,934,853	17.2
Brain and other CNS - non-malignant	Male	2	29,534	6.8	4.9	4.6	0.335	498	4,482,739	11.1
Brain and other CNS - non-malignant	Female	4	27,719	14.4	11.2	8.3	0.163	1,043	4,452,114	23.4
Breast	Total	58	57,253	101.3	71.9	62.8	0.599	6,950	8,934,853	77.8
Breast	Male	-	29,534	-	-	0.6	1.000	65	4,482,739	1.5
Breast	Female	58	27,719	209.2	155.2	57.8	1.000	6,885	4,452,114	154.6
Breast - in situ	Total	8	57,253	14.0	9.8	12.4	0.260	1,361	8,934,853	15.2
Breast - in situ	Male	-	29,534	-	-	0.0	1.000	4	4,482,739	0.1
Breast - in situ	Female	8	27,719	28.9	21.0	11.6	0.365	1,357	4,452,114	30.5
Cervix	Female	4	27,719	14.4	12.6	2.1	0.308	290	4,452,114	6.5
Colorectal	Total	27	57,253	47.2	33.9	32.1	0.423	3,605	8,934,853	40.3
Colorectal	Male	19	29,534	64.3	43.4	19.1	1.000	1,958	4,482,739	43.7
Colorectal	Female	8	27,719	28.9	22.2	13.3	0.173	1,647	4,452,114	37.0
Corpus Uteri	Female	7	27,719	25.3	18.2	11.6	0.214	1,347	4,452,114	30.3
Esophagus	Total	5	57,253	8.7	6.0	4.7	1.000	502	8,934,853	5.6
Esophagus	Male	4	29,534	13.5	8.6	4.4	1.000	425	4,482,739	9.5
Esophagus	Female	1	27,719	3.6	2.7	0.6	0.942	77	4,452,114	1.7
Hodgkin Lymphoma	Total	3	57,253	5.2	4.9	1.5	0.387	219	8,934,853	2.5
Hodgkin Lymphoma	Male	3	29,534	10.2	8.8	1.0	0.147	126	4,482,739	2.8
Hodgkin Lymphoma	Female	-	27,719	-	-	0.6	1.000	93	4,452,114	2.1
Kidney and Renal Pelvis	Total	16	57,253	27.9	19.7	17.6	0.829	1,935	8,934,853	21.7
Kidney and Renal Pelvis	Male	11	29,534	37.2	24.9	12.8	0.742	1,299	4,482,739	29.0
Kidney and Renal Pelvis	Female	5	27,719	18.0	13.5	5.3	1.000	636	4,452,114	14.3
Larynx	Total	1	57,253	1.7	1.2	2.0	0.790	219	8,934,853	2.5
Larynx	Male	1	29,534	3.4	2.2	1.7	0.991	166	4,482,739	3.7
Larynx	Female	-	27,719	-	-	0.5	1.000	53	4,452,114	1.2
Leukemia	Total	13	57,253	22.7	16.5	15.1	0.706	1,714	8,934,853	19.2
Leukemia	Male	8	29,534	27.1	18.4	10.0	0.669	1,028	4,482,739	22.9
Leukemia	Female	5	27,719	18.0	14.0	5.5	1.000	686	4,452,114	15.4
Liver and Bile Duct	Total	5	57,253	8.7	5.8	8.1	0.361	838	8,934,853	9.4
Liver and Bile Duct	Male	4	29,534	13.5	8.4	6.3	0.503	590	4,482,739	13.2
Liver and Bile Duct	Female	1	27,719	3.6	2.6	2.2	0.730	248	4,452,114	5.6
Lung and Bronchus	Total	29	57,253	50.7	33.7	47.4	0.006 <<	4,930	8,934,853	55.2
Lung and Bronchus	Male	10	29,534	33.9	20.7	26.8	0.000 <<	2,485	4,482,739	55.4
Lung and Bronchus	Female	19	27,719	68.5	49.4	21.1	0.750	2,445	4,452,114	54.9
Melanoma of the Skin	Total	38	57,253	66.4	48.2	27.4	0.063	3,106	8,934,853	34.8
Melanoma of the Skin	Male	22	29,534	74.5	49.7	18.5	0.472	1,873	4,482,739	41.8
Melanoma of the Skin	Female	16	27,719	57.7	45.2	9.8	0.084	1,233	4,452,114	27.7
Myeloma	Total	8	57,253	14.0	9.5	6.8	0.734	720	8,934,853	8.1
Myeloma	Male	6	29,534	20.3	13.0	4.5	0.606	441	4,482,739	9.8
Myeloma	Female	2	27,719	7.2	5.2	2.4	1.000	279	4,452,114	6.3
Non-Hodgkin Lymphoma	Total	16	57,253	27.9	19.8	17.9	0.767	1,976	8,934,853	22.1
Non-Hodgkin Lymphoma	Male	12	29,534	40.6	27.0	11.3	0.902	1,134	4,482,739	25.3
Non-Hodgkin Lymphoma	Female	4	27,719	14.4	10.9	7.0	0.355	842	4,452,114	18.9
Oral Cavity and Pharynx	Total	18	57,253	31.4	21.5	12.1	0.137	1,297	8,934,853	14.5
Oral Cavity and Pharynx	Male	15	29,534	50.8	33.0	9.4	0.109	925	4,482,739	20.6
Oral Cavity and Pharynx	Female	3	27,719	10.8	7.9	3.2	1.000	372	4,452,114	8.4
Ovary	Female	3	27,719	10.8	8.2	4.5	0.679	550	4,452,114	12.4
Pancreas	Total	9	57,253	15.7	10.8	13.8	0.237	1,479	8,934,853	16.6
Pancreas	Male	4	29,534	13.5	8.6	8.5	0.145	822	4,482,739	18.3
Pancreas	Female	5	27,719	18.0	13.3	5.5	1.000	657	4,452,114	14.8
Prostate	Male	94	29,534	318.3	192.2	72.8	0.019 >>	6,672	4,482,739	148.8
Stomach	Total	1	57,253	1.7	1.2	4.3	0.147	473	8,934,853	5.3
Stomach	Male	1	29,534	3.4	2.2	3.1	0.369	306	4,482,739	6.8
Stomach	Female	-	27,719	-	-	1.3	0.532	167	4,452,114	3.8
Testis	Male	2	29,534	6.8	7.6	1.6	0.942	272	4,482,739	6.1
Thyroid	Total	2	57,253	3.5	3.0	8.9	0.013 <<	1,183	8,934,853	13.2
Thyroid	Male	-	29,534	-	-	3.3	0.077	372	4,482,739	8.3
Thyroid	Female	2	27,719	7.2	6.4	5.7	0.159	811	4,452,114	18.2
Pediatric Age 0 to 19	Total	1	11,117	9.0	9.1	1.9	0.882	424	2,488,207	17.0
Pediatric Age 0 to 19	Male	1	5,694	17.6	17.6	1.0	1.000	213	1,268,627	16.8
Pediatric Age 0 to 19	Female	-	5,423	-	-	0.9	0.799	211	1,219,580	17.3

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 VALLEY COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cause of Death Cancer Site/Type	Sex	Valley 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	434	59,017	735.4	556.4	682.6	0.000 <<	80,101	9,152,377	875.2
All Causes of Death	Male	256	30,464	840.3	573.5	413.0	0.000 <<	42,530	4,597,233	925.1
All Causes of Death	Female	178	28,553	623.4	526.2	279.0	0.000 <<	37,571	4,555,144	824.8
All Malignant Cancers	Total	113	59,017	191.5	134.7	138.6	0.029 <<	15,120	9,152,377	165.2
All Malignant Cancers	Male	62	30,464	203.5	130.4	84.5	0.013 <<	8,173	4,597,233	177.8
All Malignant Cancers	Female	51	28,553	178.6	136.9	56.8	0.489	6,947	4,555,144	152.5
Bladder	Total	5	59,017	8.5	6.2	4.2	0.830	480	9,152,377	5.2
Bladder	Male	3	30,464	9.8	6.4	3.8	0.949	372	4,597,233	8.1
Bladder	Female	2	28,553	7.0	5.8	0.8	0.400	108	4,555,144	2.4
Brain and Other Nervous System	Total	6	59,017	10.2	7.3	4.6	0.624	512	9,152,377	5.6
Brain and Other Nervous System	Male	5	30,464	16.4	11.2	2.8	0.291	284	4,597,233	6.2
Brain and Other Nervous System	Female	1	28,553	3.5	2.7	1.9	0.879	228	4,555,144	5.0
Breast	Total	7	59,017	11.9	8.6	9.9	0.454	1,117	9,152,377	12.2
Breast	Male	-	30,464	-	-	0.1	1.000	13	4,597,233	0.3
Breast	Female	7	28,553	24.5	19.1	8.9	0.675	1,104	4,555,144	24.2
Cervix	Female	1	28,553	3.5	2.8	0.7	0.982	87	4,555,144	1.9
Colorectal	Total	8	59,017	13.6	9.8	11.8	0.332	1,324	9,152,377	14.5
Colorectal	Male	3	30,464	9.8	6.6	7.3	0.139	729	4,597,233	15.9
Colorectal	Female	5	28,553	17.5	13.8	4.7	1.000	595	4,555,144	13.1
Corpus Uteri	Female	1	28,553	3.5	2.5	1.5	1.000	168	4,555,144	3.7
Esophagus	Total	-	59,017	-	-	4.4	0.025 <<	461	9,152,377	5.0
Esophagus	Male	-	30,464	-	-	4.1	0.032 <<	391	4,597,233	8.5
Esophagus	Female	-	28,553	-	-	0.6	1.000	70	4,555,144	1.5
Hodgkin Lymphoma	Total	-	59,017	-	-	0.2	1.000	25	9,152,377	0.3
Hodgkin Lymphoma	Male	-	30,464	-	-	0.1	1.000	14	4,597,233	0.3
Hodgkin Lymphoma	Female	-	28,553	-	-	0.1	1.000	11	4,555,144	0.2
Kidney	Total	-	59,017	-	-	3.6	0.054	386	9,152,377	4.2
Kidney	Male	-	30,464	-	-	2.6	0.150	246	4,597,233	5.4
Kidney	Female	-	28,553	-	-	1.2	0.629	140	4,555,144	3.1
Larynx	Total	2	59,017	3.4	2.4	0.7	0.299	74	9,152,377	0.8
Larynx	Male	1	30,464	3.3	2.1	0.6	0.956	64	4,597,233	1.4
Larynx	Female	1	28,553	3.5	2.4	0.1	0.175	10	4,555,144	0.2
Leukemia	Total	6	59,017	10.2	7.4	5.9	1.000	659	9,152,377	7.2
Leukemia	Male	4	30,464	13.1	8.6	4.0	1.000	393	4,597,233	8.5
Leukemia	Female	2	28,553	7.0	5.6	2.1	1.000	266	4,555,144	5.8
Liver and Bile Duct	Total	4	59,017	6.8	4.5	6.1	0.550	631	9,152,377	6.9
Liver and Bile Duct	Male	3	30,464	9.8	6.1	4.5	0.686	420	4,597,233	9.1
Liver and Bile Duct	Female	1	28,553	3.5	2.6	1.8	0.925	211	4,555,144	4.6
Lung and Bronchus	Total	18	59,017	30.5	20.7	27.7	0.068	2,919	9,152,377	31.9
Lung and Bronchus	Male	7	30,464	23.0	14.2	16.4	0.015 <<	1,534	4,597,233	33.4
Lung and Bronchus	Female	11	28,553	38.5	28.7	11.7	1.000	1,385	4,555,144	30.4
Melanoma of the Skin	Total	3	59,017	5.1	3.7	2.6	0.988	298	9,152,377	3.3
Melanoma of the Skin	Male	1	30,464	3.3	2.2	2.0	0.821	199	4,597,233	4.3
Melanoma of the Skin	Female	2	28,553	7.0	5.5	0.8	0.373	99	4,555,144	2.2
Myeloma	Total	4	59,017	6.8	4.7	3.0	0.695	321	9,152,377	3.5
Myeloma	Male	2	30,464	6.6	4.1	2.0	1.000	186	4,597,233	4.0
Myeloma	Female	2	28,553	7.0	5.4	1.1	0.608	135	4,555,144	3.0
Non-Hodgkin Lymphoma	Total	7	59,017	11.9	8.5	5.0	0.487	561	9,152,377	6.1
Non-Hodgkin Lymphoma	Male	5	30,464	16.4	10.7	3.1	0.403	305	4,597,233	6.6
Non-Hodgkin Lymphoma	Female	2	28,553	7.0	5.6	2.0	1.000	256	4,555,144	5.6
Oral Cavity and Pharynx	Total	2	59,017	3.4	2.3	2.6	1.000	273	9,152,377	3.0
Oral Cavity and Pharynx	Male	2	30,464	6.6	4.1	2.0	1.000	190	4,597,233	4.1
Oral Cavity and Pharynx	Female	-	28,553	-	-	0.7	0.996	83	4,555,144	1.8
Ovary	Female	-	28,553	-	-	3.1	0.093	361	4,555,144	7.9
Pancreas	Total	9	59,017	15.2	10.4	11.2	0.639	1,181	9,152,377	12.9
Pancreas	Male	4	30,464	13.1	8.2	6.9	0.369	646	4,597,233	14.1
Pancreas	Female	5	28,553	17.5	13.0	4.5	0.941	535	4,555,144	11.7
Prostate	Male	10	30,464	32.8	21.2	10.1	1.000	987	4,597,233	21.5
Stomach	Total	1	59,017	1.7	1.3	1.7	1.000	193	9,152,377	2.1
Stomach	Male	1	30,464	3.3	2.2	1.2	1.000	118	4,597,233	2.6
Stomach	Female	-	28,553	-	-	0.6	1.000	75	4,555,144	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	Valley County
<u>Access to Care</u>									
Have Health Insurance, Age < 65 (2021–2022)	90.0%	89.3%	87.8%	86.4%	92.6%	87.2%	89.1%	92.6%	.
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%	10.0%
<u>Cancer Screening</u>									
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%	60.5%
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%	.
Colorectal Cancer Screening, Age 45–75 (2022)	63.3%	61.0%	62.5%	60.8%	67.2%	65.0%	60.4%	60.2%	.
<u>Tobacco Use</u>									
Current Tobacco User (2020–2022)	22.1%	24.3%	20.4%	24.8%	21.3%	22.5%	22.6%	18.1%	23.2%
<u>Other Cancer-Related</u>									
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%	44.0%
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%	80.7%
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%	26.3%
Home Ever Tested for Radon (2016, 2018, 2020)	22.9%	30.8%	18.3%	16.9%	25.2%	20.1%	23.0%	21.0%	29.9%

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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WASHINGTON 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 416 cases of invasive cancer were diagnosed among Washington County residents (Table 1).

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

Cancer Incidence 2017–2021	Washington County	State of Idaho
All Sites/Types	416	47,333
Female Breast	59	6,943
Prostate	57	6,766
Lung & Bronchus	45	4,959
Colorectal	48	3,632

Table 3 (*Cancer Incidence 2017–2021, Comparison between Washington 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 Washington 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 Washington County was 807.8 cases per 100,000 person-years per year during 2017–2021. Comparing this crude rate with the crude rate for the remainder of Idaho (524.8) gives an estimate of the relative burden of disease in Washington County.

The age- and sex-adjusted incidence rate of invasive cancer in Washington County, all sites combined, was 581.5 cases per 100,000 persons per year during 2017–2021. There were statistically significantly more cases of cancer in Washington County (416) than expected (375.4) based upon rates in the remainder of the state ($p=.041$).

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 134 Washington 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 Washington County and the State of Idaho, 2018–2022

Mortality 2018–2022	Washington County	State of Idaho
All Deaths	749	80,538
Cancer Deaths	134	15,233
% of All Deaths	17.9%	18.9%
Lung & Bronchus	28	2,937
Colorectal	12	1,332
Pancreas	15	1,190
Female Breast	6	1,111
Prostate	5	997

Table 4 (*Cancer Mortality 2018–2022, Comparison between Washington 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 Washington 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 Washington County, all sites combined, was 171.2 deaths per 100,000 persons per year during 2018–2022, compared with 164.9 for the remainder of the state. There were more cancer deaths in Washington County (134) than expected (129.1) 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 WASHINGTON COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cancer Site/Type	Sex	Washington 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	416	51,498	807.8	581.5	375.4	0.041 >>	46,917	8,940,608	524.8
All Sites Combined	Male	220	25,645	857.9	580.6	211.6	0.580	25,050	4,486,628	558.3
All Sites Combined	Female	196	25,853	758.1	577.7	166.6	0.028 >>	21,867	4,453,980	491.0
Bladder	Total	17	51,498	33.0	21.7	19.3	0.698	2,203	8,940,608	24.6
Bladder	Male	14	25,645	54.6	33.8	16.2	0.695	1,759	4,486,628	39.2
Bladder	Female	3	25,853	11.6	8.1	3.7	0.992	444	4,453,980	10.0
Brain - malignant	Total	2	51,498	3.9	3.1	4.7	0.297	655	8,940,608	7.3
Brain - malignant	Male	-	25,645	-	-	2.8	0.123	382	4,486,628	8.5
Brain - malignant	Female	2	25,853	7.7	6.2	2.0	1.000	273	4,453,980	6.1
Brain and other CNS - non-malignant	Total	13	51,498	25.2	19.1	11.7	0.778	1,534	8,940,608	17.2
Brain and other CNS - non-malignant	Male	5	25,645	19.5	14.5	3.8	0.662	495	4,486,628	11.0
Brain and other CNS - non-malignant	Female	8	25,853	30.9	23.9	7.8	1.000	1,039	4,453,980	23.3
Breast	Total	59	51,498	114.6	86.6	52.9	0.439	6,949	8,940,608	77.7
Breast	Male	-	25,645	-	-	0.6	1.000	65	4,486,628	1.4
Breast	Female	59	25,853	228.2	177.6	51.4	0.318	6,884	4,453,980	154.6
Breast - in situ	Total	8	51,498	15.5	12.1	10.1	0.653	1,361	8,940,608	15.2
Breast - in situ	Male	-	25,645	-	-	0.0	1.000	4	4,486,628	0.1
Breast - in situ	Female	8	25,853	30.9	24.7	9.9	0.693	1,357	4,453,980	30.5
Cervix	Female	2	25,853	7.7	7.6	1.7	1.000	292	4,453,980	6.6
Colorectal	Total	48	51,498	93.2	67.6	28.4	0.001 >>	3,584	8,940,608	40.1
Colorectal	Male	25	25,645	97.5	68.8	15.8	0.039 >>	1,952	4,486,628	43.5
Colorectal	Female	23	25,853	89.0	66.3	12.7	0.012 >>	1,632	4,453,980	36.6
Corpus Uteri	Female	8	25,853	30.9	24.1	10.0	0.655	1,346	4,453,980	30.2
Esophagus	Total	8	51,498	15.5	10.7	4.2	0.123	499	8,940,608	5.6
Esophagus	Male	6	25,645	23.4	15.5	3.6	0.325	423	4,486,628	9.4
Esophagus	Female	2	25,853	7.7	5.5	0.6	0.255	76	4,453,980	1.7
Hodgkin Lymphoma	Total	1	51,498	1.9	1.8	1.3	1.000	221	8,940,608	2.5
Hodgkin Lymphoma	Male	1	25,645	3.9	3.5	0.8	1.000	128	4,486,628	2.9
Hodgkin Lymphoma	Female	-	25,853	-	-	0.5	1.000	93	4,453,980	2.1
Kidney and Renal Pelvis	Total	16	51,498	31.1	22.7	15.3	0.917	1,935	8,940,608	21.6
Kidney and Renal Pelvis	Male	12	25,645	46.8	33.1	10.5	0.719	1,298	4,486,628	28.9
Kidney and Renal Pelvis	Female	4	25,853	15.5	11.6	4.9	0.909	637	4,453,980	14.3
Larynx	Total	4	51,498	7.8	5.4	1.8	0.211	216	8,940,608	2.4
Larynx	Male	3	25,645	11.7	7.7	1.4	0.342	164	4,486,628	3.7
Larynx	Female	1	25,853	3.9	2.9	0.4	0.661	52	4,453,980	1.2
Leukemia	Total	20	51,498	38.8	27.7	13.8	0.135	1,707	8,940,608	19.1
Leukemia	Male	10	25,645	39.0	26.7	8.6	0.711	1,026	4,486,628	22.9
Leukemia	Female	10	25,853	38.7	28.7	5.3	0.091	681	4,453,980	15.3
Liver and Bile Duct	Total	12	51,498	23.3	16.5	6.8	0.086	831	8,940,608	9.3
Liver and Bile Duct	Male	6	25,645	23.4	16.1	4.9	0.728	588	4,486,628	13.1
Liver and Bile Duct	Female	6	25,853	23.2	16.9	1.9	0.029 >>	243	4,453,980	5.5
Lung and Bronchus	Total	45	51,498	87.4	57.9	42.7	0.764	4,914	8,940,608	55.0
Lung and Bronchus	Male	19	25,645	74.1	46.6	22.5	0.542	2,476	4,486,628	55.2
Lung and Bronchus	Female	26	25,853	100.6	69.9	20.4	0.257	2,438	4,453,980	54.7
Melanoma of the Skin	Total	15	51,498	29.1	21.7	24.2	0.064	3,129	8,940,608	35.0
Melanoma of the Skin	Male	10	25,645	39.0	26.9	15.6	0.184	1,885	4,486,628	42.0
Melanoma of the Skin	Female	5	25,853	19.3	15.7	8.9	0.243	1,244	4,453,980	27.9
Myeloma	Total	8	51,498	15.5	10.6	6.1	0.533	720	8,940,608	8.1
Myeloma	Male	6	25,645	23.4	15.3	3.9	0.387	441	4,486,628	9.8
Myeloma	Female	2	25,853	7.7	5.5	2.3	1.000	279	4,453,980	6.3
Non-Hodgkin Lymphoma	Total	21	51,498	40.8	29.3	15.8	0.240	1,971	8,940,608	22.0
Non-Hodgkin Lymphoma	Male	14	25,645	54.6	38.1	9.3	0.176	1,132	4,486,628	25.2
Non-Hodgkin Lymphoma	Female	7	25,853	27.1	20.0	6.6	0.978	839	4,453,980	18.8
Oral Cavity and Pharynx	Total	6	51,498	11.7	8.5	10.3	0.224	1,309	8,940,608	14.6
Oral Cavity and Pharynx	Male	3	25,645	11.7	8.3	7.5	0.118	937	4,486,628	20.9
Oral Cavity and Pharynx	Female	3	25,853	11.6	8.7	2.9	1.000	372	4,453,980	8.4
Ovary	Female	1	25,853	3.9	3.0	4.1	0.168	552	4,453,980	12.4
Pancreas	Total	14	51,498	27.2	18.4	12.5	0.748	1,474	8,940,608	16.5
Pancreas	Male	11	25,645	42.9	27.8	7.2	0.227	815	4,486,628	18.2
Pancreas	Female	3	25,853	11.6	8.2	5.4	0.425	659	4,453,980	14.8
Prostate	Male	57	25,645	222.3	148.3	57.5	1.000	6,709	4,486,628	149.5
Stomach	Total	3	51,498	5.8	4.1	3.9	0.922	471	8,940,608	5.3
Stomach	Male	3	25,645	11.7	7.8	2.6	0.966	304	4,486,628	6.8
Stomach	Female	-	25,853	-	-	1.3	0.541	167	4,453,980	3.7
Testis	Male	2	25,645	7.8	9.4	1.3	0.738	272	4,486,628	6.1
Thyroid	Total	5	51,498	9.7	9.0	7.3	0.520	1,180	8,940,608	13.2
Thyroid	Male	2	25,645	7.8	6.4	2.6	1.000	370	4,486,628	8.2
Thyroid	Female	3	25,853	11.6	11.4	4.8	0.591	810	4,453,980	18.2
Pediatric Age 0 to 19	Total	2	12,875	15.5	15.5	2.2	1.000	423	2,486,449	17.0
Pediatric Age 0 to 19	Male	1	6,461	15.5	15.5	1.1	1.000	213	1,267,860	16.8
Pediatric Age 0 to 19	Female	1	6,414	15.6	15.5	1.1	1.000	210	1,218,589	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 WASHINGTON COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cause of Death Cancer Site/Type	Sex	Washington 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	749	52,530	1,425.9	958.8	680.5	0.010 >>	79,786	9,158,864	871.1
All Causes of Death	Male	389	26,206	1,484.4	961.2	372.9	0.417	42,397	4,601,491	921.4
All Causes of Death	Female	360	26,324	1,367.6	948.8	311.3	0.007 >>	37,389	4,557,373	820.4
All Malignant Cancers	Total	134	52,530	255.1	171.2	129.1	0.686	15,099	9,158,864	164.9
All Malignant Cancers	Male	67	26,206	255.7	161.4	73.7	0.477	8,168	4,601,491	177.5
All Malignant Cancers	Female	67	26,324	254.5	180.2	56.6	0.191	6,931	4,557,373	152.1
Bladder	Total	4	52,530	7.6	4.8	4.4	1.000	481	9,158,864	5.3
Bladder	Male	2	26,206	7.6	4.5	3.6	0.603	373	4,601,491	8.1
Bladder	Female	2	26,324	7.6	5.1	0.9	0.479	108	4,557,373	2.4
Brain and Other Nervous System	Total	1	52,530	1.9	1.4	4.0	0.187	517	9,158,864	5.6
Brain and Other Nervous System	Male	1	26,206	3.8	2.8	2.3	0.676	288	4,601,491	6.3
Brain and Other Nervous System	Female	-	26,324	-	-	1.7	0.355	229	4,557,373	5.0
Breast	Total	6	52,530	11.4	8.0	9.2	0.378	1,118	9,158,864	12.2
Breast	Male	-	26,206	-	-	0.1	1.000	13	4,601,491	0.3
Breast	Female	6	26,324	22.8	16.6	8.8	0.455	1,105	4,557,373	24.2
Cervix	Female	-	26,324	-	-	0.6	1.000	88	4,557,373	1.9
Colorectal	Total	12	52,530	22.8	15.9	10.9	0.819	1,320	9,158,864	14.4
Colorectal	Male	5	26,206	19.1	12.9	6.1	0.847	727	4,601,491	15.8
Colorectal	Female	7	26,324	26.6	19.0	4.8	0.420	593	4,557,373	13.0
Corpus Uteri	Female	2	26,324	7.6	5.4	1.4	0.787	167	4,557,373	3.7
Esophagus	Total	4	52,530	7.6	5.2	3.9	1.000	457	9,158,864	5.0
Esophagus	Male	3	26,206	11.4	7.4	3.4	1.000	388	4,601,491	8.4
Esophagus	Female	1	26,324	3.8	2.7	0.6	0.865	69	4,557,373	1.5
Hodgkin Lymphoma	Total	-	52,530	-	-	0.2	1.000	25	9,158,864	0.3
Hodgkin Lymphoma	Male	-	26,206	-	-	0.1	1.000	14	4,601,491	0.3
Hodgkin Lymphoma	Female	-	26,324	-	-	0.1	1.000	11	4,557,373	0.2
Kidney	Total	1	52,530	1.9	1.3	3.3	0.306	385	9,158,864	4.2
Kidney	Male	1	26,206	3.8	2.4	2.2	0.710	245	4,601,491	5.3
Kidney	Female	-	26,324	-	-	1.2	0.608	140	4,557,373	3.1
Larynx	Total	2	52,530	3.8	2.6	0.6	0.265	74	9,158,864	0.8
Larynx	Male	2	26,206	7.6	4.7	0.6	0.231	63	4,601,491	1.4
Larynx	Female	-	26,324	-	-	0.1	1.000	11	4,557,373	0.2
Leukemia	Total	4	52,530	7.6	5.0	5.8	0.638	661	9,158,864	7.2
Leukemia	Male	1	26,206	3.8	2.4	3.6	0.243	396	4,601,491	8.6
Leukemia	Female	3	26,324	11.4	7.9	2.2	0.757	265	4,557,373	5.8
Liver and Bile Duct	Total	11	52,530	20.9	14.4	5.2	0.036 >>	624	9,158,864	6.8
Liver and Bile Duct	Male	6	26,206	22.9	15.1	3.6	0.311	417	4,601,491	9.1
Liver and Bile Duct	Female	5	26,324	19.0	13.5	1.7	0.057	207	4,557,373	4.5
Lung and Bronchus	Total	28	52,530	53.3	35.0	25.4	0.661	2,909	9,158,864	31.8
Lung and Bronchus	Male	12	26,206	45.8	28.5	14.0	0.720	1,529	4,601,491	33.2
Lung and Bronchus	Female	16	26,324	60.8	41.9	11.6	0.253	1,380	4,557,373	30.3
Melanoma of the Skin	Total	1	52,530	1.9	1.3	2.5	0.581	300	9,158,864	3.3
Melanoma of the Skin	Male	1	26,206	3.8	2.5	1.7	0.961	199	4,601,491	4.3
Melanoma of the Skin	Female	-	26,324	-	-	0.8	0.905	101	4,557,373	2.2
Myeloma	Total	5	52,530	9.5	6.1	2.9	0.323	320	9,158,864	3.5
Myeloma	Male	4	26,206	15.3	9.2	1.7	0.197	184	4,601,491	4.0
Myeloma	Female	1	26,324	3.8	2.6	1.2	1.000	136	4,557,373	3.0
Non-Hodgkin Lymphoma	Total	9	52,530	17.1	11.2	4.9	0.124	559	9,158,864	6.1
Non-Hodgkin Lymphoma	Male	4	26,206	15.3	9.6	2.8	0.608	306	4,601,491	6.7
Non-Hodgkin Lymphoma	Female	5	26,324	19.0	12.9	2.1	0.134	253	4,557,373	5.6
Oral Cavity and Pharynx	Total	1	52,530	1.9	1.3	2.3	0.670	274	9,158,864	3.0
Oral Cavity and Pharynx	Male	-	26,206	-	-	1.7	0.379	192	4,601,491	4.2
Oral Cavity and Pharynx	Female	1	26,324	3.8	2.7	0.7	0.964	82	4,557,373	1.8
Ovary	Female	2	26,324	7.6	5.4	2.9	0.889	359	4,557,373	7.9
Pancreas	Total	15	52,530	28.6	19.1	10.1	0.173	1,175	9,158,864	12.8
Pancreas	Male	11	26,206	42.0	26.7	5.7	0.065	639	4,601,491	13.9
Pancreas	Female	4	26,324	15.2	10.7	4.4	1.000	536	4,557,373	11.8
Prostate	Male	5	26,206	19.1	11.2	9.7	0.163	992	4,601,491	21.6
Stomach	Total	2	52,530	3.8	2.7	1.6	0.923	192	9,158,864	2.1
Stomach	Male	1	26,206	3.8	2.5	1.0	1.000	118	4,601,491	2.6
Stomach	Female	1	26,324	3.8	2.9	0.6	0.854	74	4,557,373	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	Washington County
<u>Access to Care</u>									
Have Health Insurance, Age < 65 (2021–2022)	90.0%	89.3%	87.8%	86.4%	92.6%	87.2%	89.1%	92.6%	.
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%	11.6%
<u>Cancer Screening</u>									
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%	66.2%
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%	.
Colorectal Cancer Screening, Age 45–75 (2022)	63.3%	61.0%	62.5%	60.8%	67.2%	65.0%	60.4%	60.2%	.
<u>Tobacco Use</u>									
Current Tobacco User (2020–2022)	22.1%	24.3%	20.4%	24.8%	21.3%	22.5%	22.6%	18.1%	27.6%
<u>Other Cancer-Related</u>									
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%	28.5%
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%	68.7%
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%	23.5%
Home Ever Tested for Radon (2016, 2018, 2020)	22.9%	30.8%	18.3%	16.9%	25.2%	20.1%	23.0%	21.0%	14.1%

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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