CANCER COUNTY PROFILES
2016–2020 Incidence Years

March 2023

A Publication of the
Cancer Data Registry of Idaho

Editors:

Christopher J. Johnson, MPH, Epidemiologist
Bożena M. Morawski, PhD, MPH, Epidemiologist

Contributors:

Randi K. Rycroft, MSPH, CTR, Registry Manager
Denise Jozwik, RHIT, CTR, Director of Data Quality
Teresa Chapple, CTR, Data Quality & Collection Coordinator
Shannon Makinen, RHIT, CTR, Data Quality & Collection Coordinator
Tessa Morrison, CTR, Data Quality & Collection Coordinator
Patti Rose, RHIT, CTR, Data Quality & Collection Coordinator
Regina Eck, Database Administrator

CANCER DATA REGISTRY OF IDAHO
P.O. Box 1278
Boise, Idaho 83701-1278
Phone: 208-489-1380
https://www.idcancer.org

ADA COUNTY CANCER PROFILE

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

Cancer Incidence 2016–2020
Cancer Mortality 2017–2021
BRFSS 2011–2021

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.2016.3332). 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 2016–2020

Nearly one in two Idahoans are estimated to develop cancer during their lifetime. During 2016–2020, 45,610 cases of invasive cancer were diagnosed among Idaho residents, and 11,968 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, 2016–2020

Cancer Incidence 2016–2020	Ada County	State of Idaho
All Sites/Types	**11,968**	**45,610**
Female Breast	**1,983**	**6,687**
Prostate	**1,744**	**6,417**
Lung & Bronchus	**1,167**	**4,887**
Colorectal	**780**	**3,451**

Table 3 (*Cancer Incidence 2016–2020, 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 509.8 cases per 100,000 person-years per year during 2016–2020. Comparing this crude rate with the crude rate for the remainder of Idaho (523.7) 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 540.8 cases per 100,000 persons per year during 2016–2020. There were statistically significantly more cases of cancer in Ada County (11,968) than expected (11,588.4) 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 2017–2021

During 2017–2021, cancer was the second leading cause of death in Idaho; 15,121 Idaho residents and 3,650 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, 2017–2021

Mortality 2017–2021	Ada County	State of Idaho
All Deaths	**17,582**	**77,431**
Cancer Deaths	**3,650**	**15,121**
% of All Deaths	*20.8%*	*19.5%*
Lung & Bronchus	**677**	**2,961**
Colorectal	**283**	**1,319**
Pancreas	**306**	**1,190**
Female Breast	**298**	**1,086**
Prostate	**200**	**949**

Table 4 (*Cancer Mortality 2017–2021, 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 164.3 deaths per 100,000 persons per year during 2017–2021, compared with 174.5 for the remainder of the state. There were statistically significantly fewer cancer deaths in Ada County (3,650) than expected (3,875.8) 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 2016–2020
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	11,968	2,347,363	509.8	540.8	11,588.4	0.000 >>	33,642	6,424,465	523.7
All Sites Combined	Male	6,199	1,175,230	527.5	582.6	5,974.1	0.004 >>	18,090	3,221,680	561.5
All Sites Combined	Female	5,769	1,172,133	492.2	504.9	5,548.0	0.003 >>	15,552	3,202,785	485.6
Bladder	Total	575	2,347,363	24.5	27.1	530.6	0.059	1,609	6,424,465	25.0
Bladder	Male	446	1,175,230	38.0	43.8	412.7	0.109	1,305	3,221,680	40.5
Bladder	Female	129	1,172,133	11.0	11.7	104.6	0.023 >>	304	3,202,785	9.5
Brain - malignant	Total	168	2,347,363	7.2	7.4	162.5	0.684	457	6,424,465	7.1
Brain - malignant	Male	101	1,175,230	8.6	8.9	96.4	0.664	274	3,221,680	8.5
Brain - malignant	Female	67	1,172,133	5.7	5.8	65.5	0.887	183	3,202,785	5.7
Brain and other CNS - non-malignant	Total	365	2,347,363	15.5	16.1	373.6	0.682	1,059	6,424,465	16.5
Brain and other CNS - non-malignant	Male	119	1,175,230	10.1	10.6	126.3	0.552	361	3,221,680	11.2
Brain and other CNS - non-malignant	Female	246	1,172,133	21.0	21.5	249.7	0.848	698	3,202,785	21.8
Breast	Total	2,004	2,347,363	85.4	87.7	1,686.1	0.000 >>	4,742	6,424,465	73.8
Breast	Male	21	1,175,230	1.8	2.0	12.2	0.027 >>	38	3,221,680	1.2
Breast	Female	1,983	1,172,133	169.2	171.1	1,701.9	0.000 >>	4,704	3,202,785	146.9
Breast - in situ	Total	415	2,347,363	17.7	17.9	296.9	0.000 >>	824	6,424,465	12.8
Breast - in situ	Male	1	1,175,230	0.1	0.1	1.4	1.000	4	3,221,680	0.1
Breast - in situ	Female	414	1,172,133	35.3	35.4	299.7	0.000 >>	820	3,202,785	25.6
Cervix	Female	57	1,172,133	4.9	4.5	97.7	0.000 <<	247	3,202,785	7.7
Colorectal	Total	780	2,347,363	33.2	35.0	927.8	0.000 <<	2,671	6,424,465	41.6
Colorectal	Male	405	1,175,230	34.5	37.0	508.7	0.000 <<	1,498	3,221,680	46.5
Colorectal	Female	375	1,172,133	32.0	33.0	415.7	0.046 <<	1,173	3,202,785	36.6
Corpus Uteri	Female	322	1,172,133	27.5	28.0	362.5	0.033 <<	1,008	3,202,785	31.5
Esophagus	Total	127	2,347,363	5.4	5.9	127.9	0.984	379	6,424,465	5.9
Esophagus	Male	106	1,175,230	9.0	10.1	104.1	0.877	318	3,221,680	9.9
Esophagus	Female	21	1,172,133	1.8	1.9	21.1	1.000	61	3,202,785	1.9
Hodgkin Lymphoma	Total	74	2,347,363	3.2	3.2	49.5	0.001 >>	136	6,424,465	2.1
Hodgkin Lymphoma	Male	38	1,175,230	3.2	3.2	29.1	0.130	80	3,221,680	2.5
Hodgkin Lymphoma	Female	36	1,172,133	3.1	3.1	20.3	0.002 >>	56	3,202,785	1.7
Kidney and Renal Pelvis	Total	424	2,347,363	18.1	18.9	484.8	0.005 <<	1,391	6,424,465	21.7
Kidney and Renal Pelvis	Male	281	1,175,230	23.9	25.5	307.8	0.130	901	3,221,680	28.0
Kidney and Renal Pelvis	Female	143	1,172,133	12.2	12.6	173.5	0.019 <<	490	3,202,785	15.3
Larynx	Total	44	2,347,363	1.9	2.0	57.8	0.072	171	6,424,465	2.7
Larynx	Male	34	1,175,230	2.9	3.2	41.0	0.309	126	3,221,680	3.9
Larynx	Female	10	1,172,133	0.9	0.9	15.7	0.174	45	3,202,785	1.4
Leukemia	Total	421	2,347,363	17.9	19.3	410.7	0.623	1,210	6,424,465	18.8
Leukemia	Male	250	1,175,230	21.3	23.5	244.2	0.726	739	3,221,680	22.9
Leukemia	Female	171	1,172,133	14.6	15.4	163.7	0.588	471	3,202,785	14.7
Liver and Bile Duct	Total	210	2,347,363	8.9	9.6	210.8	0.990	619	6,424,465	9.6
Liver and Bile Duct	Male	147	1,175,230	12.5	13.8	146.8	1.000	443	3,221,680	13.8
Liver and Bile Duct	Female	63	1,172,133	5.4	5.6	61.4	0.876	176	3,202,785	5.5
Lung and Bronchus	Total	1,167	2,347,363	49.7	54.9	1,231.0	0.069	3,720	6,424,465	57.9
Lung and Bronchus	Male	541	1,175,230	46.0	52.8	608.2	0.006 <<	1,911	3,221,680	59.3
Lung and Bronchus	Female	626	1,172,133	53.4	57.1	618.9	0.785	1,809	3,202,785	56.5
Melanoma of the Skin	Total	916	2,347,363	39.0	40.5	712.7	0.000 >>	2,026	6,424,465	31.5
Melanoma of the Skin	Male	550	1,175,230	46.8	50.8	408.1	0.000 >>	1,215	3,221,680	37.7
Melanoma of the Skin	Female	366	1,172,133	31.2	31.1	297.7	0.000 >>	811	3,202,785	25.3
Myeloma	Total	181	2,347,363	7.7	8.4	176.8	0.775	527	6,424,465	8.2
Myeloma	Male	112	1,175,230	9.5	10.7	106.5	0.621	329	3,221,680	10.2
Myeloma	Female	69	1,172,133	5.9	6.2	68.7	1.000	198	3,202,785	6.2
Non-Hodgkin Lymphoma	Total	490	2,347,363	20.9	22.3	496.3	0.800	1,450	6,424,465	22.6
Non-Hodgkin Lymphoma	Male	299	1,175,230	25.4	27.8	277.3	0.204	830	3,221,680	25.8
Non-Hodgkin Lymphoma	Female	191	1,172,133	16.3	17.0	216.9	0.080	620	3,202,785	19.4
Oral Cavity and Pharynx	Total	337	2,347,363	14.4	15.1	332.9	0.835	958	6,424,465	14.9
Oral Cavity and Pharynx	Male	232	1,175,230	19.7	21.2	238.8	0.688	704	3,221,680	21.9
Oral Cavity and Pharynx	Female	105	1,172,133	9.0	9.2	90.2	0.139	254	3,202,785	7.9
Ovary	Female	123	1,172,133	10.5	10.7	147.8	0.041 <<	410	3,202,785	12.8
Pancreas	Total	356	2,347,363	15.2	16.5	358.4	0.925	1,067	6,424,465	16.6
Pancreas	Male	189	1,175,230	16.1	18.0	193.5	0.780	595	3,221,680	18.5
Pancreas	Female	167	1,172,133	14.2	15.1	163.0	0.776	472	3,202,785	14.7
Prostate	Male	1,744	1,175,230	148.4	166.1	1,523.4	0.000 >>	4,673	3,221,680	145.0
Stomach	Total	111	2,347,363	4.7	5.1	121.3	0.373	356	6,424,465	5.5
Stomach	Male	73	1,175,230	6.2	6.9	77.2	0.685	236	3,221,680	7.3
Stomach	Female	38	1,172,133	3.2	3.3	42.6	0.537	120	3,202,785	3.7
Testis	Male	79	1,175,230	6.7	6.2	73.7	0.563	186	3,221,680	5.8
Thyroid	Total	336	2,347,363	14.3	13.8	335.1	0.975	884	6,424,465	13.8
Thyroid	Male	92	1,175,230	7.8	7.8	96.5	0.691	263	3,221,680	8.2
Thyroid	Female	244	1,172,133	20.8	19.9	237.9	0.711	621	3,202,785	19.4
Pediatric Age 0 to 19	Total	116	613,273	18.9	19.0	101.0	0.154	305	1,847,250	16.5
Pediatric Age 0 to 19	Male	56	313,621	17.9	17.9	55.3	0.959	167	942,889	17.7
Pediatric Age 0 to 19	Female	60	299,652	20.0	20.1	45.7	0.048 >>	138	904,361	15.3

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 2017–2021
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	17,582	2,414,365	728.2	790.5	20,247.8	0.000 <<	59,848	6,574,350	910.3
All Causes of Death	Male	9,010	1,210,250	744.5	828.7	10,553.5	0.000 <<	32,046	3,301,618	970.6
All Causes of Death	Female	8,572	1,204,115	711.9	757.0	9,619.7	0.000 <<	27,802	3,272,732	849.5
All Malignant Cancers	Total	3,650	2,414,365	151.2	164.3	3,875.8	0.000 <<	11,471	6,574,350	174.5
All Malignant Cancers	Male	1,868	1,210,250	154.3	174.3	2,047.0	0.000 <<	6,308	3,301,618	191.1
All Malignant Cancers	Female	1,782	1,204,115	148.0	155.8	1,804.1	0.614	5,163	3,272,732	157.8
Bladder	Total	121	2,414,365	5.0	5.6	120.6	0.996	368	6,574,350	5.6
Bladder	Male	87	1,210,250	7.2	8.4	91.2	0.711	291	3,301,618	8.8
Bladder	Female	34	1,204,115	2.8	3.1	26.1	0.156	77	3,272,732	2.4
Brain and Other Nervous System	Total	131	2,414,365	5.4	5.7	131.4	1.000	373	6,574,350	5.7
Brain and Other Nervous System	Male	76	1,210,250	6.3	6.7	76.4	1.000	222	3,301,618	6.7
Brain and Other Nervous System	Female	55	1,204,115	4.6	4.7	54.3	0.958	151	3,272,732	4.6
Breast	Total	302	2,414,365	12.5	13.2	277.5	0.152	800	6,574,350	12.2
Breast	Male	4	1,210,250	0.3	0.4	3.8	1.000	12	3,301,618	0.4
Breast	Female	298	1,204,115	24.7	25.6	280.2	0.302	788	3,272,732	24.1
Cervix	Female	23	1,204,115	1.9	1.8	23.1	1.000	60	3,272,732	1.8
Colorectal	Total	283	2,414,365	11.7	12.5	356.1	0.000 <<	1,036	6,574,350	15.8
Colorectal	Male	147	1,210,250	12.1	13.2	192.5	0.001 <<	572	3,301,618	17.3
Colorectal	Female	136	1,204,115	11.3	11.9	162.4	0.037 <<	464	3,272,732	14.2
Corpus Uteri	Female	55	1,204,115	4.6	4.8	41.2	0.046 >>	118	3,272,732	3.6
Esophagus	Total	123	2,414,365	5.1	5.5	120.4	0.837	354	6,574,350	5.4
Esophagus	Male	102	1,210,250	8.4	9.3	98.8	0.774	299	3,301,618	9.1
Esophagus	Female	21	1,204,115	1.7	1.9	19.0	0.704	55	3,272,732	1.7
Hodgkin Lymphoma	Total	8	2,414,365	0.3	0.4	7.2	0.852	21	6,574,350	0.3
Hodgkin Lymphoma	Male	5	1,210,250	0.4	0.5	2.9	0.330	9	3,301,618	0.3
Hodgkin Lymphoma	Female	3	1,204,115	0.2	0.3	4.3	0.767	12	3,272,732	0.4
Kidney	Total	92	2,414,365	3.8	4.2	98.0	0.589	293	6,574,350	4.5
Kidney	Male	60	1,210,250	5.0	5.6	59.1	0.945	182	3,301,618	5.5
Kidney	Female	32	1,204,115	2.7	2.9	38.0	0.376	111	3,272,732	3.4
Larynx	Total	19	2,414,365	0.8	0.9	17.5	0.791	52	6,574,350	0.8
Larynx	Male	14	1,210,250	1.2	1.3	14.3	1.000	44	3,301,618	1.3
Larynx	Female	5	1,204,115	0.4	0.4	2.8	0.314	8	3,272,732	0.2
Leukemia	Total	183	2,414,365	7.6	8.3	159.3	0.071	477	6,574,350	7.3
Leukemia	Male	94	1,210,250	7.8	8.8	94.2	1.000	292	3,301,618	8.8
Leukemia	Female	89	1,204,115	7.4	7.9	63.6	0.003 >>	185	3,272,732	5.7
Liver and Bile Duct	Total	148	2,414,365	6.1	6.6	154.3	0.648	455	6,574,350	6.9
Liver and Bile Duct	Male	100	1,210,250	8.3	9.2	101.1	0.964	308	3,301,618	9.3
Liver and Bile Duct	Female	48	1,204,115	4.0	4.2	51.3	0.712	147	3,272,732	4.5
Lung and Bronchus	Total	677	2,414,365	28.0	30.8	763.7	0.002 <<	2,284	6,574,350	34.7
Lung and Bronchus	Male	341	1,210,250	28.2	32.1	390.7	0.011 <<	1,215	3,301,618	36.8
Lung and Bronchus	Female	336	1,204,115	27.9	29.7	369.6	0.082	1,069	3,272,732	32.7
Melanoma of the Skin	Total	79	2,414,365	3.3	3.5	71.7	0.421	210	6,574,350	3.2
Melanoma of the Skin	Male	52	1,210,250	4.3	4.8	45.9	0.401	140	3,301,618	4.2
Melanoma of the Skin	Female	27	1,204,115	2.2	2.3	24.9	0.723	70	3,272,732	2.1
Myeloma	Total	90	2,414,365	3.7	4.2	79.3	0.252	241	6,574,350	3.7
Myeloma	Male	45	1,210,250	3.7	4.3	47.7	0.771	151	3,301,618	4.6
Myeloma	Female	45	1,204,115	3.7	4.0	30.7	0.018 >>	90	3,272,732	2.7
Non-Hodgkin Lymphoma	Total	117	2,414,365	4.8	5.4	149.9	0.006 <<	452	6,574,350	6.9
Non-Hodgkin Lymphoma	Male	64	1,210,250	5.3	6.0	78.0	0.121	243	3,301,618	7.4
Non-Hodgkin Lymphoma	Female	53	1,204,115	4.4	4.7	71.4	0.028 <<	209	3,272,732	6.4
Oral Cavity and Pharynx	Total	67	2,414,365	2.8	3.0	67.8	0.986	199	6,574,350	3.0
Oral Cavity and Pharynx	Male	51	1,210,250	4.2	4.7	44.7	0.379	136	3,301,618	4.1
Oral Cavity and Pharynx	Female	16	1,204,115	1.3	1.4	22.3	0.213	63	3,272,732	1.9
Ovary	Female	85	1,204,115	7.1	7.4	93.2	0.428	265	3,272,732	8.1
Pancreas	Total	306	2,414,365	12.7	13.8	297.9	0.655	884	6,574,350	13.4
Pancreas	Male	160	1,210,250	13.2	14.9	156.9	0.825	482	3,301,618	14.6
Pancreas	Female	146	1,204,115	12.1	12.8	139.6	0.610	402	3,272,732	12.3
Prostate	Male	200	1,210,250	16.5	19.4	233.5	0.028 <<	749	3,301,618	22.7
Stomach	Total	50	2,414,365	2.1	2.2	51.4	0.921	148	6,574,350	2.3
Stomach	Male	25	1,210,250	2.1	2.3	31.9	0.255	96	3,301,618	2.9
Stomach	Female	25	1,204,115	2.1	2.1	18.9	0.203	52	3,272,732	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, 2020.

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 (BRFS) since 1984. These surveys are conducted with randomly selected adult Idahoans to measure population prevalences of risk factors for the major causes of death, including cancer. DPH provided data sets containing Behavioral Risk Factor Surveillance System (BRFSS) data from 2011 through 2021 to CDRI staff, who performed the analyses reported in these *County Profiles*. Analysis weights were poststratified to 2020 population estimates by age group, sex, and county, beginning with the BRFSS raked weights. Not all questions were asked in all years. 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* 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, 2011–2021

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 (2015–2021)	83.1%	82.8%	85.1%	77.2%	85.8%	78.9%	85.4%	85.4%	86.1%
Not See Doctor Due to Cost in Past Year (2015–2021)	12.6%	11.4%	11.8%	14.5%	12.4%	12.3%	11.8%	12.9%	12.4%
Cancer Screening									
Mammogram Past 2 Years, Age 50–74 (2014, 2016, 2018, 2020)	69.1%	67.0%	73.8%	68.2%	73.2%	64.8%	64.5%	67.1%	73.1%
Pap Test Past 3 Years, Cervix Intact Age 21–65 (2018, 2020)	71.2%	73.6%	73.6%	70.8%	72.9%	69.1%	69.5%	65.9%	73.8%
Colorectal Cancer Screening, Age 50–75 (2018, 2020)	67.9%	66.9%	73.6%	71.4%	70.6%	61.7%	61.5%	64.7%	70.6%
Tobacco Use									
Current Tobacco User (2016–2021)	22.3%	26.7%	23.1%	23.6%	21.8%	21.4%	22.7%	16.9%	20.7%
Other Cancer-Related									
Healthy Weight by Body Mass Index, Age 20+ (2015–2021)	32.1%	32.8%	31.7%	27.9%	36.1%	29.8%	27.9%	31.9%	36.3%
Any Physical Activity Besides Job Past 30 Days (2015-2021)	78.7%	79.2%	78.1%	74.5%	83.2%	73.4%	76.3%	79.7%	83.9%
Meet Physical Activity Guidelines (2011, 2013, 2015, 2017, 2019)	21.9%	22.8%	19.4%	20.0%	25.2%	19.5%	20.4%	20.2%	25.5%
Home Ever Tested for Radon (2016, 2018, 2020)	23.0%	30.9%	18.2%	16.9%	25.1%	19.9%	23.0%	21.8%	25.6%

Access to Care

Have Health Insurance – 2015–2021
Statewide, 83.1% of adults aged 18–64 reported having health care coverage. Health care coverage differed significantly by race/ethnicity, with 86.0% of white non-Hispanics, compared to 64.8% of Hispanics and 83.3% of Native Americans, having health insurance. Spanish-speaking respondents were significantly less likely to be insured (33.3%) than English-speaking respondents (84.2%). Health care coverage differed significantly by age of respondent, with 79.8% of persons aged 18–29, and 87.8% of persons aged 50–64, having health insurance. Health care coverage differed significantly by county, with a range of 62.1% in Adams County to 91.6% in Oneida County having health insurance.

Not See Doctor Due to Cost in Past Year – 2015–2021
Statewide, 12.6% 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 (11.5% of white non-Hispanics, 19.2% of Hispanics, and 21.0% of Native Americans). Inability to see a doctor due to cost differed significantly by annual household income (24.9% for less than $15,000, 6.1% for greater than $50,000). Inability to see a doctor due to cost differed significantly by county, with a range of 7.4% in Franklin County to 17.5% in Power County.

Cancer Screening

Mammogram – 2014, 2016, 2018, 2020
Statewide, 69.1% of women aged 50–74 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 (72.1% versus 36.7%). Mammography rates differed significantly by county, with a range in screening of 45.9% in Benewah County to 77.0% in Nez Perce County. In 2020, Idaho ranked 48th among states and the District of Columbia for mammography screening rates among women aged 50–74 and also 48th among ages 40+.

Pap Test – 2018, 2020
Statewide, 71.2% 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 (75.1% versus 52.6% screened in the past 3 years). Pap screening differed significantly by county, with a range of 50.7% 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 – 2018, 2020
Statewide, 67.9% of adults aged 50–75 reported being current for colorectal cancer screening.** Persons with health insurance were over twice as likely to be current for colorectal cancer screening. In 2020, Idaho ranked 47th among states and the District of Columbia in the percentage of adults aged 50–75 and older who reported being up-to-date for colorectal cancer screening.

** 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, or a colonoscopy in the past 10 years.

Cancer Screening and Risk Factors

Tobacco Use

Current Tobacco Use – 2016–2021
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, 22.3% of adults aged 18 and older were current tobacco users. Tobacco use differed significantly by age of respondent, with 29.9% of persons aged 18-29, and 11.1% of persons aged 65 and older reporting current tobacco use. Tobacco use was lower among white non-Hispanics (22.4%) than among Native Americans (40.0%). Tobacco use differed significantly by county, with a range of 5.4% in Madison County to 41.6% 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 – 2015–2021
Statewide, 32.1% 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 32.5% of white non-Hispanics, compared to 28.2% of Hispanics and 24.6% of Native Americans, being in the healthy weight range. Males (25.5%) were significantly less likely to be in the healthy weight range than females (38.6%). BMI differed significantly by age of respondent, with 43.3% of persons aged 18–29, and 26.0% of persons aged 50–64, being in the healthy weight range. BMI differed significantly by county, with a range of 19.8% in Power County to 47.4% in Blaine County of adults being in the healthy weight range.

Any Physical Activity – 2015-2021
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, 78.7% 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 83.3% of persons aged 18–29, and 72.3% 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 64.3% in Clark County to 84.6% in Teton County.

Physical Activity Guidelines – 2011, 2013, 2015, 2017, 2019
Statewide, 21.9% 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 26.3% 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 9.6% in Franklin County to 30.6% in Blaine County.

Home Radon Testing – 2016, 2018, 2020
Statewide, 23.0% of adults have ever tested their house for radon. Radon test usage varied significantly by race/ethnicity, with 25.1% of white non-Hispanics, 7.4% 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 8.5% in Cassia County to 54.4% in Blaine County.

This project has been funded in whole or in part with Federal funds from the National Cancer Institute, National Institutes of Health, Department of Health and Human Services, under Contract No. HHSN261201800006I and the Centers for Disease Control and Prevention, Department of Health and Human Services, under Cooperative Agreement NU58DP007160. The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention or the National Cancer Institute.

CDRI Cancer Data Registry of Idaho

Idaho Hospital Association

ADAMS COUNTY CANCER PROFILE

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

Cancer Incidence 2016–2020
Cancer Mortality 2017–2021
BRFSS 2011–2021

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.2016.3332). 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 2016–2020

Nearly one in two Idahoans are estimated to develop cancer during their lifetime. During 2016–2020, 45,610 cases of invasive cancer were diagnosed among Idaho residents, and 164 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, 2016–2020

Cancer Incidence 2016–2020	Adams County	State of Idaho
All Sites/Types	**164**	**45,610**
Female Breast	**15**	**6,687**
Prostate	**29**	**6,417**
Lung & Bronchus	**23**	**4,887**
Colorectal	**7**	**3,451**

Table 3 (*Cancer Incidence 2016–2020, 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 781.0 cases per 100,000 person-years per year during 2016–2020. Comparing this crude rate with the crude rate for the remainder of Idaho (519.3) 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 480.4 cases per 100,000 persons per year during 2016–2020. There were fewer cases of cancer in Adams County (164) than expected (177.3) 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 2017–2021

During 2017–2021, cancer was the second leading cause of death in Idaho; 15,121 Idaho residents and 63 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, 2017–2021

Mortality 2017–2021	Adams County	State of Idaho
All Deaths	**236**	**77,431**
Cancer Deaths	**63**	**15,121**
% of All Deaths	*26.7%*	*19.5%*
Lung & Bronchus	**16**	**2,961**
Colorectal	**4**	**1,319**
Pancreas	**4**	**1,190**
Female Breast	**6**	**1,086**
Prostate	**3**	**949**

Table 4 (*Cancer Mortality 2017–2021, 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 174.2 deaths per 100,000 persons per year during 2017–2021, compared with 167.9 for the remainder of the state. There were more cancer deaths in Adams County (63) than expected (60.7) 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 2016–2020
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	164	20,999	781.0	480.4	177.3	0.337	45,446	8,750,829	519.3
All Sites Combined	Male	100	10,860	920.8	517.1	106.7	0.558	24,189	4,386,050	551.5
All Sites Combined	Female	64	10,139	631.2	422.4	73.8	0.277	21,257	4,364,779	487.0
Bladder	Total	12	20,999	57.1	33.0	9.0	0.401	2,172	8,750,829	24.8
Bladder	Male	11	10,860	101.3	53.7	8.1	0.394	1,740	4,386,050	39.7
Bladder	Female	1	10,139	9.9	6.2	1.6	1.000	432	4,364,779	9.9
Brain - malignant	Total	-	20,999	-	-	2.2	0.230	625	8,750,829	7.1
Brain - malignant	Male	-	10,860	-	-	1.4	0.491	375	4,386,050	8.5
Brain - malignant	Female	-	10,139	-	-	0.8	0.893	250	4,364,779	5.7
Brain and other CNS - non-malignant	Total	1	20,999	4.8	3.2	5.1	0.077	1,423	8,750,829	16.3
Brain and other CNS - non-malignant	Male	-	10,860	-	-	1.8	0.332	480	4,386,050	10.9
Brain and other CNS - non-malignant	Female	1	10,139	9.9	6.9	3.1	0.362	943	4,364,779	21.6
Breast	Total	16	20,999	76.2	48.7	25.2	0.068	6,730	8,750,829	76.9
Breast	Male	1	10,860	9.2	5.2	0.3	0.447	58	4,386,050	1.3
Breast	Female	15	10,139	147.9	98.8	23.2	0.095	6,672	4,364,779	152.9
Breast - in situ	Total	5	20,999	23.8	15.3	4.6	0.974	1,234	8,750,829	14.1
Breast - in situ	Male	-	10,860	-	-	0.0	1.000	5	4,386,050	0.1
Breast - in situ	Female	5	10,139	49.3	32.8	4.3	0.857	1,229	4,364,779	28.2
Cervix	Female	-	10,139	-	-	0.8	0.912	304	4,364,779	7.0
Colorectal	Total	7	20,999	33.3	21.0	13.1	0.102	3,444	8,750,829	39.4
Colorectal	Male	4	10,860	36.8	21.9	7.9	0.208	1,899	4,386,050	43.3
Colorectal	Female	3	10,139	29.6	19.9	5.3	0.444	1,545	4,364,779	35.4
Corpus Uteri	Female	1	10,139	9.9	6.3	4.8	0.092	1,329	4,364,779	30.4
Esophagus	Total	1	20,999	4.8	2.8	2.1	0.776	505	8,750,829	5.8
Esophagus	Male	1	10,860	9.2	5.1	1.9	0.867	423	4,386,050	9.6
Esophagus	Female	-	10,139	-	-	0.3	1.000	82	4,364,779	1.9
Hodgkin Lymphoma	Total	2	20,999	9.5	8.5	0.6	0.218	208	8,750,829	2.4
Hodgkin Lymphoma	Male	2	10,860	18.4	15.5	0.3	0.093	116	4,386,050	2.6
Hodgkin Lymphoma	Female	-	10,139	-	-	0.2	1.000	92	4,364,779	2.1
Kidney and Renal Pelvis	Total	5	20,999	23.8	14.9	6.9	0.620	1,810	8,750,829	20.7
Kidney and Renal Pelvis	Male	3	10,860	27.6	16.4	4.9	0.555	1,179	4,386,050	26.9
Kidney and Renal Pelvis	Female	2	10,139	19.7	13.1	2.2	1.000	631	4,364,779	14.5
Larynx	Total	1	20,999	4.8	2.8	0.9	1.000	214	8,750,829	2.4
Larynx	Male	-	10,860	-	-	0.7	0.958	160	4,386,050	3.6
Larynx	Female	1	10,139	9.9	6.2	0.2	0.362	54	4,364,779	1.2
Leukemia	Total	2	20,999	9.5	6.1	6.1	0.112	1,629	8,750,829	18.6
Leukemia	Male	2	10,860	18.4	11.0	4.1	0.449	987	4,386,050	22.5
Leukemia	Female	-	10,139	-	-	2.2	0.223	642	4,364,779	14.7
Liver and Bile Duct	Total	1	20,999	4.8	2.8	3.4	0.288	828	8,750,829	9.5
Liver and Bile Duct	Male	1	10,860	9.2	5.0	2.7	0.508	589	4,386,050	13.4
Liver and Bile Duct	Female	-	10,139	-	-	0.9	0.829	239	4,364,779	5.5
Lung and Bronchus	Total	23	20,999	109.5	62.3	20.5	0.640	4,864	8,750,829	55.6
Lung and Bronchus	Male	12	10,860	110.5	57.9	11.5	0.969	2,440	4,386,050	55.6
Lung and Bronchus	Female	11	10,139	108.5	66.7	9.2	0.626	2,424	4,364,779	55.5
Melanoma of the Skin	Total	13	20,999	61.9	40.4	10.8	0.571	2,929	8,750,829	33.5
Melanoma of the Skin	Male	8	10,860	73.7	43.4	7.4	0.914	1,757	4,386,050	40.1
Melanoma of the Skin	Female	5	10,139	49.3	35.8	3.8	0.646	1,172	4,364,779	26.9
Myeloma	Total	3	20,999	14.3	8.4	2.9	1.000	705	8,750,829	8.1
Myeloma	Male	2	10,860	18.4	10.0	2.0	1.000	439	4,386,050	10.0
Myeloma	Female	1	10,139	9.9	6.2	1.0	1.000	266	4,364,779	6.1
Non-Hodgkin Lymphoma	Total	9	20,999	42.9	26.6	7.5	0.669	1,931	8,750,829	22.1
Non-Hodgkin Lymphoma	Male	6	10,860	55.2	32.4	4.7	0.676	1,123	4,386,050	25.6
Non-Hodgkin Lymphoma	Female	3	10,139	29.6	19.4	2.9	1.000	808	4,364,779	18.5
Oral Cavity and Pharynx	Total	8	20,999	38.1	22.9	5.1	0.297	1,287	8,750,829	14.7
Oral Cavity and Pharynx	Male	5	10,860	46.0	26.3	4.0	0.757	931	4,386,050	21.2
Oral Cavity and Pharynx	Female	3	10,139	29.6	19.0	1.3	0.279	356	4,364,779	8.2
Ovary	Female	3	10,139	29.6	19.9	1.8	0.557	530	4,364,779	12.1
Pancreas	Total	7	20,999	33.3	19.6	5.8	0.712	1,416	8,750,829	16.2
Pancreas	Male	4	10,860	36.8	20.1	3.5	0.941	780	4,386,050	17.8
Pancreas	Female	3	10,139	29.6	18.8	2.3	0.819	636	4,364,779	14.6
Prostate	Male	29	10,860	267.0	141.0	30.0	0.958	6,388	4,386,050	145.6
Stomach	Total	1	20,999	4.8	2.9	1.8	0.916	466	8,750,829	5.3
Stomach	Male	-	10,860	-	-	1.4	0.514	309	4,386,050	7.0
Stomach	Female	1	10,139	9.9	6.8	0.5	0.818	157	4,364,779	3.6
Testis	Male	-	10,860	-	-	0.5	1.000	265	4,386,050	6.0
Thyroid	Total	4	20,999	19.0	15.9	3.5	0.925	1,216	8,750,829	13.9
Thyroid	Male	1	10,860	9.2	6.8	1.2	1.000	354	4,386,050	8.1
Thyroid	Female	3	10,139	29.6	26.0	2.3	0.798	862	4,364,779	19.7
Pediatric Age 0 to 19	Total	2	3,954	50.6	51.6	0.7	0.285	419	2,456,569	17.1
Pediatric Age 0 to 19	Male	1	2,085	48.0	49.0	0.4	0.606	222	1,254,425	17.7
Pediatric Age 0 to 19	Female	1	1,869	53.5	54.0	0.3	0.524	197	1,202,144	16.4

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 2017–2021
COMPARISON BETWEEN ADAMS COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cause of Death Cancer Site/Type	Sex	Adams County Observed Deaths	Adams County Person Years	Adams County Crude Rate (1)	Adams County A.A.M. Rate (1,2)	Adams County Expected Deaths (3)	Adams County P-Value (4)	Remainder of Idaho Observed Deaths	Remainder of Idaho Person Years	Remainder of Idaho Crude Rate (1)
All Causes of Death	Total	236	21,680	1,088.6	698.0	291.1	0.001 <<	77,194	8,967,035	860.9
All Causes of Death	Male	141	11,248	1,253.6	750.8	170.7	0.022 <<	40,915	4,500,620	909.1
All Causes of Death	Female	95	10,432	910.7	621.8	124.1	0.008 <<	36,279	4,466,415	812.3
All Malignant Cancers	Total	63	21,680	290.6	174.2	60.7	0.803	15,058	8,967,035	167.9
All Malignant Cancers	Male	38	11,248	337.8	187.7	36.6	0.861	8,138	4,500,620	180.8
All Malignant Cancers	Female	25	10,432	239.6	154.0	25.1	1.000	6,920	4,466,415	154.9
Bladder	Total	1	21,680	4.6	2.8	2.0	0.837	488	8,967,035	5.4
Bladder	Male	1	11,248	8.9	5.0	1.7	0.992	377	4,500,620	8.4
Bladder	Female	-	10,432	-	-	0.4	1.000	111	4,466,415	2.5
Brain and Other Nervous System	Total	1	21,680	4.6	2.9	1.9	0.856	503	8,967,035	5.6
Brain and Other Nervous System	Male	1	11,248	8.9	5.4	1.2	1.000	297	4,500,620	6.6
Brain and Other Nervous System	Female	-	10,432	-	-	0.7	0.964	206	4,466,415	4.6
Breast	Total	6	21,680	27.7	17.3	4.2	0.507	1,096	8,967,035	12.2
Breast	Male	-	11,248	-	-	0.1	1.000	16	4,500,620	0.4
Breast	Female	6	10,432	57.5	37.7	3.8	0.382	1,080	4,466,415	24.2
Cervix	Female	-	10,432	-	-	0.2	1.000	83	4,466,415	1.9
Colorectal	Total	4	21,680	18.5	11.4	5.1	0.830	1,315	8,967,035	14.7
Colorectal	Male	2	11,248	17.8	10.4	3.1	0.812	717	4,500,620	15.9
Colorectal	Female	2	10,432	19.2	12.6	2.1	1.000	598	4,466,415	13.4
Corpus Uteri	Female	-	10,432	-	-	0.7	1.000	173	4,466,415	3.9
Esophagus	Total	2	21,680	9.2	5.4	1.9	1.000	475	8,967,035	5.3
Esophagus	Male	2	11,248	17.8	9.8	1.8	1.000	399	4,500,620	8.9
Esophagus	Female	-	10,432	-	-	0.3	1.000	76	4,466,415	1.7
Hodgkin Lymphoma	Total	-	21,680	-	-	0.1	1.000	29	8,967,035	0.3
Hodgkin Lymphoma	Male	-	11,248	-	-	0.1	1.000	14	4,500,620	0.3
Hodgkin Lymphoma	Female	-	10,432	-	-	0.1	1.000	15	4,466,415	0.3
Kidney	Total	-	21,680	-	-	1.6	0.410	385	8,967,035	4.3
Kidney	Male	-	11,248	-	-	1.1	0.665	242	4,500,620	5.4
Kidney	Female	-	10,432	-	-	0.5	1.000	143	4,466,415	3.2
Larynx	Total	-	21,680	-	-	0.3	1.000	71	8,967,035	0.8
Larynx	Male	-	11,248	-	-	0.3	1.000	58	4,500,620	1.3
Larynx	Female	-	10,432	-	-	0.0	1.000	13	4,466,415	0.3
Leukemia	Total	1	21,680	4.6	2.8	2.6	0.543	659	8,967,035	7.3
Leukemia	Male	1	11,248	8.9	5.1	1.7	0.996	385	4,500,620	8.6
Leukemia	Female	-	10,432	-	-	1.0	0.766	274	4,466,415	6.1
Liver and Bile Duct	Total	1	21,680	4.6	2.7	2.5	0.566	602	8,967,035	6.7
Liver and Bile Duct	Male	1	11,248	8.9	4.8	1.9	0.877	407	4,500,620	9.0
Liver and Bile Duct	Female	-	10,432	-	-	0.7	0.963	195	4,466,415	4.4
Lung and Bronchus	Total	16	21,680	73.8	42.5	12.4	0.365	2,945	8,967,035	32.8
Lung and Bronchus	Male	9	11,248	80.0	42.6	7.3	0.610	1,547	4,500,620	34.4
Lung and Bronchus	Female	7	10,432	67.1	41.7	5.3	0.552	1,398	4,466,415	31.3
Melanoma of the Skin	Total	2	21,680	9.2	5.7	1.1	0.621	287	8,967,035	3.2
Melanoma of the Skin	Male	2	11,248	17.8	10.2	0.8	0.403	190	4,500,620	4.2
Melanoma of the Skin	Female	-	10,432	-	-	0.3	1.000	97	4,466,415	2.2
Myeloma	Total	2	21,680	9.2	5.4	1.4	0.794	329	8,967,035	3.7
Myeloma	Male	2	11,248	17.8	9.5	0.9	0.462	194	4,500,620	4.3
Myeloma	Female	-	10,432	-	-	0.5	1.000	135	4,466,415	3.0
Non-Hodgkin Lymphoma	Total	3	21,680	13.8	8.3	2.3	0.799	566	8,967,035	6.3
Non-Hodgkin Lymphoma	Male	2	11,248	17.8	10.0	1.4	0.787	305	4,500,620	6.8
Non-Hodgkin Lymphoma	Female	1	10,432	9.6	6.1	1.0	1.000	261	4,466,415	5.8
Oral Cavity and Pharynx	Total	4	21,680	18.5	10.9	1.1	0.047 >>	262	8,967,035	2.9
Oral Cavity and Pharynx	Male	3	11,248	26.7	14.7	0.8	0.104	184	4,500,620	4.1
Oral Cavity and Pharynx	Female	1	10,432	9.6	6.2	0.3	0.494	78	4,466,415	1.7
Ovary	Female	1	10,432	9.6	6.0	1.3	1.000	349	4,466,415	7.8
Pancreas	Total	4	21,680	18.5	10.8	4.9	0.909	1,186	8,967,035	13.2
Pancreas	Male	3	11,248	26.7	14.5	2.9	1.000	639	4,500,620	14.2
Pancreas	Female	1	10,432	9.6	6.0	2.1	0.785	547	4,466,415	12.2
Prostate	Male	3	11,248	26.7	14.7	4.3	0.758	946	4,500,620	21.0
Stomach	Total	-	21,680	-	-	0.8	0.944	198	8,967,035	2.2
Stomach	Male	-	11,248	-	-	0.5	1.000	121	4,500,620	2.7
Stomach	Female	-	10,432	-	-	0.3	1.000	77	4,466,415	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, 2020.

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 (BRFS) since 1984. These surveys are conducted with randomly selected adult Idahoans to measure population prevalences of risk factors for the major causes of death, including cancer. DPH provided data sets containing Behavioral Risk Factor Surveillance System (BRFSS) data from 2011 through 2021 to CDRI staff, who performed the analyses reported in these *County Profiles*. Analysis weights were poststratified to 2020 population estimates by age group, sex, and county, beginning with the BRFSS raked weights. Not all questions were asked in all years. 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* 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, 2011–2021

Measure	State of Idaho	HD 1	HD 2	HD 3	HD 4	HD 5	HD 6	HD 7	Adams County
Access to Care									
Have Health Insurance, Age <65 (2015–2021)	83.1%	82.8%	85.1%	77.2%	85.8%	78.9%	85.4%	85.4%	62.1%
Not See Doctor Due to Cost in Past Year (2015–2021)	12.6%	11.4%	11.8%	14.5%	12.4%	12.3%	11.8%	12.9%	8.9%
Cancer Screening									
Mammogram Past 2 Years, Age 50–74 (2014, 2016, 2018, 2020)	69.1%	67.0%	73.8%	68.2%	73.2%	64.8%	64.5%	67.1%	.
Pap Test Past 3 Years, Cervix Intact Age 21–65 (2018, 2020)	71.2%	73.6%	73.6%	70.8%	72.9%	69.1%	69.5%	65.9%	.
Colorectal Cancer Screening, Age 50–75 (2018, 2020)	67.9%	66.9%	73.6%	71.4%	70.6%	61.7%	61.5%	64.7%	.
Tobacco Use									
Current Tobacco User (2016–2021)	22.3%	26.7%	23.1%	23.6%	21.8%	21.4%	22.7%	16.9%	24.7%
Other Cancer-Related									
Healthy Weight by Body Mass Index, Age 20+ (2015–2021)	32.1%	32.8%	31.7%	27.9%	36.1%	29.8%	27.9%	31.9%	24.7%
Any Physical Activity Besides Job Past 30 Days (2015-2021)	78.7%	79.2%	78.1%	74.5%	83.2%	73.4%	76.3%	79.7%	68.3%
Meet Physical Activity Guidelines (2011, 2013, 2015, 2017, 2019)	21.9%	22.8%	19.4%	20.0%	25.2%	19.5%	20.4%	20.2%	12.3%
Home Ever Tested for Radon (2016, 2018, 2020)	23.0%	30.9%	18.2%	16.9%	25.1%	19.9%	23.0%	21.8%	21.1%

Access to Care

Have Health Insurance – 2015–2021
Statewide, 83.1% of adults aged 18–64 reported having health care coverage. Health care coverage differed significantly by race/ethnicity, with 86.0% of white non-Hispanics, compared to 64.8% of Hispanics and 83.3% of Native Americans, having health insurance. Spanish-speaking respondents were significantly less likely to be insured (33.3%) than English-speaking respondents (84.2%). Health care coverage differed significantly by age of respondent, with 79.8% of persons aged 18–29, and 87.8% of persons aged 50–64, having health insurance. Health care coverage differed significantly by county, with a range of 62.1% in Adams County to 91.6% in Oneida County having health insurance.

Not See Doctor Due to Cost in Past Year – 2015–2021
Statewide, 12.6% 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 (11.5% of white non-Hispanics, 19.2% of Hispanics, and 21.0% of Native Americans). Inability to see a doctor due to cost differed significantly by annual household income (24.9% for less than $15,000, 6.1% for greater than $50,000). Inability to see a doctor due to cost differed significantly by county, with a range of 7.4% in Franklin County to 17.5% in Power County.

Cancer Screening

Mammogram – 2014, 2016, 2018, 2020
Statewide, 69.1% of women aged 50–74 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 (72.1% versus 36.7%). Mammography rates differed significantly by county, with a range in screening of 45.9% in Benewah County to 77.0% in Nez Perce County. In 2020, Idaho ranked 48th among states and the District of Columbia for mammography screening rates among women aged 50–74 and also 48th among ages 40+.

Pap Test – 2018, 2020
Statewide, 71.2% 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 (75.1% versus 52.6% screened in the past 3 years). Pap screening differed significantly by county, with a range of 50.7% 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 – 2018, 2020
Statewide, 67.9% of adults aged 50–75 reported being current for colorectal cancer screening.** Persons with health insurance were over twice as likely to be current for colorectal cancer screening. In 2020, Idaho ranked 47th among states and the District of Columbia in the percentage of adults aged 50–75 and older who reported being up-to-date for colorectal cancer screening.

** 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, or a colonoscopy in the past 10 years.

Cancer Screening and Risk Factors

Tobacco Use

Current Tobacco Use – 2016–2021
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, 22.3% of adults aged 18 and older were current tobacco users. Tobacco use differed significantly by age of respondent, with 29.9% of persons aged 18-29, and 11.1% of persons aged 65 and older reporting current tobacco use. Tobacco use was lower among white non-Hispanics (22.4%) than among Native Americans (40.0%). Tobacco use differed significantly by county, with a range of 5.4% in Madison County to 41.6% 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 – 2015–2021
Statewide, 32.1% 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 32.5% of white non-Hispanics, compared to 28.2% of Hispanics and 24.6% of Native Americans, being in the healthy weight range. Males (25.5%) were significantly less likely to be in the healthy weight range than females (38.6%). BMI differed significantly by age of respondent, with 43.3% of persons aged 18–29, and 26.0% of persons aged 50–64, being in the healthy weight range. BMI differed significantly by county, with a range of 19.8% in Power County to 47.4% in Blaine County of adults being in the healthy weight range.

Any Physical Activity – 2015-2021
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, 78.7% 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 83.3% of persons aged 18–29, and 72.3% 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 64.3% in Clark County to 84.6% in Teton County.

Physical Activity Guidelines – 2011, 2013, 2015, 2017, 2019
Statewide, 21.9% 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 26.3% 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 9.6% in Franklin County to 30.6% in Blaine County.

Home Radon Testing – 2016, 2018, 2020
Statewide, 23.0% of adults have ever tested their house for radon. Radon test usage varied significantly by race/ethnicity, with 25.1% of white non-Hispanics, 7.4% 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 8.5% in Cassia County to 54.4% in Blaine County.

This project has been funded in whole or in part with Federal funds from the National Cancer Institute, National Institutes of Health, Department of Health and Human Services, under Contract No. HHSN261201800006I and the Centers for Disease Control and Prevention, Department of Health and Human Services, under Cooperative Agreement NU58DP007160. The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention or the National Cancer Institute.

CDRI Cancer Data Registry of Idaho

Idaho Hospital Association

BANNOCK COUNTY CANCER PROFILE

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

Cancer Incidence 2016–2020
Cancer Mortality 2017–2021
BRFSS 2011–2021

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.2016.3332). 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 2016–2020

Nearly one in two Idahoans are estimated to develop cancer during their lifetime. During 2016–2020, 45,610 cases of invasive cancer were diagnosed among Idaho residents, and 1,884 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, 2016–2020

Cancer Incidence 2016–2020	Bannock County	State of Idaho
All Sites/Types	**1,884**	**45,610**
Female Breast	**293**	**6,687**
Prostate	**216**	**6,417**
Lung & Bronchus	**183**	**4,887**
Colorectal	**140**	**3,451**

Table 3 (*Cancer Incidence 2016–2020, 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 434.4 cases per 100,000 person-years per year during 2016–2020. Comparing this crude rate with the crude rate for the remainder of Idaho (524.4) 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 475.6 cases per 100,000 persons per year during 2016–2020. There were statistically significantly fewer cases of cancer in Bannock County (1,884) than expected (2,077.4) 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 2017–2021

During 2017–2021, cancer was the second leading cause of death in Idaho; 15,121 Idaho residents and 689 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, 2017–2021

Mortality 2017–2021	Bannock County	State of Idaho
All Deaths	**4,061**	**77,431**
Cancer Deaths	**689**	**15,121**
% of All Deaths	*17.0%*	*19.5%*
Lung & Bronchus	**126**	**2,961**
Colorectal	**60**	**1,319**
Pancreas	**62**	**1,190**
Female Breast	**47**	**1,086**
Prostate	**48**	**949**

Table 4 (*Cancer Mortality 2017–2021, 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 175.2 deaths per 100,000 persons per year during 2017–2021, compared with 168.8 for the remainder of the state. There were more cancer deaths in Bannock County (689) than expected (663.9) 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 2016–2020
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	1,884	433,711	434.4	475.6	2,077.4	0.000 <<	43,726	8,338,117	524.4
All Sites Combined	Male	964	215,729	446.9	494.8	1,086.8	0.000 <<	23,325	4,181,181	557.9
All Sites Combined	Female	920	217,982	422.1	457.3	987.4	0.032 <<	20,401	4,156,936	490.8
Bladder	Total	80	433,711	18.4	20.6	98.2	0.068	2,104	8,338,117	25.2
Bladder	Male	65	215,729	30.1	34.0	77.0	0.184	1,686	4,181,181	40.3
Bladder	Female	15	217,982	6.9	7.6	19.9	0.323	418	4,156,936	10.1
Brain - malignant	Total	36	433,711	8.3	8.8	28.8	0.215	589	8,338,117	7.1
Brain - malignant	Male	23	215,729	10.7	11.4	17.0	0.187	352	4,181,181	8.4
Brain - malignant	Female	13	217,982	6.0	6.3	11.7	0.783	237	4,156,936	5.7
Brain and other CNS - non-malignant	Total	42	433,711	9.7	10.5	66.4	0.002 <<	1,382	8,338,117	16.6
Brain and other CNS - non-malignant	Male	12	215,729	5.6	6.0	22.3	0.027 <<	468	4,181,181	11.2
Brain and other CNS - non-malignant	Female	30	217,982	13.8	14.8	44.5	0.028 <<	914	4,156,936	22.0
Breast	Total	296	433,711	68.2	74.5	307.2	0.544	6,450	8,338,117	77.4
Breast	Male	3	215,729	1.4	1.6	2.6	0.953	56	4,181,181	1.3
Breast	Female	293	217,982	134.4	146.0	308.8	0.386	6,394	4,156,936	153.8
Breast - in situ	Total	52	433,711	12.0	13.1	56.5	0.607	1,187	8,338,117	14.2
Breast - in situ	Male	-	215,729	-	-	0.2	1.000	5	4,181,181	0.1
Breast - in situ	Female	52	217,982	23.9	26.0	56.9	0.568	1,182	4,156,936	28.4
Cervix	Female	25	217,982	11.5	11.8	14.3	0.013 >>	279	4,156,936	6.7
Colorectal	Total	140	433,711	32.3	35.5	156.8	0.189	3,311	8,338,117	39.7
Colorectal	Male	76	215,729	35.2	39.1	85.0	0.360	1,827	4,181,181	43.7
Colorectal	Female	64	217,982	29.4	32.0	71.5	0.411	1,484	4,156,936	35.7
Corpus Uteri	Female	58	217,982	26.6	28.9	61.4	0.723	1,272	4,156,936	30.6
Esophagus	Total	20	433,711	4.6	5.1	22.9	0.640	486	8,338,117	5.8
Esophagus	Male	17	215,729	7.9	8.8	18.8	0.788	407	4,181,181	9.7
Esophagus	Female	3	217,982	1.4	1.5	3.8	0.953	79	4,156,936	1.9
Hodgkin Lymphoma	Total	11	433,711	2.5	2.6	10.3	0.897	199	8,338,117	2.4
Hodgkin Lymphoma	Male	7	215,729	3.2	3.3	5.6	0.665	111	4,181,181	2.7
Hodgkin Lymphoma	Female	4	217,982	1.8	1.8	4.6	1.000	88	4,156,936	2.1
Kidney and Renal Pelvis	Total	88	433,711	20.3	22.2	82.0	0.538	1,727	8,338,117	20.7
Kidney and Renal Pelvis	Male	66	215,729	30.6	33.8	52.1	0.071	1,116	4,181,181	26.7
Kidney and Renal Pelvis	Female	22	217,982	10.1	11.0	29.5	0.191	611	4,156,936	14.7
Larynx	Total	12	433,711	2.8	3.0	9.6	0.519	203	8,338,117	2.4
Larynx	Male	10	215,729	4.6	5.2	7.0	0.331	150	4,181,181	3.6
Larynx	Female	2	217,982	0.9	1.0	2.6	1.000	53	4,156,936	1.3
Leukemia	Total	64	433,711	14.8	16.1	74.6	0.238	1,567	8,338,117	18.8
Leukemia	Male	36	215,729	16.7	18.4	44.6	0.221	953	4,181,181	22.8
Leukemia	Female	28	217,982	12.8	13.9	29.7	0.855	614	4,156,936	14.8
Liver and Bile Duct	Total	41	433,711	9.5	10.4	37.4	0.593	788	8,338,117	9.5
Liver and Bile Duct	Male	26	215,729	12.1	13.3	26.4	1.000	564	4,181,181	13.5
Liver and Bile Duct	Female	15	217,982	6.9	7.5	10.7	0.255	224	4,156,936	5.4
Lung and Bronchus	Total	183	433,711	42.2	47.0	219.7	0.012 <<	4,704	8,338,117	56.4
Lung and Bronchus	Male	92	215,729	42.6	48.0	108.2	0.126	2,360	4,181,181	56.4
Lung and Bronchus	Female	91	217,982	41.7	46.1	111.3	0.055	2,344	4,156,936	56.4
Melanoma of the Skin	Total	138	433,711	31.8	34.5	134.5	0.786	2,804	8,338,117	33.6
Melanoma of the Skin	Male	80	215,729	37.1	41.0	78.6	0.906	1,685	4,181,181	40.3
Melanoma of the Skin	Female	58	217,982	26.6	28.3	55.2	0.743	1,119	4,156,936	26.9
Myeloma	Total	33	433,711	7.6	8.5	31.6	0.852	675	8,338,117	8.1
Myeloma	Male	20	215,729	9.3	10.4	19.3	0.928	421	4,181,181	10.1
Myeloma	Female	13	217,982	6.0	6.5	12.2	0.887	254	4,156,936	6.1
Non-Hodgkin Lymphoma	Total	83	433,711	19.1	20.9	88.3	0.619	1,857	8,338,117	22.3
Non-Hodgkin Lymphoma	Male	50	215,729	23.2	25.5	50.6	1.000	1,079	4,181,181	25.8
Non-Hodgkin Lymphoma	Female	33	217,982	15.1	16.5	37.5	0.524	778	4,156,936	18.7
Oral Cavity and Pharynx	Total	46	433,711	10.6	11.6	59.3	0.089	1,249	8,338,117	15.0
Oral Cavity and Pharynx	Male	28	215,729	13.0	14.3	42.5	0.024 <<	908	4,181,181	21.7
Oral Cavity and Pharynx	Female	18	217,982	8.3	9.0	16.4	0.762	341	4,156,936	8.2
Ovary	Female	21	217,982	9.6	10.4	24.8	0.515	512	4,156,936	12.3
Pancreas	Total	77	433,711	17.8	19.7	63.1	0.098	1,346	8,338,117	16.1
Pancreas	Male	38	215,729	17.6	19.7	34.3	0.575	746	4,181,181	17.8
Pancreas	Female	39	217,982	17.9	19.7	28.6	0.073	600	4,156,936	14.4
Prostate	Male	216	215,729	100.1	110.8	289.0	0.000 <<	6,201	4,181,181	148.3
Stomach	Total	22	433,711	5.1	5.6	21.0	0.890	445	8,338,117	5.3
Stomach	Male	16	215,729	7.4	8.3	13.5	0.570	293	4,181,181	7.0
Stomach	Female	6	217,982	2.8	3.0	7.4	0.793	152	4,156,936	3.7
Testis	Male	10	215,729	4.6	4.5	13.7	0.393	255	4,181,181	6.1
Thyroid	Total	40	433,711	9.2	9.5	59.5	0.010 <<	1,180	8,338,117	14.2
Thyroid	Male	10	215,729	4.6	4.9	16.9	0.105	345	4,181,181	8.3
Thyroid	Female	30	217,982	13.8	14.0	43.0	0.048 <<	835	4,156,936	20.1
Pediatric Age 0 to 19	Total	21	126,491	16.6	16.5	21.8	0.970	400	2,334,032	17.1
Pediatric Age 0 to 19	Male	12	64,568	18.6	18.5	11.5	0.957	211	1,191,942	17.7
Pediatric Age 0 to 19	Female	9	61,923	14.5	14.4	10.3	0.834	189	1,142,090	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 2017–2021
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	4,061	437,212	928.8	1,027.7	3,390.3	0.000 >>	73,369	8,551,503	858.0
All Causes of Death	Male	2,122	217,682	974.8	1,091.7	1,762.3	0.000 >>	38,934	4,294,186	906.7
All Causes of Death	Female	1,939	219,530	883.3	968.6	1,619.2	0.000 >>	34,435	4,257,317	808.8
All Malignant Cancers	Total	689	437,212	157.6	175.2	663.9	0.339	14,432	8,551,503	168.8
All Malignant Cancers	Male	358	217,682	164.5	185.4	351.5	0.745	7,818	4,294,186	182.1
All Malignant Cancers	Female	331	219,530	150.8	165.9	310.0	0.245	6,614	4,257,317	155.4
Bladder	Total	17	437,212	3.9	4.4	21.4	0.400	472	8,551,503	5.5
Bladder	Male	11	217,682	5.1	5.8	16.2	0.238	367	4,294,186	8.5
Bladder	Female	6	219,530	2.7	3.0	4.9	0.722	105	4,257,317	2.5
Brain and Other Nervous System	Total	32	437,212	7.3	7.9	22.2	0.060	472	8,551,503	5.5
Brain and Other Nervous System	Male	17	217,682	7.8	8.5	13.0	0.333	281	4,294,186	6.5
Brain and Other Nervous System	Female	15	219,530	6.8	7.4	9.1	0.092	191	4,257,317	4.5
Breast	Total	48	437,212	11.0	12.1	48.8	0.983	1,054	8,551,503	12.3
Breast	Male	1	217,682	0.5	0.5	0.7	1.000	15	4,294,186	0.3
Breast	Female	47	219,530	21.4	23.4	48.9	0.856	1,039	4,257,317	24.4
Cervix	Female	6	219,530	2.7	2.9	3.8	0.356	77	4,257,317	1.8
Colorectal	Total	60	437,212	13.7	15.2	58.1	0.837	1,259	8,551,503	14.7
Colorectal	Male	30	217,682	13.8	15.4	31.3	0.914	689	4,294,186	16.0
Colorectal	Female	30	219,530	13.7	15.0	26.7	0.575	570	4,257,317	13.4
Corpus Uteri	Female	5	219,530	2.3	2.5	7.9	0.408	168	4,257,317	3.9
Esophagus	Total	12	437,212	2.7	3.1	21.4	0.041 <<	465	8,551,503	5.4
Esophagus	Male	11	217,682	5.1	5.7	17.6	0.129	390	4,294,186	9.1
Esophagus	Female	1	219,530	0.5	0.5	3.5	0.270	75	4,257,317	1.8
Hodgkin Lymphoma	Total	3	437,212	0.7	0.7	1.2	0.260	26	8,551,503	0.3
Hodgkin Lymphoma	Male	1	217,682	0.5	0.5	0.6	0.923	13	4,294,186	0.3
Hodgkin Lymphoma	Female	2	219,530	0.9	1.0	0.6	0.260	13	4,257,317	0.3
Kidney	Total	21	437,212	4.8	5.3	16.7	0.350	364	8,551,503	4.3
Kidney	Male	15	217,682	6.9	7.7	10.2	0.194	227	4,294,186	5.3
Kidney	Female	6	219,530	2.7	3.0	6.4	1.000	137	4,257,317	3.2
Larynx	Total	5	437,212	1.1	1.3	3.1	0.388	66	8,551,503	0.8
Larynx	Male	5	217,682	2.3	2.6	2.4	0.187	53	4,294,186	1.2
Larynx	Female	-	219,530	-	-	0.6	1.000	13	4,257,317	0.3
Leukemia	Total	29	437,212	6.6	7.4	29.0	1.000	631	8,551,503	7.4
Leukemia	Male	18	217,682	8.3	9.3	16.5	0.782	368	4,294,186	8.6
Leukemia	Female	11	219,530	5.0	5.5	12.3	0.854	263	4,257,317	6.2
Liver and Bile Duct	Total	33	437,212	7.5	8.3	26.4	0.236	570	8,551,503	6.7
Liver and Bile Duct	Male	21	217,682	9.6	10.7	17.7	0.489	387	4,294,186	9.0
Liver and Bile Duct	Female	12	219,530	5.5	6.0	8.5	0.309	183	4,257,317	4.3
Lung and Bronchus	Total	126	437,212	28.8	32.2	129.8	0.783	2,835	8,551,503	33.2
Lung and Bronchus	Male	61	217,682	28.0	31.6	67.2	0.492	1,495	4,294,186	34.8
Lung and Bronchus	Female	65	219,530	29.6	32.8	62.4	0.775	1,340	4,257,317	31.5
Melanoma of the Skin	Total	11	437,212	2.5	2.8	12.9	0.725	278	8,551,503	3.3
Melanoma of the Skin	Male	5	217,682	2.3	2.6	8.5	0.301	187	4,294,186	4.4
Melanoma of the Skin	Female	6	219,530	2.7	3.0	4.3	0.533	91	4,257,317	2.1
Myeloma	Total	14	437,212	3.2	3.6	14.4	1.000	317	8,551,503	3.7
Myeloma	Male	8	217,682	3.7	4.2	8.3	1.000	188	4,294,186	4.4
Myeloma	Female	6	219,530	2.7	3.0	6.0	1.000	129	4,257,317	3.0
Non-Hodgkin Lymphoma	Total	29	437,212	6.6	7.4	24.7	0.442	540	8,551,503	6.3
Non-Hodgkin Lymphoma	Male	11	217,682	5.1	5.7	13.3	0.646	296	4,294,186	6.9
Non-Hodgkin Lymphoma	Female	18	219,530	8.2	9.1	11.4	0.085	244	4,257,317	5.7
Oral Cavity and Pharynx	Total	10	437,212	2.3	2.5	11.8	0.741	256	8,551,503	3.0
Oral Cavity and Pharynx	Male	8	217,682	3.7	4.1	8.1	1.000	179	4,294,186	4.2
Oral Cavity and Pharynx	Female	2	219,530	0.9	1.0	3.6	0.596	77	4,257,317	1.8
Ovary	Female	17	219,530	7.7	8.5	15.6	0.794	333	4,257,317	7.8
Pancreas	Total	62	437,212	14.2	15.8	51.8	0.184	1,128	8,551,503	13.2
Pancreas	Male	31	217,682	14.2	16.0	27.6	0.559	611	4,294,186	14.2
Pancreas	Female	31	219,530	14.1	15.6	24.1	0.199	517	4,257,317	12.1
Prostate	Male	48	217,682	22.1	25.4	39.6	0.216	901	4,294,186	21.0
Stomach	Total	10	437,212	2.3	2.5	8.7	0.748	188	8,551,503	2.2
Stomach	Male	8	217,682	3.7	4.2	5.1	0.281	113	4,294,186	2.6
Stomach	Female	2	219,530	0.9	1.0	3.6	0.611	75	4,257,317	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, 2020.

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 (BRFS) since 1984. These surveys are conducted with randomly selected adult Idahoans to measure population prevalences of risk factors for the major causes of death, including cancer. DPH provided data sets containing Behavioral Risk Factor Surveillance System (BRFSS) data from 2011 through 2021 to CDRI staff, who performed the analyses reported in these *County Profiles*. Analysis weights were poststratified to 2020 population estimates by age group, sex, and county, beginning with the BRFSS raked weights. Not all questions were asked in all years. 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* 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, 2011–2021

Measure	State of Idaho	HD 1	HD 2	HD 3	HD 4	HD 5	HD 6	HD 7	Bannock County
Access to Care									
Have Health Insurance, Age <65 (2015–2021)	83.1%	82.8%	85.1%	77.2%	85.8%	78.9%	85.4%	85.4%	86.1%
Not See Doctor Due to Cost in Past Year (2015–2021)	12.6%	11.4%	11.8%	14.5%	12.4%	12.3%	11.8%	12.9%	12.3%
Cancer Screening									
Mammogram Past 2 Years, Age 50–74 (2014, 2016, 2018, 2020)	69.1%	67.0%	73.8%	68.2%	73.2%	64.8%	64.5%	67.1%	65.2%
Pap Test Past 3 Years, Cervix Intact Age 21–65 (2018, 2020)	71.2%	73.6%	73.6%	70.8%	72.9%	69.1%	69.5%	65.9%	78.9%
Colorectal Cancer Screening, Age 50–75 (2018, 2020)	67.9%	66.9%	73.6%	71.4%	70.6%	61.7%	61.5%	64.7%	65.8%
Tobacco Use									
Current Tobacco User (2016–2021)	22.3%	26.7%	23.1%	23.6%	21.8%	21.4%	22.7%	16.9%	24.4%
Other Cancer-Related									
Healthy Weight by Body Mass Index, Age 20+ (2015–2021)	32.1%	32.8%	31.7%	27.9%	36.1%	29.8%	27.9%	31.9%	29.7%
Any Physical Activity Besides Job Past 30 Days (2015-2021)	78.7%	79.2%	78.1%	74.5%	83.2%	73.4%	76.3%	79.7%	78.2%
Meet Physical Activity Guidelines (2011, 2013, 2015, 2017, 2019)	21.9%	22.8%	19.4%	20.0%	25.2%	19.5%	20.4%	20.2%	24.0%
Home Ever Tested for Radon (2016, 2018, 2020)	23.0%	30.9%	18.2%	16.9%	25.1%	19.9%	23.0%	21.8%	24.3%

Access to Care

Have Health Insurance – 2015–2021
Statewide, 83.1% of adults aged 18–64 reported having health care coverage. Health care coverage differed significantly by race/ethnicity, with 86.0% of white non-Hispanics, compared to 64.8% of Hispanics and 83.3% of Native Americans, having health insurance. Spanish-speaking respondents were significantly less likely to be insured (33.3%) than English-speaking respondents (84.2%). Health care coverage differed significantly by age of respondent, with 79.8% of persons aged 18–29, and 87.8% of persons aged 50–64, having health insurance. Health care coverage differed significantly by county, with a range of 62.1% in Adams County to 91.6% in Oneida County having health insurance.

Not See Doctor Due to Cost in Past Year – 2015–2021
Statewide, 12.6% 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 (11.5% of white non-Hispanics, 19.2% of Hispanics, and 21.0% of Native Americans). Inability to see a doctor due to cost differed significantly by annual household income (24.9% for less than $15,000, 6.1% for greater than $50,000). Inability to see a doctor due to cost differed significantly by county, with a range of 7.4% in Franklin County to 17.5% in Power County.

Cancer Screening

Mammogram – 2014, 2016, 2018, 2020
Statewide, 69.1% of women aged 50–74 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 (72.1% versus 36.7%). Mammography rates differed significantly by county, with a range in screening of 45.9% in Benewah County to 77.0% in Nez Perce County. In 2020, Idaho ranked 48th among states and the District of Columbia for mammography screening rates among women aged 50–74 and also 48th among ages 40+.

Pap Test – 2018, 2020
Statewide, 71.2% 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 (75.1% versus 52.6% screened in the past 3 years). Pap screening differed significantly by county, with a range of 50.7% 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 – 2018, 2020
Statewide, 67.9% of adults aged 50–75 reported being current for colorectal cancer screening.** Persons with health insurance were over twice as likely to be current for colorectal cancer screening. In 2020, Idaho ranked 47th among states and the District of Columbia in the percentage of adults aged 50–75 and older who reported being up-to-date for colorectal cancer screening.

** 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, or a colonoscopy in the past 10 years.

Cancer Screening and Risk Factors

Tobacco Use

Current Tobacco Use – 2016–2021
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, 22.3% of adults aged 18 and older were current tobacco users. Tobacco use differed significantly by age of respondent, with 29.9% of persons aged 18-29, and 11.1% of persons aged 65 and older reporting current tobacco use. Tobacco use was lower among white non-Hispanics (22.4%) than among Native Americans (40.0%). Tobacco use differed significantly by county, with a range of 5.4% in Madison County to 41.6% 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 – 2015–2021
Statewide, 32.1% 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 32.5% of white non-Hispanics, compared to 28.2% of Hispanics and 24.6% of Native Americans, being in the healthy weight range. Males (25.5%) were significantly less likely to be in the healthy weight range than females (38.6%). BMI differed significantly by age of respondent, with 43.3% of persons aged 18–29, and 26.0% of persons aged 50–64, being in the healthy weight range. BMI differed significantly by county, with a range of 19.8% in Power County to 47.4% in Blaine County of adults being in the healthy weight range.

Any Physical Activity – 2015-2021
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, 78.7% 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 83.3% of persons aged 18–29, and 72.3% 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 64.3% in Clark County to 84.6% in Teton County.

Physical Activity Guidelines – 2011, 2013, 2015, 2017, 2019
Statewide, 21.9% 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 26.3% 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 9.6% in Franklin County to 30.6% in Blaine County.

Home Radon Testing – 2016, 2018, 2020
Statewide, 23.0% of adults have ever tested their house for radon. Radon test usage varied significantly by race/ethnicity, with 25.1% of white non-Hispanics, 7.4% 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 8.5% in Cassia County to 54.4% in Blaine County.

This project has been funded in whole or in part with Federal funds from the National Cancer Institute, National Institutes of Health, Department of Health and Human Services, under Contract No. HHSN261201800006I and the Centers for Disease Control and Prevention, Department of Health and Human Services, under Cooperative Agreement NU58DP007160. The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention or the National Cancer Institute.

CDRI Cancer Data Registry of Idaho

Idaho Hospital Association

BEAR LAKE COUNTY CANCER PROFILE

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

Cancer Incidence 2016–2020
Cancer Mortality 2017–2021
BRFSS 2011–2021

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.2016.3332). 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 2016–2020

Nearly one in two Idahoans are estimated to develop cancer during their lifetime. During 2016–2020, 45,610 cases of invasive cancer were diagnosed among Idaho residents, and 170 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, 2016–2020

Cancer Incidence 2016–2020	Bear Lake County	State of Idaho
All Sites/Types	**170**	**45,610**
Female Breast	**21**	**6,687**
Prostate	**24**	**6,417**
Lung & Bronchus	**13**	**4,887**
Colorectal	**16**	**3,451**

Table 3 (*Cancer Incidence 2016–2020, 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 561.6 cases per 100,000 person-years per year during 2016–2020. Comparing this crude rate with the crude rate for the remainder of Idaho (519.8) 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 469.4 cases per 100,000 persons per year during 2016–2020. There were fewer cases of cancer in Bear Lake County (170) than expected (188.2) 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 2017–2021

During 2017–2021, cancer was the second leading cause of death in Idaho; 15,121 Idaho residents and 62 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, 2017–2021

Mortality 2017–2021	Bear Lake County	State of Idaho
All Deaths	**354**	**77,431**
Cancer Deaths	**62**	**15,121**
% of All Deaths	*17.5%*	*19.5%*
Lung & Bronchus	**9**	**2,961**
Colorectal	**9**	**1,319**
Pancreas	**3**	**1,190**
Female Breast	**5**	**1,086**
Prostate	**4**	**949**

Table 4 (*Cancer Mortality 2017–2021, 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 160.8 deaths per 100,000 persons per year during 2017–2021, compared with 168.1 for the remainder of the state. There were fewer cancer deaths in Bear Lake County (62) than expected (64.8) 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 2016–2020
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	170	30,269	561.6	469.4	188.2	0.193	45,440	8,741,559	519.8
All Sites Combined	Male	102	15,068	676.9	547.3	102.9	0.983	24,187	4,381,842	552.0
All Sites Combined	Female	68	15,201	447.3	386.3	85.8	0.055	21,253	4,359,717	487.5
Bladder	Total	8	30,269	26.4	20.7	9.6	0.757	2,176	8,741,559	24.9
Bladder	Male	7	15,068	46.5	35.6	7.8	0.955	1,744	4,381,842	39.8
Bladder	Female	1	15,201	6.6	5.3	1.9	0.891	432	4,359,717	9.9
Brain - malignant	Total	5	30,269	16.5	14.6	2.4	0.199	620	8,741,559	7.1
Brain - malignant	Male	2	15,068	13.3	11.6	1.5	0.859	373	4,381,842	8.5
Brain - malignant	Female	3	15,201	19.7	17.6	1.0	0.148	247	4,359,717	5.7
Brain and other CNS - non-malignant	Total	10	30,269	33.0	28.7	5.6	0.123	1,414	8,741,559	16.2
Brain and other CNS - non-malignant	Male	3	15,068	19.9	17.3	1.9	0.587	477	4,381,842	10.9
Brain and other CNS - non-malignant	Female	7	15,201	46.0	40.2	3.7	0.171	937	4,359,717	21.5
Breast	Total	21	30,269	69.4	60.2	26.8	0.303	6,725	8,741,559	76.9
Breast	Male	-	15,068	-	-	0.3	1.000	59	4,381,842	1.3
Breast	Female	21	15,201	138.1	121.7	26.4	0.343	6,666	4,359,717	152.9
Breast - in situ	Total	2	30,269	6.6	5.9	4.8	0.283	1,237	8,741,559	14.2
Breast - in situ	Male	-	15,068	-	-	0.0	1.000	5	4,381,842	0.1
Breast - in situ	Female	2	15,201	13.2	11.9	4.8	0.292	1,232	4,359,717	28.3
Cervix	Female	2	15,201	13.2	13.5	1.0	0.547	302	4,359,717	6.9
Colorectal	Total	16	30,269	52.9	44.5	14.1	0.689	3,435	8,741,559	39.3
Colorectal	Male	10	15,068	66.4	55.3	7.8	0.521	1,893	4,381,842	43.2
Colorectal	Female	6	15,201	39.5	33.4	6.4	1.000	1,542	4,359,717	35.4
Corpus Uteri	Female	3	15,201	19.7	17.5	5.2	0.470	1,327	4,359,717	30.4
Esophagus	Total	2	30,269	6.6	5.4	2.2	1.000	504	8,741,559	5.8
Esophagus	Male	2	15,068	13.3	10.6	1.8	1.000	422	4,381,842	9.6
Esophagus	Female	-	15,201	-	-	0.3	1.000	82	4,359,717	1.9
Hodgkin Lymphoma	Total	1	30,269	3.3	3.3	0.7	1.000	209	8,741,559	2.4
Hodgkin Lymphoma	Male	-	15,068	-	-	0.4	1.000	118	4,381,842	2.7
Hodgkin Lymphoma	Female	1	15,201	6.6	6.6	0.3	0.545	91	4,359,717	2.1
Kidney and Renal Pelvis	Total	5	30,269	16.5	14.0	7.4	0.508	1,810	8,741,559	20.7
Kidney and Renal Pelvis	Male	5	15,068	33.2	27.8	4.8	1.000	1,177	4,381,842	26.9
Kidney and Renal Pelvis	Female	-	15,201	-	-	2.6	0.151	633	4,359,717	14.5
Larynx	Total	2	30,269	6.6	5.4	0.9	0.458	213	8,741,559	2.4
Larynx	Male	1	15,068	6.6	5.3	0.7	0.996	159	4,381,842	3.6
Larynx	Female	1	15,201	6.6	5.7	0.2	0.393	54	4,359,717	1.2
Leukemia	Total	6	30,269	19.8	16.4	6.8	0.953	1,625	8,741,559	18.6
Leukemia	Male	5	15,068	33.2	27.0	4.2	0.806	984	4,381,842	22.5
Leukemia	Female	1	15,201	6.6	5.5	2.7	0.506	641	4,359,717	14.7
Liver and Bile Duct	Total	3	30,269	9.9	8.2	3.5	1.000	826	8,741,559	9.4
Liver and Bile Duct	Male	2	15,068	13.3	10.8	2.5	1.000	588	4,381,842	13.4
Liver and Bile Duct	Female	1	15,201	6.6	5.5	1.0	1.000	238	4,359,717	5.5
Lung and Bronchus	Total	13	30,269	42.9	33.9	21.4	0.072	4,874	8,741,559	55.8
Lung and Bronchus	Male	8	15,068	53.1	41.0	10.9	0.486	2,444	4,381,842	55.8
Lung and Bronchus	Female	5	15,201	32.9	26.4	10.6	0.098	2,430	4,359,717	55.7
Melanoma of the Skin	Total	13	30,269	42.9	36.9	11.8	0.804	2,929	8,741,559	33.5
Melanoma of the Skin	Male	8	15,068	53.1	43.7	7.3	0.902	1,757	4,381,842	40.1
Melanoma of the Skin	Female	5	15,201	32.9	29.8	4.5	0.940	1,172	4,359,717	26.9
Myeloma	Total	3	30,269	9.9	7.9	3.1	1.000	705	8,741,559	8.1
Myeloma	Male	3	15,068	19.9	15.6	1.9	0.601	438	4,381,842	10.0
Myeloma	Female	-	15,201	-	-	1.2	0.632	267	4,359,717	6.1
Non-Hodgkin Lymphoma	Total	11	30,269	36.3	30.3	8.0	0.370	1,929	8,741,559	22.1
Non-Hodgkin Lymphoma	Male	9	15,068	59.7	49.2	4.7	0.098	1,120	4,381,842	25.6
Non-Hodgkin Lymphoma	Female	2	15,201	13.2	11.0	3.4	0.694	809	4,359,717	18.6
Oral Cavity and Pharynx	Total	4	30,269	13.2	11.2	5.3	0.788	1,291	8,741,559	14.8
Oral Cavity and Pharynx	Male	3	15,068	19.9	16.6	3.9	0.926	933	4,381,842	21.3
Oral Cavity and Pharynx	Female	1	15,201	6.6	5.7	1.5	1.000	358	4,359,717	8.2
Ovary	Female	1	15,201	6.6	5.8	2.1	0.755	532	4,359,717	12.2
Pancreas	Total	3	30,269	9.9	7.9	6.1	0.278	1,420	8,741,559	16.2
Pancreas	Male	2	15,068	13.3	10.5	3.4	0.674	782	4,381,842	17.8
Pancreas	Female	1	15,201	6.6	5.3	2.7	0.484	638	4,359,717	14.6
Prostate	Male	24	15,068	159.3	127.2	27.5	0.578	6,393	4,381,842	145.9
Stomach	Total	1	30,269	3.3	2.7	2.0	0.828	466	8,741,559	5.3
Stomach	Male	1	15,068	6.6	5.3	1.3	1.000	308	4,381,842	7.0
Stomach	Female	-	15,201	-	-	0.7	1.000	158	4,359,717	3.6
Testis	Male	1	15,068	6.6	7.5	0.8	1.000	264	4,381,842	6.0
Thyroid	Total	6	30,269	19.8	19.6	4.2	0.510	1,214	8,741,559	13.9
Thyroid	Male	3	15,068	19.9	18.6	1.3	0.285	352	4,381,842	8.0
Thyroid	Female	3	15,201	19.7	20.1	2.9	1.000	862	4,359,717	19.8
Pediatric Age 0 to 19	Total	3	8,859	33.9	34.0	1.5	0.384	418	2,451,664	17.0
Pediatric Age 0 to 19	Male	2	4,463	44.8	44.5	0.8	0.377	221	1,252,047	17.7
Pediatric Age 0 to 19	Female	1	4,396	22.7	23.1	0.7	1.000	197	1,199,617	16.4

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 2017–2021
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	354	30,874	1,146.6	918.3	331.7	0.233	77,076	8,957,841	860.4
All Causes of Death	Male	191	15,415	1,239.1	986.0	176.0	0.277	40,865	4,496,453	908.8
All Causes of Death	Female	163	15,459	1,054.4	849.5	155.7	0.582	36,211	4,461,388	811.7
All Malignant Cancers	Total	62	30,874	200.8	160.8	64.8	0.790	15,059	8,957,841	168.1
All Malignant Cancers	Male	38	15,415	246.5	193.4	35.6	0.725	8,138	4,496,453	181.0
All Malignant Cancers	Female	24	15,459	155.2	126.7	29.4	0.371	6,921	4,461,388	155.1
Bladder	Total	2	30,874	6.5	5.0	2.2	1.000	487	8,957,841	5.4
Bladder	Male	2	15,415	13.0	9.7	1.7	1.000	376	4,496,453	8.4
Bladder	Female	-	15,459	-	-	0.5	1.000	111	4,461,388	2.5
Brain and Other Nervous System	Total	3	30,874	9.7	8.3	2.0	0.657	501	8,957,841	5.6
Brain and Other Nervous System	Male	1	15,415	6.5	5.5	1.2	1.000	297	4,496,453	6.6
Brain and Other Nervous System	Female	2	15,459	12.9	11.2	0.8	0.392	204	4,461,388	4.6
Breast	Total	5	30,874	16.2	13.4	4.6	0.961	1,097	8,957,841	12.2
Breast	Male	-	15,415	-	-	0.1	1.000	16	4,496,453	0.4
Breast	Female	5	15,459	32.3	27.3	4.4	0.915	1,081	4,461,388	24.2
Cervix	Female	-	15,459	-	-	0.3	1.000	83	4,461,388	1.9
Colorectal	Total	9	30,874	29.2	23.9	5.5	0.214	1,310	8,957,841	14.6
Colorectal	Male	5	15,415	32.4	26.5	3.0	0.370	714	4,496,453	15.9
Colorectal	Female	4	15,459	25.9	21.2	2.5	0.494	596	4,461,388	13.4
Corpus Uteri	Female	1	15,459	6.5	5.4	0.7	1.000	172	4,461,388	3.9
Esophagus	Total	2	30,874	6.5	5.3	2.0	1.000	475	8,957,841	5.3
Esophagus	Male	2	15,415	13.0	10.4	1.7	1.000	399	4,496,453	8.9
Esophagus	Female	-	15,459	-	-	0.3	1.000	76	4,461,388	1.7
Hodgkin Lymphoma	Total	-	30,874	-	-	0.1	1.000	29	8,957,841	0.3
Hodgkin Lymphoma	Male	-	15,415	-	-	0.1	1.000	14	4,496,453	0.3
Hodgkin Lymphoma	Female	-	15,459	-	-	0.1	1.000	15	4,461,388	0.3
Kidney	Total	1	30,874	3.2	2.6	1.7	1.000	384	8,957,841	4.3
Kidney	Male	1	15,415	6.5	5.1	1.1	1.000	241	4,496,453	5.4
Kidney	Female	-	15,459	-	-	0.6	1.000	143	4,461,388	3.2
Larynx	Total	-	30,874	-	-	0.3	1.000	71	8,957,841	0.8
Larynx	Male	-	15,415	-	-	0.3	1.000	58	4,496,453	1.3
Larynx	Female	-	15,459	-	-	0.1	1.000	13	4,461,388	0.3
Leukemia	Total	4	30,874	13.0	10.2	2.9	0.648	656	8,957,841	7.3
Leukemia	Male	3	15,415	19.5	15.2	1.7	0.475	383	4,496,453	8.5
Leukemia	Female	1	15,459	6.5	5.1	1.2	1.000	273	4,461,388	6.1
Liver and Bile Duct	Total	3	30,874	9.7	7.9	2.5	0.934	600	8,957,841	6.7
Liver and Bile Duct	Male	-	15,415	-	-	1.7	0.348	408	4,496,453	9.1
Liver and Bile Duct	Female	3	15,459	19.4	16.0	0.8	0.097	192	4,461,388	4.3
Lung and Bronchus	Total	9	30,874	29.2	23.0	12.9	0.349	2,952	8,957,841	33.0
Lung and Bronchus	Male	6	15,415	38.9	30.3	6.8	0.954	1,550	4,496,453	34.5
Lung and Bronchus	Female	3	15,459	19.4	15.5	6.1	0.288	1,402	4,461,388	31.4
Melanoma of the Skin	Total	2	30,874	6.5	5.3	1.2	0.686	287	8,957,841	3.2
Melanoma of the Skin	Male	2	15,415	13.0	10.3	0.8	0.399	190	4,496,453	4.2
Melanoma of the Skin	Female	-	15,459	-	-	0.4	1.000	97	4,461,388	2.2
Myeloma	Total	1	30,874	3.2	2.5	1.5	1.000	330	8,957,841	3.7
Myeloma	Male	1	15,415	6.5	4.9	0.9	1.000	195	4,496,453	4.3
Myeloma	Female	-	15,459	-	-	0.6	1.000	135	4,461,388	3.0
Non-Hodgkin Lymphoma	Total	3	30,874	9.7	7.6	2.5	0.906	566	8,957,841	6.3
Non-Hodgkin Lymphoma	Male	3	15,415	19.5	15.3	1.3	0.297	304	4,496,453	6.8
Non-Hodgkin Lymphoma	Female	-	15,459	-	-	1.2	0.621	262	4,461,388	5.9
Oral Cavity and Pharynx	Total	1	30,874	3.2	2.6	1.1	1.000	265	8,957,841	3.0
Oral Cavity and Pharynx	Male	1	15,415	6.5	5.2	0.8	1.000	186	4,496,453	4.1
Oral Cavity and Pharynx	Female	-	15,459	-	-	0.3	1.000	79	4,461,388	1.8
Ovary	Female	1	15,459	6.5	5.3	1.5	1.000	349	4,461,388	7.8
Pancreas	Total	3	30,874	9.7	7.8	5.1	0.498	1,187	8,957,841	13.3
Pancreas	Male	2	15,415	13.0	10.2	2.8	0.949	640	4,496,453	14.2
Pancreas	Female	1	15,459	6.5	5.2	2.3	0.644	547	4,461,388	12.3
Prostate	Male	4	15,415	25.9	19.3	4.3	1.000	945	4,496,453	21.0
Stomach	Total	-	30,874	-	-	0.8	0.876	198	8,957,841	2.2
Stomach	Male	-	15,415	-	-	0.5	1.000	121	4,496,453	2.7
Stomach	Female	-	15,459	-	-	0.3	1.000	77	4,461,388	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, 2020.

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 (BRFS) since 1984. These surveys are conducted with randomly selected adult Idahoans to measure population prevalences of risk factors for the major causes of death, including cancer. DPH provided data sets containing Behavioral Risk Factor Surveillance System (BRFSS) data from 2011 through 2021 to CDRI staff, who performed the analyses reported in these *County Profiles*. Analysis weights were poststratified to 2020 population estimates by age group, sex, and county, beginning with the BRFSS raked weights. Not all questions were asked in all years. 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* 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, 2011–2021

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 (2015–2021)	83.1%	82.8%	85.1%	77.2%	85.8%	78.9%	85.4%	85.4%	85.4%
Not See Doctor Due to Cost in Past Year (2015–2021)	12.6%	11.4%	11.8%	14.5%	12.4%	12.3%	11.8%	12.9%	11.1%
Cancer Screening									
Mammogram Past 2 Years, Age 50–74 (2014, 2016, 2018, 2020)	69.1%	67.0%	73.8%	68.2%	73.2%	64.8%	64.5%	67.1%	.
Pap Test Past 3 Years, Cervix Intact Age 21–65 (2018, 2020)	71.2%	73.6%	73.6%	70.8%	72.9%	69.1%	69.5%	65.9%	.
Colorectal Cancer Screening, Age 50–75 (2018, 2020)	67.9%	66.9%	73.6%	71.4%	70.6%	61.7%	61.5%	64.7%	.
Tobacco Use									
Current Tobacco User (2016–2021)	22.3%	26.7%	23.1%	23.6%	21.8%	21.4%	22.7%	16.9%	17.9%
Other Cancer-Related									
Healthy Weight by Body Mass Index, Age 20+ (2015–2021)	32.1%	32.8%	31.7%	27.9%	36.1%	29.8%	27.9%	31.9%	30.6%
Any Physical Activity Besides Job Past 30 Days (2015-2021)	78.7%	79.2%	78.1%	74.5%	83.2%	73.4%	76.3%	79.7%	79.2%
Meet Physical Activity Guidelines (2011, 2013, 2015, 2017, 2019)	21.9%	22.8%	19.4%	20.0%	25.2%	19.5%	20.4%	20.2%	18.9%
Home Ever Tested for Radon (2016, 2018, 2020)	23.0%	30.9%	18.2%	16.9%	25.1%	19.9%	23.0%	21.8%	33.7%

Access to Care

Have Health Insurance – 2015–2021
Statewide, 83.1% of adults aged 18–64 reported having health care coverage. Health care coverage differed significantly by race/ethnicity, with 86.0% of white non-Hispanics, compared to 64.8% of Hispanics and 83.3% of Native Americans, having health insurance. Spanish-speaking respondents were significantly less likely to be insured (33.3%) than English-speaking respondents (84.2%). Health care coverage differed significantly by age of respondent, with 79.8% of persons aged 18–29, and 87.8% of persons aged 50–64, having health insurance. Health care coverage differed significantly by county, with a range of 62.1% in Adams County to 91.6% in Oneida County having health insurance.

Not See Doctor Due to Cost in Past Year – 2015–2021
Statewide, 12.6% 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 (11.5% of white non-Hispanics, 19.2% of Hispanics, and 21.0% of Native Americans). Inability to see a doctor due to cost differed significantly by annual household income (24.9% for less than $15,000, 6.1% for greater than $50,000). Inability to see a doctor due to cost differed significantly by county, with a range of 7.4% in Franklin County to 17.5% in Power County.

Cancer Screening

Mammogram – 2014, 2016, 2018, 2020
Statewide, 69.1% of women aged 50–74 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 (72.1% versus 36.7%). Mammography rates differed significantly by county, with a range in screening of 45.9% in Benewah County to 77.0% in Nez Perce County. In 2020, Idaho ranked 48th among states and the District of Columbia for mammography screening rates among women aged 50–74 and also 48th among ages 40+.

Pap Test – 2018, 2020
Statewide, 71.2% 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 (75.1% versus 52.6% screened in the past 3 years). Pap screening differed significantly by county, with a range of 50.7% 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 – 2018, 2020
Statewide, 67.9% of adults aged 50–75 reported being current for colorectal cancer screening.** Persons with health insurance were over twice as likely to be current for colorectal cancer screening. In 2020, Idaho ranked 47th among states and the District of Columbia in the percentage of adults aged 50–75 and older who reported being up-to-date for colorectal cancer screening.

** 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, or a colonoscopy in the past 10 years.

Cancer Screening and Risk Factors

Tobacco Use

Current Tobacco Use – 2016–2021
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, 22.3% of adults aged 18 and older were current tobacco users. Tobacco use differed significantly by age of respondent, with 29.9% of persons aged 18-29, and 11.1% of persons aged 65 and older reporting current tobacco use. Tobacco use was lower among white non-Hispanics (22.4%) than among Native Americans (40.0%). Tobacco use differed significantly by county, with a range of 5.4% in Madison County to 41.6% 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 – 2015–2021
Statewide, 32.1% 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 32.5% of white non-Hispanics, compared to 28.2% of Hispanics and 24.6% of Native Americans, being in the healthy weight range. Males (25.5%) were significantly less likely to be in the healthy weight range than females (38.6%). BMI differed significantly by age of respondent, with 43.3% of persons aged 18–29, and 26.0% of persons aged 50–64, being in the healthy weight range. BMI differed significantly by county, with a range of 19.8% in Power County to 47.4% in Blaine County of adults being in the healthy weight range.

Any Physical Activity – 2015-2021
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, 78.7% 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 83.3% of persons aged 18–29, and 72.3% 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 64.3% in Clark County to 84.6% in Teton County.

Physical Activity Guidelines – 2011, 2013, 2015, 2017, 2019
Statewide, 21.9% 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 26.3% 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 9.6% in Franklin County to 30.6% in Blaine County.

Home Radon Testing – 2016, 2018, 2020
Statewide, 23.0% of adults have ever tested their house for radon. Radon test usage varied significantly by race/ethnicity, with 25.1% of white non-Hispanics, 7.4% 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 8.5% in Cassia County to 54.4% in Blaine County.

This project has been funded in whole or in part with Federal funds from the National Cancer Institute, National Institutes of Health, Department of Health and Human Services, under Contract No. HHSN261201800006I and the Centers for Disease Control and Prevention, Department of Health and Human Services, under Cooperative Agreement NU58DP007160. The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention or the National Cancer Institute.

CDRI Cancer Data Registry of Idaho

Idaho Hospital Association

BENEWAH COUNTY CANCER PROFILE

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

Cancer Incidence 2016–2020
Cancer Mortality 2017–2021
BRFSS 2011–2021

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.2016.3332). 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 2016–2020

Nearly one in two Idahoans are estimated to develop cancer during their lifetime. During 2016–2020, 45,610 cases of invasive cancer were diagnosed among Idaho residents, and 291 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, 2016–2020

Cancer Incidence 2016–2020	Benewah County	State of Idaho
All Sites/Types	**291**	**45,610**
Female Breast	**38**	**6,687**
Prostate	**37**	**6,417**
Lung & Bronchus	**37**	**4,887**
Colorectal	**21**	**3,451**

Table 3 (*Cancer Incidence 2016–2020, 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 630.5 cases per 100,000 person-years per year during 2016–2020. Comparing this crude rate with the crude rate for the remainder of Idaho (519.4) 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 474.9 cases per 100,000 persons per year during 2016–2020. There were fewer cases of cancer in Benewah County (291) than expected (318.2) 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 2017–2021

During 2017–2021, cancer was the second leading cause of death in Idaho; 15,121 Idaho residents and 118 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, 2017–2021

Mortality 2017–2021	Benewah County	State of Idaho
All Deaths	**655**	**77,431**
Cancer Deaths	**118**	**15,121**
% of All Deaths	*18.0%*	*19.5%*
Lung & Bronchus	**30**	**2,961**
Colorectal	**5**	**1,319**
Pancreas	**7**	**1,190**
Female Breast	**9**	**1,086**
Prostate	**5**	**949**

Table 4 (*Cancer Mortality 2017–2021, 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 188.0 deaths per 100,000 persons per year during 2017–2021, compared with 167.8 for the remainder of the state. There were more cancer deaths in Benewah County (118) than expected (105.3) 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 2016–2020
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	291	46,155	630.5	474.9	318.2	0.131	45,319	8,725,673	519.4
All Sites Combined	Male	173	23,514	735.7	521.5	182.9	0.490	24,116	4,373,396	551.4
All Sites Combined	Female	118	22,641	521.2	414.2	138.8	0.079	21,203	4,352,277	487.2
Bladder	Total	19	46,155	41.2	29.8	15.8	0.484	2,165	8,725,673	24.8
Bladder	Male	16	23,514	68.0	46.2	13.7	0.612	1,735	4,373,396	39.7
Bladder	Female	3	22,641	13.3	10.2	2.9	1.000	430	4,352,277	9.9
Brain - malignant	Total	4	46,155	8.7	7.0	4.0	1.000	621	8,725,673	7.1
Brain - malignant	Male	2	23,514	8.5	6.7	2.5	1.000	373	4,373,396	8.5
Brain - malignant	Female	2	22,641	8.8	7.4	1.5	0.917	248	4,352,277	5.7
Brain and other CNS - non-malignant	Total	10	46,155	21.7	17.3	9.4	0.920	1,414	8,725,673	16.2
Brain and other CNS - non-malignant	Male	4	23,514	17.0	13.3	3.3	0.826	476	4,373,396	10.9
Brain and other CNS - non-malignant	Female	6	22,641	26.5	21.7	5.9	1.000	938	4,352,277	21.6
Breast	Total	39	46,155	84.5	65.0	46.2	0.328	6,707	8,725,673	76.9
Breast	Male	1	23,514	4.3	3.0	0.4	0.717	58	4,373,396	1.3
Breast	Female	38	22,641	167.8	132.1	44.0	0.415	6,649	4,352,277	152.8
Breast - in situ	Total	12	46,155	26.0	19.9	8.5	0.296	1,227	8,725,673	14.1
Breast - in situ	Male	1	23,514	4.3	3.5	0.0	0.052	4	4,373,396	0.1
Breast - in situ	Female	11	22,641	48.6	37.8	8.2	0.406	1,223	4,352,277	28.1
Cervix	Female	1	22,641	4.4	4.2	1.7	1.000	303	4,352,277	7.0
Colorectal	Total	21	46,155	45.5	34.7	23.8	0.661	3,430	8,725,673	39.3
Colorectal	Male	14	23,514	59.5	43.3	14.0	1.000	1,889	4,373,396	43.2
Colorectal	Female	7	22,641	30.9	24.8	10.0	0.443	1,541	4,352,277	35.4
Corpus Uteri	Female	6	22,641	26.5	20.4	9.0	0.422	1,324	4,352,277	30.4
Esophagus	Total	5	46,155	10.8	7.9	3.6	0.597	501	8,725,673	5.7
Esophagus	Male	5	23,514	21.3	14.8	3.2	0.450	419	4,373,396	9.6
Esophagus	Female	-	22,641	-	-	0.6	1.000	82	4,352,277	1.9
Hodgkin Lymphoma	Total	-	46,155	-	-	1.2	0.621	210	8,725,673	2.4
Hodgkin Lymphoma	Male	-	23,514	-	-	0.7	1.000	118	4,373,396	2.7
Hodgkin Lymphoma	Female	-	22,641	-	-	0.5	1.000	92	4,352,277	2.1
Kidney and Renal Pelvis	Total	17	46,155	36.8	27.9	12.5	0.266	1,798	8,725,673	20.6
Kidney and Renal Pelvis	Male	12	23,514	51.0	37.4	8.6	0.319	1,170	4,373,396	26.8
Kidney and Renal Pelvis	Female	5	22,641	22.1	17.4	4.1	0.797	628	4,352,277	14.4
Larynx	Total	2	46,155	4.3	3.1	1.6	0.919	213	8,725,673	2.4
Larynx	Male	2	23,514	8.5	5.9	1.2	0.695	158	4,373,396	3.6
Larynx	Female	-	22,641	-	-	0.4	1.000	55	4,352,277	1.3
Leukemia	Total	3	46,155	6.5	5.0	11.2	0.008 <<	1,628	8,725,673	18.7
Leukemia	Male	3	23,514	12.8	9.3	7.3	0.139	986	4,373,396	22.5
Leukemia	Female	-	22,641	-	-	4.2	0.031 <<	642	4,352,277	14.8
Liver and Bile Duct	Total	8	46,155	17.3	12.6	6.0	0.501	821	8,725,673	9.4
Liver and Bile Duct	Male	7	23,514	29.8	20.9	4.5	0.331	583	4,373,396	13.3
Liver and Bile Duct	Female	1	22,641	4.4	3.4	1.6	1.000	238	4,352,277	5.5
Lung and Bronchus	Total	37	46,155	80.2	57.3	35.9	0.893	4,850	8,725,673	55.6
Lung and Bronchus	Male	17	23,514	72.3	48.9	19.4	0.696	2,435	4,373,396	55.7
Lung and Bronchus	Female	20	22,641	88.3	66.4	16.7	0.481	2,415	4,352,277	55.5
Melanoma of the Skin	Total	7	46,155	15.2	11.9	19.8	0.002 <<	2,935	8,725,673	33.6
Melanoma of the Skin	Male	5	23,514	21.3	15.5	13.0	0.022 <<	1,760	4,373,396	40.2
Melanoma of the Skin	Female	2	22,641	8.8	7.4	7.3	0.046 <<	1,175	4,352,277	27.0
Myeloma	Total	10	46,155	21.7	15.8	5.1	0.069	698	8,725,673	8.0
Myeloma	Male	5	23,514	21.3	14.6	3.4	0.518	436	4,373,396	10.0
Myeloma	Female	5	22,641	22.1	16.9	1.8	0.070	262	4,352,277	6.0
Non-Hodgkin Lymphoma	Total	16	46,155	34.7	26.2	13.4	0.554	1,924	8,725,673	22.0
Non-Hodgkin Lymphoma	Male	9	23,514	38.3	27.8	8.3	0.894	1,120	4,373,396	25.6
Non-Hodgkin Lymphoma	Female	7	22,641	30.9	24.3	5.3	0.571	804	4,352,277	18.5
Oral Cavity and Pharynx	Total	10	46,155	21.7	16.1	9.2	0.866	1,285	8,725,673	14.7
Oral Cavity and Pharynx	Male	8	23,514	34.0	24.3	7.0	0.795	928	4,373,396	21.2
Oral Cavity and Pharynx	Female	2	22,641	8.8	6.9	2.4	1.000	357	4,352,277	8.2
Ovary	Female	4	22,641	17.7	14.1	3.5	0.906	529	4,352,277	12.2
Pancreas	Total	10	46,155	21.7	15.9	10.2	1.000	1,413	8,725,673	16.2
Pancreas	Male	6	23,514	25.5	17.7	6.0	1.000	778	4,373,396	17.8
Pancreas	Female	4	22,641	17.7	13.8	4.2	1.000	635	4,352,277	14.6
Prostate	Male	37	23,514	157.4	108.1	49.9	0.069	6,380	4,373,396	145.9
Stomach	Total	7	46,155	15.2	11.5	3.2	0.092	460	8,725,673	5.3
Stomach	Male	7	23,514	29.8	20.9	2.3	0.019 >>	302	4,373,396	6.9
Stomach	Female	-	22,641	-	-	1.0	0.742	158	4,352,277	3.6
Testis	Male	3	23,514	12.8	15.1	1.2	0.237	262	4,373,396	6.0
Thyroid	Total	5	46,155	10.8	9.9	7.1	0.586	1,215	8,725,673	13.9
Thyroid	Male	1	23,514	4.3	3.6	2.2	0.687	354	4,373,396	8.1
Thyroid	Female	4	22,641	17.7	16.5	4.8	0.956	861	4,352,277	19.8
Pediatric Age 0 to 19	Total	2	11,243	17.8	18.0	1.9	1.000	419	2,449,280	17.1
Pediatric Age 0 to 19	Male	2	5,853	34.2	34.4	1.0	0.548	221	1,250,657	17.7
Pediatric Age 0 to 19	Female	-	5,390	-	-	0.9	0.834	198	1,198,623	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 2017–2021
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	655	47,053	1,392.0	1,106.9	508.1	0.000 >>	76,775	8,941,662	858.6
All Causes of Death	Male	351	24,039	1,460.1	1,063.4	299.4	0.004 >>	40,705	4,487,829	907.0
All Causes of Death	Female	304	23,014	1,320.9	1,155.2	213.1	0.000 >>	36,070	4,453,833	809.9
All Malignant Cancers	Total	118	47,053	250.8	188.0	105.3	0.238	15,003	8,941,662	167.8
All Malignant Cancers	Male	67	24,039	278.7	194.5	62.2	0.580	8,109	4,487,829	180.7
All Malignant Cancers	Female	51	23,014	221.6	176.6	44.7	0.382	6,894	4,453,833	154.8
Bladder	Total	6	47,053	12.8	9.7	3.3	0.240	483	8,941,662	5.4
Bladder	Male	6	24,039	25.0	17.2	2.9	0.146	372	4,487,829	8.3
Bladder	Female	-	23,014	-	-	0.7	0.993	111	4,453,833	2.5
Brain and Other Nervous System	Total	3	47,053	6.4	4.9	3.4	1.000	501	8,941,662	5.6
Brain and Other Nervous System	Male	1	24,039	4.2	3.1	2.1	0.742	297	4,487,829	6.6
Brain and Other Nervous System	Female	2	23,014	8.7	6.9	1.3	0.771	204	4,453,833	4.6
Breast	Total	10	47,053	21.3	16.4	7.5	0.438	1,092	8,941,662	12.2
Breast	Male	1	24,039	4.2	2.9	0.1	0.220	15	4,487,829	0.3
Breast	Female	9	23,014	39.1	31.6	6.9	0.511	1,077	4,453,833	24.2
Cervix	Female	-	23,014	-	-	0.5	1.000	83	4,453,833	1.9
Colorectal	Total	5	47,053	10.6	8.1	9.0	0.226	1,314	8,941,662	14.7
Colorectal	Male	4	24,039	16.6	12.0	5.3	0.770	715	4,487,829	15.9
Colorectal	Female	1	23,014	4.3	3.6	3.8	0.220	599	4,453,833	13.4
Corpus Uteri	Female	1	23,014	4.3	3.3	1.2	1.000	172	4,453,833	3.9
Esophagus	Total	6	47,053	12.8	9.4	3.4	0.249	471	8,941,662	5.3
Esophagus	Male	6	24,039	25.0	17.4	3.0	0.173	395	4,487,829	8.8
Esophagus	Female	-	23,014	-	-	0.5	1.000	76	4,453,833	1.7
Hodgkin Lymphoma	Total	-	47,053	-	-	0.2	1.000	29	8,941,662	0.3
Hodgkin Lymphoma	Male	-	24,039	-	-	0.1	1.000	14	4,487,829	0.3
Hodgkin Lymphoma	Female	-	23,014	-	-	0.1	1.000	15	4,453,833	0.3
Kidney	Total	5	47,053	10.6	7.9	2.7	0.272	380	8,941,662	4.2
Kidney	Male	4	24,039	16.6	11.6	1.8	0.227	238	4,487,829	5.3
Kidney	Female	1	23,014	4.3	3.5	0.9	1.000	142	4,453,833	3.2
Larynx	Total	1	47,053	2.1	1.6	0.5	0.788	70	8,941,662	0.8
Larynx	Male	1	24,039	4.2	2.9	0.4	0.713	57	4,487,829	1.3
Larynx	Female	-	23,014	-	-	0.1	1.000	13	4,453,833	0.3
Leukemia	Total	6	47,053	12.8	9.8	4.5	0.593	654	8,941,662	7.3
Leukemia	Male	4	24,039	16.6	11.8	2.9	0.658	382	4,487,829	8.5
Leukemia	Female	2	23,014	8.7	7.2	1.7	1.000	272	4,453,833	6.1
Liver and Bile Duct	Total	5	47,053	10.6	7.8	4.3	0.864	598	8,941,662	6.7
Liver and Bile Duct	Male	3	24,039	12.5	8.7	3.1	1.000	405	4,487,829	9.0
Liver and Bile Duct	Female	2	23,014	8.7	6.7	1.3	0.740	193	4,453,833	4.3
Lung and Bronchus	Total	30	47,053	63.8	46.3	21.2	0.084	2,931	8,941,662	32.8
Lung and Bronchus	Male	14	24,039	58.2	39.8	12.1	0.658	1,542	4,487,829	34.4
Lung and Bronchus	Female	16	23,014	69.5	53.6	9.3	0.057	1,389	4,453,833	31.2
Melanoma of the Skin	Total	1	47,053	2.1	1.6	2.0	0.819	288	8,941,662	3.2
Melanoma of the Skin	Male	-	24,039	-	-	1.4	0.473	192	4,487,829	4.3
Melanoma of the Skin	Female	1	23,014	4.3	3.5	0.6	0.921	96	4,453,833	2.2
Myeloma	Total	5	47,053	10.6	7.8	2.3	0.179	326	8,941,662	3.6
Myeloma	Male	2	24,039	8.3	5.6	1.5	0.909	194	4,487,829	4.3
Myeloma	Female	3	23,014	13.0	10.2	0.9	0.117	132	4,453,833	3.0
Non-Hodgkin Lymphoma	Total	2	47,053	4.3	3.2	4.0	0.482	567	8,941,662	6.3
Non-Hodgkin Lymphoma	Male	1	24,039	4.2	2.9	2.3	0.643	306	4,487,829	6.8
Non-Hodgkin Lymphoma	Female	1	23,014	4.3	3.5	1.7	1.000	261	4,453,833	5.9
Oral Cavity and Pharynx	Total	2	47,053	4.3	3.1	1.9	1.000	264	8,941,662	3.0
Oral Cavity and Pharynx	Male	2	24,039	8.3	5.8	1.4	0.834	185	4,487,829	4.1
Oral Cavity and Pharynx	Female	-	23,014	-	-	0.5	1.000	79	4,453,833	1.8
Ovary	Female	-	23,014	-	-	2.3	0.193	350	4,453,833	7.9
Pancreas	Total	7	47,053	14.9	10.9	8.5	0.770	1,183	8,941,662	13.2
Pancreas	Male	3	24,039	12.5	8.6	4.9	0.546	639	4,487,829	14.2
Pancreas	Female	4	23,014	17.4	13.4	3.6	0.986	544	4,453,833	12.2
Prostate	Male	5	24,039	20.8	14.3	7.4	0.512	944	4,487,829	21.0
Stomach	Total	3	47,053	6.4	5.0	1.3	0.296	195	8,941,662	2.2
Stomach	Male	3	24,039	12.5	8.9	0.9	0.122	118	4,487,829	2.6
Stomach	Female	-	23,014	-	-	0.5	1.000	77	4,453,833	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, 2020.

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 (BRFS) since 1984. These surveys are conducted with randomly selected adult Idahoans to measure population prevalences of risk factors for the major causes of death, including cancer. DPH provided data sets containing Behavioral Risk Factor Surveillance System (BRFSS) data from 2011 through 2021 to CDRI staff, who performed the analyses reported in these *County Profiles*. Analysis weights were poststratified to 2020 population estimates by age group, sex, and county, beginning with the BRFSS raked weights. Not all questions were asked in all years. 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* 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, 2011–2021

Measure	State of Idaho	HD 1	HD 2	HD 3	HD 4	HD 5	HD 6	HD 7	Benewah County
Access to Care									
Have Health Insurance, Age <65 (2015–2021)	83.1%	82.8%	85.1%	77.2%	85.8%	78.9%	85.4%	85.4%	82.0%
Not See Doctor Due to Cost in Past Year (2015–2021)	12.6%	11.4%	11.8%	14.5%	12.4%	12.3%	11.8%	12.9%	10.1%
Cancer Screening									
Mammogram Past 2 Years, Age 50–74 (2014, 2016, 2018, 2020)	69.1%	67.0%	73.8%	68.2%	73.2%	64.8%	64.5%	67.1%	45.9%
Pap Test Past 3 Years, Cervix Intact Age 21–65 (2018, 2020)	71.2%	73.6%	73.6%	70.8%	72.9%	69.1%	69.5%	65.9%	.
Colorectal Cancer Screening, Age 50–75 (2018, 2020)	67.9%	66.9%	73.6%	71.4%	70.6%	61.7%	61.5%	64.7%	58.3%
Tobacco Use									
Current Tobacco User (2016–2021)	22.3%	26.7%	23.1%	23.6%	21.8%	21.4%	22.7%	16.9%	27.1%
Other Cancer-Related									
Healthy Weight by Body Mass Index, Age 20+ (2015–2021)	32.1%	32.8%	31.7%	27.9%	36.1%	29.8%	27.9%	31.9%	33.5%
Any Physical Activity Besides Job Past 30 Days (2015-2021)	78.7%	79.2%	78.1%	74.5%	83.2%	73.4%	76.3%	79.7%	72.5%
Meet Physical Activity Guidelines (2011, 2013, 2015, 2017, 2019)	21.9%	22.8%	19.4%	20.0%	25.2%	19.5%	20.4%	20.2%	22.7%
Home Ever Tested for Radon (2016, 2018, 2020)	23.0%	30.9%	18.2%	16.9%	25.1%	19.9%	23.0%	21.8%	15.5%

Access to Care

Have Health Insurance – 2015–2021
Statewide, 83.1% of adults aged 18–64 reported having health care coverage. Health care coverage differed significantly by race/ethnicity, with 86.0% of white non-Hispanics, compared to 64.8% of Hispanics and 83.3% of Native Americans, having health insurance. Spanish-speaking respondents were significantly less likely to be insured (33.3%) than English-speaking respondents (84.2%). Health care coverage differed significantly by age of respondent, with 79.8% of persons aged 18–29, and 87.8% of persons aged 50–64, having health insurance. Health care coverage differed significantly by county, with a range of 62.1% in Adams County to 91.6% in Oneida County having health insurance.

Not See Doctor Due to Cost in Past Year – 2015–2021
Statewide, 12.6% 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 (11.5% of white non-Hispanics, 19.2% of Hispanics, and 21.0% of Native Americans). Inability to see a doctor due to cost differed significantly by annual household income (24.9% for less than $15,000, 6.1% for greater than $50,000). Inability to see a doctor due to cost differed significantly by county, with a range of 7.4% in Franklin County to 17.5% in Power County.

Cancer Screening

Mammogram – 2014, 2016, 2018, 2020
Statewide, 69.1% of women aged 50–74 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 (72.1% versus 36.7%). Mammography rates differed significantly by county, with a range in screening of 45.9% in Benewah County to 77.0% in Nez Perce County. In 2020, Idaho ranked 48th among states and the District of Columbia for mammography screening rates among women aged 50–74 and also 48th among ages 40+.

Pap Test – 2018, 2020
Statewide, 71.2% 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 (75.1% versus 52.6% screened in the past 3 years). Pap screening differed significantly by county, with a range of 50.7% 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 – 2018, 2020
Statewide, 67.9% of adults aged 50–75 reported being current for colorectal cancer screening.** Persons with health insurance were over twice as likely to be current for colorectal cancer screening. In 2020, Idaho ranked 47th among states and the District of Columbia in the percentage of adults aged 50–75 and older who reported being up-to-date for colorectal cancer screening.

** 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, or a colonoscopy in the past 10 years.

Cancer Screening and Risk Factors

Tobacco Use

Current Tobacco Use – 2016–2021
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, 22.3% of adults aged 18 and older were current tobacco users. Tobacco use differed significantly by age of respondent, with 29.9% of persons aged 18-29, and 11.1% of persons aged 65 and older reporting current tobacco use. Tobacco use was lower among white non-Hispanics (22.4%) than among Native Americans (40.0%). Tobacco use differed significantly by county, with a range of 5.4% in Madison County to 41.6% 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 – 2015–2021
Statewide, 32.1% 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 32.5% of white non-Hispanics, compared to 28.2% of Hispanics and 24.6% of Native Americans, being in the healthy weight range. Males (25.5%) were significantly less likely to be in the healthy weight range than females (38.6%). BMI differed significantly by age of respondent, with 43.3% of persons aged 18–29, and 26.0% of persons aged 50–64, being in the healthy weight range. BMI differed significantly by county, with a range of 19.8% in Power County to 47.4% in Blaine County of adults being in the healthy weight range.

Any Physical Activity – 2015-2021
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, 78.7% 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 83.3% of persons aged 18–29, and 72.3% 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 64.3% in Clark County to 84.6% in Teton County.

Physical Activity Guidelines – 2011, 2013, 2015, 2017, 2019
Statewide, 21.9% 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 26.3% 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 9.6% in Franklin County to 30.6% in Blaine County.

Home Radon Testing – 2016, 2018, 2020
Statewide, 23.0% of adults have ever tested their house for radon. Radon test usage varied significantly by race/ethnicity, with 25.1% of white non-Hispanics, 7.4% 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 8.5% in Cassia County to 54.4% in Blaine County.

This project has been funded in whole or in part with Federal funds from the National Cancer Institute, National Institutes of Health, Department of Health and Human Services, under Contract No. HHSN261201800006I and the Centers for Disease Control and Prevention, Department of Health and Human Services, under Cooperative Agreement NU58DP007160. The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention or the National Cancer Institute.

CDRI Cancer Data Registry of Idaho

Idaho Hospital Association

BINGHAM COUNTY CANCER PROFILE

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

Cancer Incidence 2016–2020
Cancer Mortality 2017–2021
BRFSS 2011–2021

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.2016.3332). 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 2016–2020

Nearly one in two Idahoans are estimated to develop cancer during their lifetime. During 2016–2020, 45,610 cases of invasive cancer were diagnosed among Idaho residents, and 1,059 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, 2016–2020

Cancer Incidence 2016–2020	Bingham County	State of Idaho
All Sites/Types	**1,059**	**45,610**
Female Breast	**122**	**6,687**
Prostate	**140**	**6,417**
Lung & Bronchus	**104**	**4,887**
Colorectal	**97**	**3,451**

Table 3 (*Cancer Incidence 2016–2020, 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 458.0 cases per 100,000 person-years per year during 2016–2020. Comparing this crude rate with the crude rate for the remainder of Idaho (521.6) 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 500.8 cases per 100,000 persons per year during 2016–2020. There were fewer cases of cancer in Bingham County (1,059) than expected (1,103.0) 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 2017–2021

During 2017–2021, cancer was the second leading cause of death in Idaho; 15,121 Idaho residents and 360 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, 2017–2021

Mortality 2017–2021	Bingham County	State of Idaho
All Deaths	**2,165**	**77,431**
Cancer Deaths	**360**	**15,121**
% of All Deaths	*16.6%*	*19.5%*
Lung & Bronchus	**65**	**2,961**
Colorectal	**41**	**1,319**
Pancreas	**26**	**1,190**
Female Breast	**25**	**1,086**
Prostate	**25**	**949**

Table 4 (*Cancer Mortality 2017–2021, 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 168.6 deaths per 100,000 persons per year during 2017–2021, compared with 168.6 for the remainder of the state. There were more cancer deaths in Bingham County (360) than expected (360.0) 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 2016–2020
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	1,059	231,229	458.0	500.8	1,103.0	0.189	44,551	8,540,599	521.6
All Sites Combined	Male	572	115,694	494.4	532.1	595.6	0.345	23,717	4,281,216	554.0
All Sites Combined	Female	487	115,535	421.5	466.0	511.2	0.294	20,834	4,259,383	489.1
Bladder	Total	42	231,229	18.2	20.0	52.6	0.156	2,142	8,540,599	25.1
Bladder	Male	35	115,694	30.3	32.6	43.1	0.245	1,716	4,281,216	40.1
Bladder	Female	7	115,535	6.1	6.8	10.3	0.388	426	4,259,383	10.0
Brain - malignant	Total	12	231,229	5.2	5.5	15.6	0.441	613	8,540,599	7.2
Brain - malignant	Male	5	115,694	4.3	4.6	9.5	0.182	370	4,281,216	8.6
Brain - malignant	Female	7	115,535	6.1	6.5	6.2	0.844	243	4,259,383	5.7
Brain and other CNS - non-malignant	Total	31	231,229	13.4	14.5	34.9	0.582	1,393	8,540,599	16.3
Brain and other CNS - non-malignant	Male	8	115,694	6.9	7.3	12.0	0.308	472	4,281,216	11.0
Brain and other CNS - non-malignant	Female	23	115,535	19.9	21.9	22.7	1.000	921	4,259,383	21.6
Breast	Total	122	231,229	52.8	57.6	164.1	0.001 <<	6,624	8,540,599	77.6
Breast	Male	-	115,694	-	-	1.5	0.453	59	4,281,216	1.4
Breast	Female	122	115,535	105.6	116.8	161.0	0.002 <<	6,565	4,259,383	154.1
Breast - in situ	Total	23	231,229	9.9	10.9	30.1	0.224	1,216	8,540,599	14.2
Breast - in situ	Male	-	115,694	-	-	0.1	1.000	5	4,281,216	0.1
Breast - in situ	Female	23	115,535	19.9	22.0	29.7	0.253	1,211	4,259,383	28.4
Cervix	Female	10	115,535	8.7	9.2	7.5	0.448	294	4,259,383	6.9
Colorectal	Total	97	231,229	41.9	45.7	83.3	0.153	3,354	8,540,599	39.3
Colorectal	Male	56	115,694	48.4	51.8	46.6	0.198	1,847	4,281,216	43.1
Colorectal	Female	41	115,535	35.5	39.3	36.9	0.541	1,507	4,259,383	35.4
Corpus Uteri	Female	33	115,535	28.6	31.6	31.8	0.878	1,297	4,259,383	30.5
Esophagus	Total	10	231,229	4.3	4.7	12.3	0.643	496	8,540,599	5.8
Esophagus	Male	8	115,694	6.9	7.4	10.5	0.565	416	4,281,216	9.7
Esophagus	Female	2	115,535	1.7	1.9	2.0	1.000	80	4,259,383	1.9
Hodgkin Lymphoma	Total	2	231,229	0.9	0.9	5.4	0.194	208	8,540,599	2.4
Hodgkin Lymphoma	Male	1	115,694	0.9	0.9	3.0	0.397	117	4,281,216	2.7
Hodgkin Lymphoma	Female	1	115,535	0.9	0.9	2.4	0.635	91	4,259,383	2.1
Kidney and Renal Pelvis	Total	48	231,229	20.8	22.7	43.8	0.568	1,767	8,540,599	20.7
Kidney and Renal Pelvis	Male	27	115,694	23.3	25.1	29.0	0.798	1,155	4,281,216	27.0
Kidney and Renal Pelvis	Female	21	115,535	18.2	20.1	15.0	0.167	612	4,259,383	14.4
Larynx	Total	4	231,229	1.7	1.9	5.2	0.801	211	8,540,599	2.5
Larynx	Male	4	115,694	3.5	3.7	3.9	1.000	156	4,281,216	3.6
Larynx	Female	-	115,535	-	-	1.3	0.524	55	4,259,383	1.3
Leukemia	Total	39	231,229	16.9	18.2	40.0	0.960	1,592	8,540,599	18.6
Leukemia	Male	20	115,694	17.3	18.3	24.8	0.396	969	4,281,216	22.6
Leukemia	Female	19	115,535	16.4	18.1	15.4	0.416	623	4,259,383	14.6
Liver and Bile Duct	Total	22	231,229	9.5	10.4	19.9	0.704	807	8,540,599	9.4
Liver and Bile Duct	Male	15	115,694	13.0	13.9	14.5	0.957	575	4,281,216	13.4
Liver and Bile Duct	Female	7	115,535	6.1	6.7	5.6	0.675	232	4,259,383	5.4
Lung and Bronchus	Total	104	231,229	45.0	49.7	117.3	0.236	4,783	8,540,599	56.0
Lung and Bronchus	Male	64	115,694	55.3	59.9	59.6	0.605	2,388	4,281,216	55.8
Lung and Bronchus	Female	40	115,535	34.6	38.9	57.8	0.017 <<	2,395	4,259,383	56.2
Melanoma of the Skin	Total	56	231,229	24.2	26.4	71.6	0.066	2,886	8,540,599	33.8
Melanoma of the Skin	Male	39	115,694	33.7	36.3	43.4	0.569	1,726	4,281,216	40.3
Melanoma of the Skin	Female	17	115,535	14.7	16.1	28.8	0.026 <<	1,160	4,259,383	27.2
Myeloma	Total	16	231,229	6.9	7.6	17.0	0.936	692	8,540,599	8.1
Myeloma	Male	9	115,694	7.8	8.4	10.8	0.725	432	4,281,216	10.1
Myeloma	Female	7	115,535	6.1	6.8	6.3	0.882	260	4,259,383	6.1
Non-Hodgkin Lymphoma	Total	53	231,229	22.9	25.0	46.9	0.409	1,887	8,540,599	22.1
Non-Hodgkin Lymphoma	Male	25	115,694	21.6	23.1	27.9	0.669	1,104	4,281,216	25.8
Non-Hodgkin Lymphoma	Female	28	115,535	24.2	26.9	19.2	0.069	783	4,259,383	18.4
Oral Cavity and Pharynx	Total	26	231,229	11.2	12.3	31.4	0.384	1,269	8,540,599	14.9
Oral Cavity and Pharynx	Male	19	115,694	16.4	17.6	23.1	0.466	917	4,281,216	21.4
Oral Cavity and Pharynx	Female	7	115,535	6.1	6.7	8.6	0.747	352	4,259,383	8.3
Ovary	Female	16	115,535	13.8	15.2	12.7	0.428	517	4,259,383	12.1
Pancreas	Total	29	231,229	12.5	13.8	34.3	0.414	1,394	8,540,599	16.3
Pancreas	Male	18	115,694	15.6	16.8	19.2	0.898	766	4,281,216	17.9
Pancreas	Female	11	115,535	9.5	10.7	15.2	0.342	628	4,259,383	14.7
Prostate	Male	140	115,694	121.0	131.3	156.3	0.203	6,277	4,281,216	146.6
Stomach	Total	14	231,229	6.1	6.6	11.2	0.482	453	8,540,599	5.3
Stomach	Male	9	115,694	7.8	8.3	7.6	0.695	300	4,281,216	7.0
Stomach	Female	5	115,535	4.3	4.8	3.8	0.649	153	4,259,383	3.6
Testis	Male	5	115,694	4.3	4.7	6.5	0.731	260	4,281,216	6.1
Thyroid	Total	62	231,229	26.8	28.8	29.2	0.000 >>	1,158	8,540,599	13.6
Thyroid	Male	18	115,694	15.6	16.8	8.5	0.006 >>	337	4,281,216	7.9
Thyroid	Female	44	115,535	38.1	40.8	20.8	0.000 >>	821	4,259,383	19.3
Pediatric Age 0 to 19	Total	14	77,207	18.1	18.4	13.0	0.850	407	2,383,316	17.1
Pediatric Age 0 to 19	Male	7	39,334	17.8	18.0	6.9	1.000	216	1,217,176	17.7
Pediatric Age 0 to 19	Female	7	37,873	18.5	18.9	6.1	0.806	191	1,166,140	16.4

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 2017–2021
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	2,165	234,792	922.1	1,003.3	1,855.3	0.000 >>	75,265	8,753,923	859.8
All Causes of Death	Male	1,168	117,603	993.2	1,057.6	1,002.5	0.000 >>	39,888	4,394,265	907.7
All Causes of Death	Female	997	117,189	850.8	944.6	856.5	0.000 >>	35,377	4,359,658	811.5
All Malignant Cancers	Total	360	234,792	153.3	168.6	360.0	1.000	14,761	8,753,923	168.6
All Malignant Cancers	Male	199	117,603	169.2	181.9	198.6	0.995	7,977	4,394,265	181.5
All Malignant Cancers	Female	161	117,189	137.4	154.0	162.7	0.933	6,784	4,359,658	155.6
Bladder	Total	14	234,792	6.0	6.6	11.6	0.552	475	8,753,923	5.4
Bladder	Male	10	117,603	8.5	9.1	9.3	0.891	368	4,394,265	8.4
Bladder	Female	4	117,189	3.4	3.9	2.5	0.500	107	4,359,658	2.5
Brain and Other Nervous System	Total	8	234,792	3.4	3.7	12.3	0.273	496	8,753,923	5.7
Brain and Other Nervous System	Male	5	117,603	4.3	4.5	7.4	0.516	293	4,394,265	6.7
Brain and Other Nervous System	Female	3	117,189	2.6	2.8	5.0	0.534	203	4,359,658	4.7
Breast	Total	25	234,792	10.6	11.6	26.4	0.886	1,077	8,753,923	12.3
Breast	Male	-	117,603	-	-	0.4	1.000	16	4,394,265	0.4
Breast	Female	25	117,189	21.3	23.8	25.6	1.000	1,061	4,359,658	24.3
Cervix	Female	3	117,189	2.6	2.8	2.0	0.637	80	4,359,658	1.8
Colorectal	Total	41	234,792	17.5	19.1	31.4	0.112	1,278	8,753,923	14.6
Colorectal	Male	27	117,603	23.0	24.6	17.3	0.037 >>	692	4,394,265	15.7
Colorectal	Female	14	117,189	11.9	13.3	14.1	1.000	586	4,359,658	13.4
Corpus Uteri	Female	4	117,189	3.4	3.8	4.0	1.000	169	4,359,658	3.9
Esophagus	Total	10	234,792	4.3	4.7	11.4	0.836	467	8,753,923	5.3
Esophagus	Male	8	117,603	6.8	7.3	9.8	0.723	393	4,394,265	8.9
Esophagus	Female	2	117,189	1.7	1.9	1.8	1.000	74	4,359,658	1.7
Hodgkin Lymphoma	Total	1	234,792	0.4	0.5	0.7	0.999	28	8,753,923	0.3
Hodgkin Lymphoma	Male	-	117,603	-	-	0.3	1.000	14	4,394,265	0.3
Hodgkin Lymphoma	Female	1	117,189	0.9	0.9	0.3	0.585	14	4,359,658	0.3
Kidney	Total	14	234,792	6.0	6.6	9.0	0.151	371	8,753,923	4.2
Kidney	Male	9	117,603	7.7	8.2	5.8	0.263	233	4,394,265	5.3
Kidney	Female	5	117,189	4.3	4.8	3.3	0.473	138	4,359,658	3.2
Larynx	Total	-	234,792	-	-	1.8	0.347	71	8,753,923	0.8
Larynx	Male	-	117,603	-	-	1.5	0.462	58	4,394,265	1.3
Larynx	Female	-	117,189	-	-	0.3	1.000	13	4,359,658	0.3
Leukemia	Total	15	234,792	6.4	7.0	15.8	0.975	645	8,753,923	7.4
Leukemia	Male	6	117,603	5.1	5.5	9.5	0.330	380	4,394,265	8.6
Leukemia	Female	9	117,189	7.7	8.6	6.4	0.386	265	4,359,658	6.1
Liver and Bile Duct	Total	13	234,792	5.5	6.1	14.3	0.861	590	8,753,923	6.7
Liver and Bile Duct	Male	8	117,603	6.8	7.4	9.9	0.689	400	4,394,265	9.1
Liver and Bile Duct	Female	5	117,189	4.3	4.8	4.5	0.952	190	4,359,658	4.4
Lung and Bronchus	Total	65	234,792	27.7	30.7	70.1	0.590	2,896	8,753,923	33.1
Lung and Bronchus	Male	41	117,603	34.9	37.8	37.4	0.600	1,515	4,394,265	34.5
Lung and Bronchus	Female	24	117,189	20.5	23.1	32.9	0.134	1,381	4,359,658	31.7
Melanoma of the Skin	Total	2	234,792	0.9	0.9	7.0	0.058	287	8,753,923	3.3
Melanoma of the Skin	Male	1	117,603	0.9	0.9	4.8	0.099	191	4,394,265	4.3
Melanoma of the Skin	Female	1	117,189	0.9	0.9	2.3	0.653	96	4,359,658	2.2
Myeloma	Total	8	234,792	3.4	3.8	7.8	1.000	323	8,753,923	3.7
Myeloma	Male	5	117,603	4.3	4.6	4.7	1.000	191	4,394,265	4.3
Myeloma	Female	3	117,189	2.6	2.9	3.1	1.000	132	4,359,658	3.0
Non-Hodgkin Lymphoma	Total	13	234,792	5.5	6.1	13.6	1.000	556	8,753,923	6.4
Non-Hodgkin Lymphoma	Male	5	117,603	4.3	4.6	7.5	0.473	302	4,394,265	6.9
Non-Hodgkin Lymphoma	Female	8	117,189	6.8	7.7	6.1	0.531	254	4,359,658	5.8
Oral Cavity and Pharynx	Total	5	234,792	2.1	2.4	6.3	0.786	261	8,753,923	3.0
Oral Cavity and Pharynx	Male	3	117,603	2.6	2.8	4.5	0.669	184	4,394,265	4.2
Oral Cavity and Pharynx	Female	2	117,189	1.7	1.9	1.9	1.000	77	4,359,658	1.8
Ovary	Female	15	117,189	12.8	14.4	8.0	0.035 >>	335	4,359,658	7.7
Pancreas	Total	26	234,792	11.1	12.3	28.2	0.776	1,164	8,753,923	13.3
Pancreas	Male	17	117,603	14.5	15.7	15.4	0.754	625	4,394,265	14.2
Pancreas	Female	9	117,189	7.7	8.7	12.8	0.357	539	4,359,658	12.4
Prostate	Male	25	117,603	21.3	22.7	23.2	0.757	924	4,394,265	21.0
Stomach	Total	6	234,792	2.6	2.8	4.7	0.669	192	8,753,923	2.2
Stomach	Male	4	117,603	3.4	3.7	2.9	0.668	117	4,394,265	2.7
Stomach	Female	2	117,189	1.7	1.9	1.8	1.000	75	4,359,658	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, 2020.

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 (BRFS) since 1984. These surveys are conducted with randomly selected adult Idahoans to measure population prevalences of risk factors for the major causes of death, including cancer. DPH provided data sets containing Behavioral Risk Factor Surveillance System (BRFSS) data from 2011 through 2021 to CDRI staff, who performed the analyses reported in these *County Profiles*. Analysis weights were poststratified to 2020 population estimates by age group, sex, and county, beginning with the BRFSS raked weights. Not all questions were asked in all years. 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* 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, 2011–2021

Measure	State of Idaho	HD 1	HD 2	HD 3	HD 4	HD 5	HD 6	HD 7	Bingham County
Access to Care									
Have Health Insurance, Age <65 (2015–2021)	83.1%	82.8%	85.1%	77.2%	85.8%	78.9%	85.4%	85.4%	86.3%
Not See Doctor Due to Cost in Past Year (2015–2021)	12.6%	11.4%	11.8%	14.5%	12.4%	12.3%	11.8%	12.9%	11.3%
Cancer Screening									
Mammogram Past 2 Years, Age 50–74 (2014, 2016, 2018, 2020)	69.1%	67.0%	73.8%	68.2%	73.2%	64.8%	64.5%	67.1%	61.3%
Pap Test Past 3 Years, Cervix Intact Age 21–65 (2018, 2020)	71.2%	73.6%	73.6%	70.8%	72.9%	69.1%	69.5%	65.9%	50.7%
Colorectal Cancer Screening, Age 50–75 (2018, 2020)	67.9%	66.9%	73.6%	71.4%	70.6%	61.7%	61.5%	64.7%	55.2%
Tobacco Use									
Current Tobacco User (2016–2021)	22.3%	26.7%	23.1%	23.6%	21.8%	21.4%	22.7%	16.9%	22.1%
Other Cancer-Related									
Healthy Weight by Body Mass Index, Age 20+ (2015–2021)	32.1%	32.8%	31.7%	27.9%	36.1%	29.8%	27.9%	31.9%	24.8%
Any Physical Activity Besides Job Past 30 Days (2015-2021)	78.7%	79.2%	78.1%	74.5%	83.2%	73.4%	76.3%	79.7%	75.5%
Meet Physical Activity Guidelines (2011, 2013, 2015, 2017, 2019)	21.9%	22.8%	19.4%	20.0%	25.2%	19.5%	20.4%	20.2%	18.9%
Home Ever Tested for Radon (2016, 2018, 2020)	23.0%	30.9%	18.2%	16.9%	25.1%	19.9%	23.0%	21.8%	24.1%

Access to Care

Have Health Insurance – 2015–2021
Statewide, 83.1% of adults aged 18–64 reported having health care coverage. Health care coverage differed significantly by race/ethnicity, with 86.0% of white non-Hispanics, compared to 64.8% of Hispanics and 83.3% of Native Americans, having health insurance. Spanish-speaking respondents were significantly less likely to be insured (33.3%) than English-speaking respondents (84.2%). Health care coverage differed significantly by age of respondent, with 79.8% of persons aged 18–29, and 87.8% of persons aged 50–64, having health insurance. Health care coverage differed significantly by county, with a range of 62.1% in Adams County to 91.6% in Oneida County having health insurance.

Not See Doctor Due to Cost in Past Year – 2015–2021
Statewide, 12.6% 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 (11.5% of white non-Hispanics, 19.2% of Hispanics, and 21.0% of Native Americans). Inability to see a doctor due to cost differed significantly by annual household income (24.9% for less than $15,000, 6.1% for greater than $50,000). Inability to see a doctor due to cost differed significantly by county, with a range of 7.4% in Franklin County to 17.5% in Power County.

Cancer Screening

Mammogram – 2014, 2016, 2018, 2020
Statewide, 69.1% of women aged 50–74 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 (72.1% versus 36.7%). Mammography rates differed significantly by county, with a range in screening of 45.9% in Benewah County to 77.0% in Nez Perce County. In 2020, Idaho ranked 48th among states and the District of Columbia for mammography screening rates among women aged 50–74 and also 48th among ages 40+.

Pap Test – 2018, 2020
Statewide, 71.2% 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 (75.1% versus 52.6% screened in the past 3 years). Pap screening differed significantly by county, with a range of 50.7% 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 – 2018, 2020
Statewide, 67.9% of adults aged 50–75 reported being current for colorectal cancer screening.** Persons with health insurance were over twice as likely to be current for colorectal cancer screening. In 2020, Idaho ranked 47th among states and the District of Columbia in the percentage of adults aged 50–75 and older who reported being up-to-date for colorectal cancer screening.

** 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, or a colonoscopy in the past 10 years.

Cancer Screening and Risk Factors

Tobacco Use

Current Tobacco Use – 2016–2021
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, 22.3% of adults aged 18 and older were current tobacco users. Tobacco use differed significantly by age of respondent, with 29.9% of persons aged 18-29, and 11.1% of persons aged 65 and older reporting current tobacco use. Tobacco use was lower among white non-Hispanics (22.4%) than among Native Americans (40.0%). Tobacco use differed significantly by county, with a range of 5.4% in Madison County to 41.6% 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 – 2015–2021
Statewide, 32.1% 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 32.5% of white non-Hispanics, compared to 28.2% of Hispanics and 24.6% of Native Americans, being in the healthy weight range. Males (25.5%) were significantly less likely to be in the healthy weight range than females (38.6%). BMI differed significantly by age of respondent, with 43.3% of persons aged 18–29, and 26.0% of persons aged 50–64, being in the healthy weight range. BMI differed significantly by county, with a range of 19.8% in Power County to 47.4% in Blaine County of adults being in the healthy weight range.

Any Physical Activity – 2015-2021
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, 78.7% 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 83.3% of persons aged 18–29, and 72.3% 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 64.3% in Clark County to 84.6% in Teton County.

Physical Activity Guidelines – 2011, 2013, 2015, 2017, 2019
Statewide, 21.9% 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 26.3% 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 9.6% in Franklin County to 30.6% in Blaine County.

Home Radon Testing – 2016, 2018, 2020
Statewide, 23.0% of adults have ever tested their house for radon. Radon test usage varied significantly by race/ethnicity, with 25.1% of white non-Hispanics, 7.4% 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 8.5% in Cassia County to 54.4% in Blaine County.

This project has been funded in whole or in part with Federal funds from the National Cancer Institute, National Institutes of Health, Department of Health and Human Services, under Contract No. HHSN261201800006I and the Centers for Disease Control and Prevention, Department of Health and Human Services, under Cooperative Agreement NU58DP007160. The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention or the National Cancer Institute.

CDRI Cancer Data Registry of Idaho

Idaho Hospital Association

BLAINE COUNTY CANCER PROFILE

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

Cancer Incidence 2016–2020
Cancer Mortality 2017–2021
BRFSS 2011–2021

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.2016.3332). 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 2016–2020

Nearly one in two Idahoans are estimated to develop cancer during their lifetime. During 2016–2020, 45,610 cases of invasive cancer were diagnosed among Idaho residents, and 693 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, 2016–2020

Cancer Incidence 2016–2020	Blaine County	State of Idaho
All Sites/Types	**693**	**45,610**
Female Breast	**114**	**6,687**
Prostate	**109**	**6,417**
Lung & Bronchus	**43**	**4,887**
Colorectal	**40**	**3,451**

Table 3 (*Cancer Incidence 2016–2020, 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 609.8 cases per 100,000 person-years per year during 2016–2020. Comparing this crude rate with the crude rate for the remainder of Idaho (518.8) 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 510.5 cases per 100,000 persons per year during 2016–2020. There were fewer cases of cancer in Blaine County (693) than expected (704.3) 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 2017–2021

During 2017–2021, cancer was the second leading cause of death in Idaho; 15,121 Idaho residents and 148 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, 2017–2021

Mortality 2017–2021	Blaine County	State of Idaho
All Deaths	**648**	**77,431**
Cancer Deaths	**148**	**15,121**
% of All Deaths	*22.8%*	*19.5%*
Lung & Bronchus	**16**	**2,961**
Colorectal	**13**	**1,319**
Pancreas	**10**	**1,190**
Female Breast	**10**	**1,086**
Prostate	**14**	**949**

Table 4 (*Cancer Mortality 2017–2021, 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 106.9 deaths per 100,000 persons per year during 2017–2021, compared with 168.8 for the remainder of the state. There were statistically significantly fewer cancer deaths in Blaine County (148) than expected (233.7) 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 2016–2020
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	693	113,644	609.8	510.5	704.3	0.688	44,917	8,658,184	518.8
All Sites Combined	Male	376	56,989	659.8	533.7	388.2	0.557	23,913	4,339,921	551.0
All Sites Combined	Female	317	56,655	559.5	480.5	320.9	0.857	21,004	4,318,263	486.4
Bladder	Total	29	113,644	25.5	21.4	33.7	0.476	2,155	8,658,184	24.9
Bladder	Male	24	56,989	42.1	33.7	28.3	0.482	1,727	4,339,921	39.8
Bladder	Female	5	56,655	8.8	7.7	6.5	0.746	428	4,318,263	9.9
Brain - malignant	Total	10	113,644	8.8	7.7	9.2	0.879	615	8,658,184	7.1
Brain - malignant	Male	3	56,989	5.3	4.5	5.7	0.362	372	4,339,921	8.6
Brain - malignant	Female	7	56,655	12.4	11.1	3.6	0.140	243	4,318,263	5.6
Brain and other CNS - non-malignant	Total	22	113,644	19.4	16.7	21.3	0.938	1,402	8,658,184	16.2
Brain and other CNS - non-malignant	Male	7	56,989	12.3	10.5	7.3	1.000	473	4,339,921	10.9
Brain and other CNS - non-malignant	Female	15	56,655	26.5	23.2	13.9	0.837	929	4,318,263	21.5
Breast	Total	114	113,644	100.3	83.3	104.8	0.392	6,632	8,658,184	76.6
Breast	Male	-	56,989	-	-	0.9	0.775	59	4,339,921	1.4
Breast	Female	114	56,655	201.2	168.5	103.0	0.301	6,573	4,318,263	152.2
Breast - in situ	Total	22	113,644	19.4	15.8	19.6	0.645	1,217	8,658,184	14.1
Breast - in situ	Male	-	56,989	-	-	0.1	1.000	5	4,339,921	0.1
Breast - in situ	Female	22	56,655	38.8	31.6	19.6	0.638	1,212	4,318,263	28.1
Cervix	Female	4	56,655	7.1	6.4	4.4	1.000	300	4,318,263	6.9
Colorectal	Total	40	113,644	35.2	29.7	53.0	0.076	3,411	8,658,184	39.4
Colorectal	Male	25	56,989	43.9	35.9	30.1	0.403	1,878	4,339,921	43.3
Colorectal	Female	15	56,655	26.5	23.2	23.0	0.105	1,533	4,318,263	35.5
Corpus Uteri	Female	16	56,655	28.2	23.2	21.0	0.323	1,314	4,318,263	30.4
Esophagus	Total	7	113,644	6.2	5.1	7.9	0.931	499	8,658,184	5.8
Esophagus	Male	7	56,989	12.3	9.9	6.8	1.000	417	4,339,921	9.6
Esophagus	Female	-	56,655	-	-	1.3	0.563	82	4,318,263	1.9
Hodgkin Lymphoma	Total	2	113,644	1.8	1.7	2.9	0.915	208	8,658,184	2.4
Hodgkin Lymphoma	Male	-	56,989	-	-	1.7	0.380	118	4,339,921	2.7
Hodgkin Lymphoma	Female	2	56,655	3.5	3.5	1.2	0.662	90	4,318,263	2.1
Kidney and Renal Pelvis	Total	21	113,644	18.5	15.4	28.3	0.196	1,794	8,658,184	20.7
Kidney and Renal Pelvis	Male	10	56,989	17.5	14.3	18.9	0.040 <<	1,172	4,339,921	27.0
Kidney and Renal Pelvis	Female	11	56,655	19.4	16.6	9.5	0.719	622	4,318,263	14.4
Larynx	Total	2	113,644	1.8	1.4	3.4	0.677	213	8,658,184	2.5
Larynx	Male	1	56,989	1.8	1.4	2.6	0.528	159	4,339,921	3.7
Larynx	Female	1	56,655	1.8	1.5	0.9	1.000	54	4,318,263	1.3
Leukemia	Total	26	113,644	22.9	19.8	24.4	0.799	1,605	8,658,184	18.5
Leukemia	Male	15	56,989	26.3	22.0	15.3	1.000	974	4,339,921	22.4
Leukemia	Female	11	56,655	19.4	17.3	9.3	0.656	631	4,318,263	14.6
Liver and Bile Duct	Total	10	113,644	8.8	7.2	13.1	0.481	819	8,658,184	9.5
Liver and Bile Duct	Male	8	56,989	14.0	11.2	9.6	0.767	582	4,339,921	13.4
Liver and Bile Duct	Female	2	56,655	3.5	3.0	3.6	0.590	237	4,318,263	5.5
Lung and Bronchus	Total	43	113,644	37.8	31.2	77.1	0.000 <<	4,844	8,658,184	55.9
Lung and Bronchus	Male	25	56,989	43.9	34.7	40.3	0.013 <<	2,427	4,339,921	55.9
Lung and Bronchus	Female	18	56,655	31.8	27.1	37.1	0.001 <<	2,417	4,318,263	56.0
Melanoma of the Skin	Total	89	113,644	78.3	66.9	43.9	0.000 >>	2,853	8,658,184	33.0
Melanoma of the Skin	Male	52	56,989	91.2	75.1	27.3	0.000 >>	1,713	4,339,921	39.5
Melanoma of the Skin	Female	37	56,655	65.3	57.4	17.0	0.000 >>	1,140	4,318,263	26.4
Myeloma	Total	16	113,644	14.1	11.7	10.9	0.176	692	8,658,184	8.0
Myeloma	Male	11	56,989	19.3	15.4	7.1	0.208	430	4,339,921	9.9
Myeloma	Female	5	56,655	8.8	7.6	4.0	0.735	262	4,318,263	6.1
Non-Hodgkin Lymphoma	Total	27	113,644	23.8	20.0	29.8	0.694	1,913	8,658,184	22.1
Non-Hodgkin Lymphoma	Male	16	56,989	28.1	23.0	17.8	0.783	1,113	4,339,921	25.6
Non-Hodgkin Lymphoma	Female	11	56,655	19.4	16.8	12.1	0.899	800	4,318,263	18.5
Oral Cavity and Pharynx	Total	29	113,644	25.5	20.9	20.3	0.080	1,266	8,658,184	14.6
Oral Cavity and Pharynx	Male	23	56,989	40.4	32.5	14.9	0.061	913	4,339,921	21.0
Oral Cavity and Pharynx	Female	6	56,655	10.6	8.9	5.5	0.942	353	4,318,263	8.2
Ovary	Female	15	56,655	26.5	22.6	8.0	0.033 >>	518	4,318,263	12.0
Pancreas	Total	14	113,644	12.3	10.3	22.1	0.093	1,409	8,658,184	16.3
Pancreas	Male	7	56,989	12.3	9.9	12.7	0.126	777	4,339,921	17.9
Pancreas	Female	7	56,655	12.4	10.8	9.5	0.541	632	4,318,263	14.6
Prostate	Male	109	56,989	191.3	150.5	105.2	0.740	6,308	4,339,921	145.3
Stomach	Total	4	113,644	3.5	3.0	7.2	0.314	463	8,658,184	5.3
Stomach	Male	2	56,989	3.5	2.8	5.0	0.252	307	4,339,921	7.1
Stomach	Female	2	56,655	3.5	3.2	2.3	1.000	156	4,318,263	3.6
Testis	Male	7	56,989	12.3	13.0	3.2	0.089	258	4,339,921	5.9
Thyroid	Total	15	113,644	13.2	12.0	17.4	0.674	1,205	8,658,184	13.9
Thyroid	Male	7	56,989	12.3	10.8	5.2	0.535	348	4,339,921	8.0
Thyroid	Female	8	56,655	14.1	13.0	12.2	0.281	857	4,318,263	19.8
Pediatric Age 0 to 19	Total	6	27,113	22.1	22.3	4.6	0.623	415	2,433,410	17.1
Pediatric Age 0 to 19	Male	2	13,885	14.4	14.7	2.4	1.000	221	1,242,625	17.8
Pediatric Age 0 to 19	Female	4	13,228	30.2	30.1	2.2	0.349	194	1,190,785	16.3

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 2017–2021
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	648	116,341	557.0	494.3	1,134.4	0.000 <<	76,782	8,872,374	865.4
All Causes of Death	Male	379	58,302	650.1	537.4	644.1	0.000 <<	40,677	4,453,566	913.4
All Causes of Death	Female	269	58,039	463.5	443.1	496.0	0.000 <<	36,105	4,418,808	817.1
All Malignant Cancers	Total	148	116,341	127.2	106.9	233.7	0.000 <<	14,973	8,872,374	168.8
All Malignant Cancers	Male	89	58,302	152.7	121.5	133.1	0.000 <<	8,087	4,453,566	181.6
All Malignant Cancers	Female	59	58,039	101.7	89.3	102.9	0.000 <<	6,886	4,418,808	155.8
Bladder	Total	4	116,341	3.4	3.0	7.3	0.300	485	8,872,374	5.5
Bladder	Male	3	58,302	5.1	4.2	6.1	0.290	375	4,453,566	8.4
Bladder	Female	1	58,039	1.7	1.6	1.6	1.000	110	4,418,808	2.5
Brain and Other Nervous System	Total	6	116,341	5.2	4.3	7.8	0.683	498	8,872,374	5.6
Brain and Other Nervous System	Male	2	58,302	3.4	2.8	4.7	0.297	296	4,453,566	6.6
Brain and Other Nervous System	Female	4	58,039	6.9	5.9	3.1	0.745	202	4,418,808	4.6
Breast	Total	10	116,341	8.6	7.3	16.9	0.102	1,092	8,872,374	12.3
Breast	Male	-	58,302	-	-	0.3	1.000	16	4,453,566	0.4
Breast	Female	10	58,039	17.2	15.0	16.2	0.141	1,076	4,418,808	24.4
Cervix	Female	1	58,039	1.7	1.5	1.2	1.000	82	4,418,808	1.9
Colorectal	Total	13	116,341	11.2	9.4	20.3	0.118	1,306	8,872,374	14.7
Colorectal	Male	9	58,302	15.4	12.4	11.6	0.566	710	4,453,566	15.9
Colorectal	Female	4	58,039	6.9	6.2	8.7	0.129	596	4,418,808	13.5
Corpus Uteri	Female	3	58,039	5.2	4.4	2.6	0.981	170	4,418,808	3.8
Esophagus	Total	4	116,341	3.4	2.8	7.6	0.256	473	8,872,374	5.3
Esophagus	Male	4	58,302	6.9	5.4	6.6	0.428	397	4,453,566	8.9
Esophagus	Female	-	58,039	-	-	1.1	0.640	76	4,418,808	1.7
Hodgkin Lymphoma	Total	-	116,341	-	-	0.4	1.000	29	8,872,374	0.3
Hodgkin Lymphoma	Male	-	58,302	-	-	0.2	1.000	14	4,453,566	0.3
Hodgkin Lymphoma	Female	-	58,039	-	-	0.2	1.000	15	4,418,808	0.3
Kidney	Total	2	116,341	1.7	1.4	6.0	0.125	383	8,872,374	4.3
Kidney	Male	1	58,302	1.7	1.4	4.0	0.187	241	4,453,566	5.4
Kidney	Female	1	58,039	1.7	1.6	2.1	0.780	142	4,418,808	3.2
Larynx	Total	-	116,341	-	-	1.1	0.652	71	8,872,374	0.8
Larynx	Male	-	58,302	-	-	1.0	0.772	58	4,453,566	1.3
Larynx	Female	-	58,039	-	-	0.2	1.000	13	4,418,808	0.3
Leukemia	Total	9	116,341	7.7	6.7	9.9	0.946	651	8,872,374	7.3
Leukemia	Male	6	58,302	10.3	8.3	6.2	1.000	380	4,453,566	8.5
Leukemia	Female	3	58,039	5.2	4.8	3.9	0.925	271	4,418,808	6.1
Liver and Bile Duct	Total	7	116,341	6.0	4.9	9.6	0.522	596	8,872,374	6.7
Liver and Bile Duct	Male	5	58,302	8.6	6.7	6.7	0.677	403	4,453,566	9.0
Liver and Bile Duct	Female	2	58,039	3.4	2.9	3.0	0.862	193	4,418,808	4.4
Lung and Bronchus	Total	16	116,341	13.8	11.3	46.9	0.000 <<	2,945	8,872,374	33.2
Lung and Bronchus	Male	7	58,302	12.0	9.4	26.0	0.000 <<	1,549	4,453,566	34.8
Lung and Bronchus	Female	9	58,039	15.5	13.4	21.2	0.005 <<	1,396	4,418,808	31.6
Melanoma of the Skin	Total	4	116,341	3.4	2.9	4.4	1.000	285	8,872,374	3.2
Melanoma of the Skin	Male	4	58,302	6.9	5.6	3.0	0.724	188	4,453,566	4.2
Melanoma of the Skin	Female	-	58,039	-	-	1.5	0.468	97	4,418,808	2.2
Myeloma	Total	5	116,341	4.3	3.6	5.1	1.000	326	8,872,374	3.7
Myeloma	Male	4	58,302	6.9	5.4	3.2	0.805	192	4,453,566	4.3
Myeloma	Female	1	58,039	1.7	1.5	2.0	0.822	134	4,418,808	3.0
Non-Hodgkin Lymphoma	Total	4	116,341	3.4	2.9	8.7	0.131	565	8,872,374	6.4
Non-Hodgkin Lymphoma	Male	3	58,302	5.1	4.1	5.0	0.533	304	4,453,566	6.8
Non-Hodgkin Lymphoma	Female	1	58,039	1.7	1.6	3.8	0.223	261	4,418,808	5.9
Oral Cavity and Pharynx	Total	1	116,341	0.9	0.7	4.2	0.150	265	8,872,374	3.0
Oral Cavity and Pharynx	Male	1	58,302	1.7	1.3	3.1	0.369	186	4,453,566	4.2
Oral Cavity and Pharynx	Female	-	58,039	-	-	1.2	0.609	79	4,418,808	1.8
Ovary	Female	5	58,039	8.6	7.4	5.3	1.000	345	4,418,808	7.8
Pancreas	Total	10	116,341	8.6	7.1	18.8	0.040 <<	1,180	8,872,374	13.3
Pancreas	Male	6	58,302	10.3	8.1	10.6	0.192	636	4,453,566	14.3
Pancreas	Female	4	58,039	6.9	5.9	8.3	0.166	544	4,418,808	12.3
Prostate	Male	14	58,302	24.0	19.3	15.2	0.891	935	4,453,566	21.0
Stomach	Total	-	116,341	-	-	3.0	0.095	198	8,872,374	2.2
Stomach	Male	-	58,302	-	-	2.0	0.276	121	4,453,566	2.7
Stomach	Female	-	58,039	-	-	1.1	0.666	77	4,418,808	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, 2020.

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 (BRFS) since 1984. These surveys are conducted with randomly selected adult Idahoans to measure population prevalences of risk factors for the major causes of death, including cancer. DPH provided data sets containing Behavioral Risk Factor Surveillance System (BRFSS) data from 2011 through 2021 to CDRI staff, who performed the analyses reported in these *County Profiles*. Analysis weights were poststratified to 2020 population estimates by age group, sex, and county, beginning with the BRFSS raked weights. Not all questions were asked in all years. 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* 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, 2011–2021

Measure	State of Idaho	HD 1	HD 2	HD 3	HD 4	HD 5	HD 6	HD 7	Blaine County
Access to Care									
Have Health Insurance, Age <65 (2015–2021)	83.1%	82.8%	85.1%	77.2%	85.8%	78.9%	85.4%	85.4%	79.5%
Not See Doctor Due to Cost in Past Year (2015–2021)	12.6%	11.4%	11.8%	14.5%	12.4%	12.3%	11.8%	12.9%	11.7%
Cancer Screening									
Mammogram Past 2 Years, Age 50–74 (2014, 2016, 2018, 2020)	69.1%	67.0%	73.8%	68.2%	73.2%	64.8%	64.5%	67.1%	73.6%
Pap Test Past 3 Years, Cervix Intact Age 21–65 (2018, 2020)	71.2%	73.6%	73.6%	70.8%	72.9%	69.1%	69.5%	65.9%	.
Colorectal Cancer Screening, Age 50–75 (2018, 2020)	67.9%	66.9%	73.6%	71.4%	70.6%	61.7%	61.5%	64.7%	74.9%
Tobacco Use									
Current Tobacco User (2016–2021)	22.3%	26.7%	23.1%	23.6%	21.8%	21.4%	22.7%	16.9%	17.9%
Other Cancer-Related									
Healthy Weight by Body Mass Index, Age 20+ (2015–2021)	32.1%	32.8%	31.7%	27.9%	36.1%	29.8%	27.9%	31.9%	47.4%
Any Physical Activity Besides Job Past 30 Days (2015-2021)	78.7%	79.2%	78.1%	74.5%	83.2%	73.4%	76.3%	79.7%	80.9%
Meet Physical Activity Guidelines (2011, 2013, 2015, 2017, 2019)	21.9%	22.8%	19.4%	20.0%	25.2%	19.5%	20.4%	20.2%	30.6%
Home Ever Tested for Radon (2016, 2018, 2020)	23.0%	30.9%	18.2%	16.9%	25.1%	19.9%	23.0%	21.8%	54.4%

Access to Care

Have Health Insurance – 2015–2021
Statewide, 83.1% of adults aged 18–64 reported having health care coverage. Health care coverage differed significantly by race/ethnicity, with 86.0% of white non-Hispanics, compared to 64.8% of Hispanics and 83.3% of Native Americans, having health insurance. Spanish-speaking respondents were significantly less likely to be insured (33.3%) than English-speaking respondents (84.2%). Health care coverage differed significantly by age of respondent, with 79.8% of persons aged 18–29, and 87.8% of persons aged 50–64, having health insurance. Health care coverage differed significantly by county, with a range of 62.1% in Adams County to 91.6% in Oneida County having health insurance.

Not See Doctor Due to Cost in Past Year – 2015–2021
Statewide, 12.6% 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 (11.5% of white non-Hispanics, 19.2% of Hispanics, and 21.0% of Native Americans). Inability to see a doctor due to cost differed significantly by annual household income (24.9% for less than $15,000, 6.1% for greater than $50,000). Inability to see a doctor due to cost differed significantly by county, with a range of 7.4% in Franklin County to 17.5% in Power County.

Cancer Screening

Mammogram – 2014, 2016, 2018, 2020
Statewide, 69.1% of women aged 50–74 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 (72.1% versus 36.7%). Mammography rates differed significantly by county, with a range in screening of 45.9% in Benewah County to 77.0% in Nez Perce County. In 2020, Idaho ranked 48th among states and the District of Columbia for mammography screening rates among women aged 50–74 and also 48th among ages 40+.

Pap Test – 2018, 2020
Statewide, 71.2% 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 (75.1% versus 52.6% screened in the past 3 years). Pap screening differed significantly by county, with a range of 50.7% 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 – 2018, 2020
Statewide, 67.9% of adults aged 50–75 reported being current for colorectal cancer screening.** Persons with health insurance were over twice as likely to be current for colorectal cancer screening. In 2020, Idaho ranked 47th among states and the District of Columbia in the percentage of adults aged 50–75 and older who reported being up-to-date for colorectal cancer screening.

** 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, or a colonoscopy in the past 10 years.

Cancer Screening and Risk Factors

Tobacco Use

Current Tobacco Use – 2016–2021
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, 22.3% of adults aged 18 and older were current tobacco users. Tobacco use differed significantly by age of respondent, with 29.9% of persons aged 18-29, and 11.1% of persons aged 65 and older reporting current tobacco use. Tobacco use was lower among white non-Hispanics (22.4%) than among Native Americans (40.0%). Tobacco use differed significantly by county, with a range of 5.4% in Madison County to 41.6% 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 – 2015–2021
Statewide, 32.1% 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 32.5% of white non-Hispanics, compared to 28.2% of Hispanics and 24.6% of Native Americans, being in the healthy weight range. Males (25.5%) were significantly less likely to be in the healthy weight range than females (38.6%). BMI differed significantly by age of respondent, with 43.3% of persons aged 18–29, and 26.0% of persons aged 50–64, being in the healthy weight range. BMI differed significantly by county, with a range of 19.8% in Power County to 47.4% in Blaine County of adults being in the healthy weight range.

Any Physical Activity – 2015-2021
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, 78.7% 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 83.3% of persons aged 18–29, and 72.3% 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 64.3% in Clark County to 84.6% in Teton County.

Physical Activity Guidelines – 2011, 2013, 2015, 2017, 2019
Statewide, 21.9% 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 26.3% 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 9.6% in Franklin County to 30.6% in Blaine County.

Home Radon Testing – 2016, 2018, 2020
Statewide, 23.0% of adults have ever tested their house for radon. Radon test usage varied significantly by race/ethnicity, with 25.1% of white non-Hispanics, 7.4% 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 8.5% in Cassia County to 54.4% in Blaine County.

This project has been funded in whole or in part with Federal funds from the National Cancer Institute, National Institutes of Health, Department of Health and Human Services, under Contract No. HHSN261201800006I and the Centers for Disease Control and Prevention, Department of Health and Human Services, under Cooperative Agreement NU58DP007160. The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention or the National Cancer Institute.

CDRI Cancer Data Registry of Idaho

Idaho Hospital Association

BOISE COUNTY CANCER PROFILE

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

Cancer Incidence 2016–2020
Cancer Mortality 2017–2021
BRFSS 2011–2021

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.2016.3332). 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 2016–2020

Nearly one in two Idahoans are estimated to develop cancer during their lifetime. During 2016–2020, 45,610 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, 2016–2020

Cancer Incidence 2016–2020	Boise County	State of Idaho
All Sites/Types	**279**	**45,610**
Female Breast	**30**	**6,687**
Prostate	**61**	**6,417**
Lung & Bronchus	**31**	**4,887**
Colorectal	**11**	**3,451**

Table 3 (*Cancer Incidence 2016–2020, 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 731.8 cases per 100,000 person-years per year during 2016–2020. Comparing this crude rate with the crude rate for the remainder of Idaho (519.0) 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 481.9 cases per 100,000 persons per year during 2016–2020. There were fewer cases of cancer in Boise County (279) than expected (300.5) 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 2017–2021

During 2017–2021, cancer was the second leading cause of death in Idaho; 15,121 Idaho residents and 61 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, 2017–2021

Mortality 2017–2021	Boise County	State of Idaho
All Deaths	**342**	**77,431**
Cancer Deaths	**61**	**15,121**
% of All Deaths	*17.8%*	*19.5%*
Lung & Bronchus	**17**	**2,961**
Colorectal	**3**	**1,319**
Pancreas	**8**	**1,190**
Female Breast	**7**	**1,086**
Prostate	**2**	**949**

Table 4 (*Cancer Mortality 2017–2021, 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 104.9 deaths per 100,000 persons per year during 2017–2021, compared with 168.3 for the remainder of the state. There were statistically significantly fewer cancer deaths in Boise County (61) than expected (97.9) 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 2016–2020
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	38,126	731.8	481.9	300.5	0.224	45,331	8,733,702	519.0
All Sites Combined	Male	170	19,672	864.2	511.9	183.0	0.357	24,119	4,377,238	551.0
All Sites Combined	Female	109	18,454	590.7	427.5	124.1	0.185	21,212	4,356,464	486.9
Bladder	Total	22	38,126	57.7	37.4	14.5	0.082	2,162	8,733,702	24.8
Bladder	Male	21	19,672	106.8	61.9	13.4	0.066	1,730	4,377,238	39.5
Bladder	Female	1	18,454	5.4	3.9	2.5	0.554	432	4,356,464	9.9
Brain - malignant	Total	1	38,126	2.6	1.9	3.7	0.226	624	8,733,702	7.1
Brain - malignant	Male	1	19,672	5.1	3.5	2.4	0.598	374	4,377,238	8.5
Brain - malignant	Female	-	18,454	-	-	1.4	0.507	250	4,356,464	5.7
Brain and other CNS - non-malignant	Total	8	38,126	21.0	15.0	8.7	0.999	1,416	8,733,702	16.2
Brain and other CNS - non-malignant	Male	4	19,672	20.3	13.8	3.1	0.772	476	4,377,238	10.9
Brain and other CNS - non-malignant	Female	4	18,454	21.7	16.4	5.3	0.795	940	4,356,464	21.6
Breast	Total	30	38,126	78.7	52.1	44.3	0.030 <<	6,716	8,733,702	76.9
Breast	Male	-	19,672	-	-	0.4	1.000	59	4,377,238	1.3
Breast	Female	30	18,454	162.6	114.0	40.2	0.115	6,657	4,356,464	152.8
Breast - in situ	Total	12	38,126	31.5	20.3	8.3	0.267	1,227	8,733,702	14.0
Breast - in situ	Male	1	19,672	5.1	3.8	0.0	0.047 >>	4	4,377,238	0.1
Breast - in situ	Female	11	18,454	59.6	40.3	7.7	0.303	1,223	4,356,464	28.1
Cervix	Female	1	18,454	5.4	4.6	1.5	1.000	303	4,356,464	7.0
Colorectal	Total	11	38,126	28.9	19.5	22.2	0.013 <<	3,440	8,733,702	39.4
Colorectal	Male	5	19,672	25.4	15.7	13.8	0.013 <<	1,898	4,377,238	43.4
Colorectal	Female	6	18,454	32.5	24.2	8.8	0.457	1,542	4,356,464	35.4
Corpus Uteri	Female	7	18,454	37.9	25.2	8.4	0.789	1,323	4,356,464	30.4
Esophagus	Total	7	38,126	18.4	11.7	3.4	0.119	499	8,733,702	5.7
Esophagus	Male	6	19,672	30.5	17.8	3.2	0.215	418	4,377,238	9.5
Esophagus	Female	1	18,454	5.4	3.7	0.5	0.788	81	4,356,464	1.9
Hodgkin Lymphoma	Total	2	38,126	5.2	4.7	1.0	0.539	208	8,733,702	2.4
Hodgkin Lymphoma	Male	-	19,672	-	-	0.6	1.000	118	4,377,238	2.7
Hodgkin Lymphoma	Female	2	18,454	10.8	10.5	0.4	0.120	90	4,356,464	2.1
Kidney and Renal Pelvis	Total	8	38,126	21.0	13.9	11.9	0.323	1,807	8,733,702	20.7
Kidney and Renal Pelvis	Male	5	19,672	25.4	15.6	8.6	0.282	1,177	4,377,238	26.9
Kidney and Renal Pelvis	Female	3	18,454	16.3	11.8	3.7	0.998	630	4,356,464	14.5
Larynx	Total	-	38,126	-	-	1.5	0.444	215	8,733,702	2.5
Larynx	Male	-	19,672	-	-	1.3	0.568	160	4,377,238	3.7
Larynx	Female	-	18,454	-	-	0.3	1.000	55	4,356,464	1.3
Leukemia	Total	10	38,126	26.2	18.4	10.1	1.000	1,621	8,733,702	18.6
Leukemia	Male	6	19,672	30.5	19.5	6.9	0.922	983	4,377,238	22.5
Leukemia	Female	4	18,454	21.7	16.7	3.5	0.926	638	4,356,464	14.6
Liver and Bile Duct	Total	7	38,126	18.4	11.4	5.8	0.723	822	8,733,702	9.4
Liver and Bile Duct	Male	6	19,672	30.5	17.3	4.6	0.635	584	4,377,238	13.3
Liver and Bile Duct	Female	1	18,454	5.4	3.8	1.4	1.000	238	4,356,464	5.5
Lung and Bronchus	Total	31	38,126	81.3	51.4	33.5	0.747	4,856	8,733,702	55.6
Lung and Bronchus	Male	12	19,672	61.0	34.5	19.4	0.103	2,440	4,377,238	55.7
Lung and Bronchus	Female	19	18,454	103.0	72.8	14.5	0.291	2,416	4,356,464	55.5
Melanoma of the Skin	Total	21	38,126	55.1	38.1	18.4	0.607	2,921	8,733,702	33.4
Melanoma of the Skin	Male	10	19,672	50.8	31.6	12.7	0.559	1,755	4,377,238	40.1
Melanoma of the Skin	Female	11	18,454	59.6	45.2	6.5	0.135	1,166	4,356,464	26.8
Myeloma	Total	3	38,126	7.9	5.1	4.8	0.602	705	8,733,702	8.1
Myeloma	Male	3	19,672	15.3	8.9	3.4	1.000	438	4,377,238	10.0
Myeloma	Female	-	18,454	-	-	1.6	0.413	267	4,356,464	6.1
Non-Hodgkin Lymphoma	Total	14	38,126	36.7	24.5	12.6	0.763	1,926	8,733,702	22.1
Non-Hodgkin Lymphoma	Male	5	19,672	25.4	15.6	8.2	0.344	1,124	4,377,238	25.7
Non-Hodgkin Lymphoma	Female	9	18,454	48.8	35.5	4.7	0.098	802	4,356,464	18.4
Oral Cavity and Pharynx	Total	12	38,126	31.5	19.8	8.9	0.376	1,283	8,733,702	14.7
Oral Cavity and Pharynx	Male	11	19,672	55.9	32.7	7.1	0.214	925	4,377,238	21.1
Oral Cavity and Pharynx	Female	1	18,454	5.4	3.8	2.2	0.718	358	4,356,464	8.2
Ovary	Female	2	18,454	10.8	7.8	3.1	0.783	531	4,356,464	12.2
Pancreas	Total	9	38,126	23.6	15.4	9.5	1.000	1,414	8,733,702	16.2
Pancreas	Male	6	19,672	30.5	17.8	6.0	1.000	778	4,377,238	17.8
Pancreas	Female	3	18,454	16.3	11.9	3.7	0.998	636	4,356,464	14.6
Prostate	Male	61	19,672	310.1	170.5	52.0	0.239	6,356	4,377,238	145.2
Stomach	Total	6	38,126	15.7	10.6	3.0	0.166	461	8,733,702	5.3
Stomach	Male	4	19,672	20.3	12.1	2.3	0.401	305	4,377,238	7.0
Stomach	Female	2	18,454	10.8	8.5	0.8	0.415	156	4,356,464	3.6
Testis	Male	-	19,672	-	-	1.0	0.772	265	4,377,238	6.1
Thyroid	Total	8	38,126	21.0	17.2	6.4	0.637	1,212	8,733,702	13.9
Thyroid	Male	4	19,672	20.3	15.0	2.1	0.338	351	4,377,238	8.0
Thyroid	Female	4	18,454	21.7	18.4	4.3	1.000	861	4,356,464	19.8
Pediatric Age 0 to 19	Total	5	6,998	71.4	70.9	1.2	0.015 >>	416	2,453,525	17.0
Pediatric Age 0 to 19	Male	1	3,727	26.8	27.2	0.7	0.957	222	1,252,783	17.7
Pediatric Age 0 to 19	Female	4	3,271	122.3	118.5	0.5	0.005 >>	194	1,200,742	16.2

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 2017–2021
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	342	39,121	874.2	645.8	456.2	0.000 <<	77,088	8,949,594	861.4
All Causes of Death	Male	214	20,168	1,061.1	690.5	281.8	0.000 <<	40,842	4,491,700	909.3
All Causes of Death	Female	128	18,953	675.4	570.4	182.4	0.000 <<	36,246	4,457,894	813.1
All Malignant Cancers	Total	61	39,121	155.9	104.9	97.9	0.000 <<	15,060	8,949,594	168.3
All Malignant Cancers	Male	30	20,168	148.8	89.0	61.2	0.000 <<	8,146	4,491,700	181.4
All Malignant Cancers	Female	31	18,953	163.6	123.1	39.1	0.221	6,914	4,457,894	155.1
Bladder	Total	3	39,121	7.7	5.5	3.0	1.000	486	8,949,594	5.4
Bladder	Male	2	20,168	9.9	6.2	2.7	0.991	376	4,491,700	8.4
Bladder	Female	1	18,953	5.3	4.3	0.6	0.876	110	4,457,894	2.5
Brain and Other Nervous System	Total	1	39,121	2.6	1.7	3.3	0.327	503	8,949,594	5.6
Brain and Other Nervous System	Male	1	20,168	5.0	3.1	2.1	0.748	297	4,491,700	6.6
Brain and Other Nervous System	Female	-	18,953	-	-	1.2	0.594	206	4,457,894	4.6
Breast	Total	7	39,121	17.9	12.2	7.0	1.000	1,095	8,949,594	12.2
Breast	Male	-	20,168	-	-	0.1	1.000	16	4,491,700	0.4
Breast	Female	7	18,953	36.9	27.5	6.2	0.842	1,079	4,457,894	24.2
Cervix	Female	1	18,953	5.3	4.1	0.4	0.724	82	4,457,894	1.8
Colorectal	Total	3	39,121	7.7	5.2	8.4	0.064	1,316	8,949,594	14.7
Colorectal	Male	2	20,168	9.9	6.1	5.2	0.210	717	4,491,700	16.0
Colorectal	Female	1	18,953	5.3	4.1	3.3	0.322	599	4,457,894	13.4
Corpus Uteri	Female	-	18,953	-	-	1.1	0.696	173	4,457,894	3.9
Esophagus	Total	3	39,121	7.7	4.9	3.2	1.000	474	8,949,594	5.3
Esophagus	Male	2	20,168	9.9	5.8	3.1	0.808	399	4,491,700	8.9
Esophagus	Female	1	18,953	5.3	4.0	0.4	0.694	75	4,457,894	1.7
Hodgkin Lymphoma	Total	-	39,121	-	-	0.2	1.000	29	8,949,594	0.3
Hodgkin Lymphoma	Male	-	20,168	-	-	0.1	1.000	14	4,491,700	0.3
Hodgkin Lymphoma	Female	-	18,953	-	-	0.1	1.000	15	4,457,894	0.3
Kidney	Total	-	39,121	-	-	2.5	0.157	385	8,949,594	4.3
Kidney	Male	-	20,168	-	-	1.9	0.312	242	4,491,700	5.4
Kidney	Female	-	18,953	-	-	0.8	0.909	143	4,457,894	3.2
Larynx	Total	-	39,121	-	-	0.5	1.000	71	8,949,594	0.8
Larynx	Male	-	20,168	-	-	0.4	1.000	58	4,491,700	1.3
Larynx	Female	-	18,953	-	-	0.1	1.000	13	4,457,894	0.3
Leukemia	Total	-	39,121	-	-	4.0	0.035 <<	660	8,949,594	7.4
Leukemia	Male	-	20,168	-	-	2.8	0.125	386	4,491,700	8.6
Leukemia	Female	-	18,953	-	-	1.4	0.489	274	4,457,894	6.1
Liver and Bile Duct	Total	4	39,121	10.2	6.4	4.2	1.000	599	8,949,594	6.7
Liver and Bile Duct	Male	3	20,168	14.9	8.5	3.2	1.000	405	4,491,700	9.0
Liver and Bile Duct	Female	1	18,953	5.3	3.8	1.2	1.000	194	4,457,894	4.4
Lung and Bronchus	Total	17	39,121	43.5	28.2	19.9	0.615	2,944	8,949,594	32.9
Lung and Bronchus	Male	7	20,168	34.7	19.8	12.2	0.165	1,549	4,491,700	34.5
Lung and Bronchus	Female	10	18,953	52.8	39.0	8.0	0.572	1,395	4,457,894	31.3
Melanoma of the Skin	Total	2	39,121	5.1	3.5	1.8	1.000	287	8,949,594	3.2
Melanoma of the Skin	Male	2	20,168	9.9	6.1	1.4	0.813	190	4,491,700	4.2
Melanoma of the Skin	Female	-	18,953	-	-	0.5	1.000	97	4,457,894	2.2
Myeloma	Total	2	39,121	5.1	3.5	2.1	1.000	329	8,949,594	3.7
Myeloma	Male	1	20,168	5.0	2.9	1.5	1.000	195	4,491,700	4.3
Myeloma	Female	1	18,953	5.3	4.1	0.7	1.000	134	4,457,894	3.0
Non-Hodgkin Lymphoma	Total	2	39,121	5.1	3.5	3.6	0.612	567	8,949,594	6.3
Non-Hodgkin Lymphoma	Male	1	20,168	5.0	3.0	2.2	0.686	306	4,491,700	6.8
Non-Hodgkin Lymphoma	Female	1	18,953	5.3	4.2	1.4	1.000	261	4,457,894	5.9
Oral Cavity and Pharynx	Total	-	39,121	-	-	1.8	0.327	266	8,949,594	3.0
Oral Cavity and Pharynx	Male	-	20,168	-	-	1.5	0.462	187	4,491,700	4.2
Oral Cavity and Pharynx	Female	-	18,953	-	-	0.5	1.000	79	4,457,894	1.8
Ovary	Female	2	18,953	10.6	7.6	2.1	1.000	348	4,457,894	7.8
Pancreas	Total	8	39,121	20.4	13.2	8.0	1.000	1,182	8,949,594	13.2
Pancreas	Male	4	20,168	19.8	11.4	5.0	0.894	638	4,491,700	14.2
Pancreas	Female	4	18,953	21.1	15.4	3.2	0.783	544	4,457,894	12.2
Prostate	Male	2	20,168	9.9	6.1	6.9	0.066	947	4,491,700	21.1
Stomach	Total	-	39,121	-	-	1.2	0.581	198	8,949,594	2.2
Stomach	Male	-	20,168	-	-	0.9	0.823	121	4,491,700	2.7
Stomach	Female	-	18,953	-	-	0.4	1.000	77	4,457,894	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, 2020.

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 (BRFS) since 1984. These surveys are conducted with randomly selected adult Idahoans to measure population prevalences of risk factors for the major causes of death, including cancer. DPH provided data sets containing Behavioral Risk Factor Surveillance System (BRFSS) data from 2011 through 2021 to CDRI staff, who performed the analyses reported in these *County Profiles*. Analysis weights were poststratified to 2020 population estimates by age group, sex, and county, beginning with the BRFSS raked weights. Not all questions were asked in all years. 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* 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, 2011–2021

Measure	State of Idaho	HD 1	HD 2	HD 3	HD 4	HD 5	HD 6	HD 7	Boise County
Access to Care									
Have Health Insurance, Age <65 (2015–2021)	83.1%	82.8%	85.1%	77.2%	85.8%	78.9%	85.4%	85.4%	81.1%
Not See Doctor Due to Cost in Past Year (2015–2021)	12.6%	11.4%	11.8%	14.5%	12.4%	12.3%	11.8%	12.9%	9.6%
Cancer Screening									
Mammogram Past 2 Years, Age 50–74 (2014, 2016, 2018, 2020)	69.1%	67.0%	73.8%	68.2%	73.2%	64.8%	64.5%	67.1%	.
Pap Test Past 3 Years, Cervix Intact Age 21–65 (2018, 2020)	71.2%	73.6%	73.6%	70.8%	72.9%	69.1%	69.5%	65.9%	.
Colorectal Cancer Screening, Age 50–75 (2018, 2020)	67.9%	66.9%	73.6%	71.4%	70.6%	61.7%	61.5%	64.7%	.
Tobacco Use									
Current Tobacco User (2016–2021)	22.3%	26.7%	23.1%	23.6%	21.8%	21.4%	22.7%	16.9%	18.1%
Other Cancer-Related									
Healthy Weight by Body Mass Index, Age 20+ (2015–2021)	32.1%	32.8%	31.7%	27.9%	36.1%	29.8%	27.9%	31.9%	32.2%
Any Physical Activity Besides Job Past 30 Days (2015-2021)	78.7%	79.2%	78.1%	74.5%	83.2%	73.4%	76.3%	79.7%	74.3%
Meet Physical Activity Guidelines (2011, 2013, 2015, 2017, 2019)	21.9%	22.8%	19.4%	20.0%	25.2%	19.5%	20.4%	20.2%	22.3%
Home Ever Tested for Radon (2016, 2018, 2020)	23.0%	30.9%	18.2%	16.9%	25.1%	19.9%	23.0%	21.8%	28.5%

Access to Care

Have Health Insurance – 2015–2021
Statewide, 83.1% of adults aged 18–64 reported having health care coverage. Health care coverage differed significantly by race/ethnicity, with 86.0% of white non-Hispanics, compared to 64.8% of Hispanics and 83.3% of Native Americans, having health insurance. Spanish-speaking respondents were significantly less likely to be insured (33.3%) than English-speaking respondents (84.2%). Health care coverage differed significantly by age of respondent, with 79.8% of persons aged 18–29, and 87.8% of persons aged 50–64, having health insurance. Health care coverage differed significantly by county, with a range of 62.1% in Adams County to 91.6% in Oneida County having health insurance.

Not See Doctor Due to Cost in Past Year – 2015–2021
Statewide, 12.6% 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 (11.5% of white non-Hispanics, 19.2% of Hispanics, and 21.0% of Native Americans). Inability to see a doctor due to cost differed significantly by annual household income (24.9% for less than $15,000, 6.1% for greater than $50,000). Inability to see a doctor due to cost differed significantly by county, with a range of 7.4% in Franklin County to 17.5% in Power County.

Cancer Screening

Mammogram – 2014, 2016, 2018, 2020
Statewide, 69.1% of women aged 50–74 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 (72.1% versus 36.7%). Mammography rates differed significantly by county, with a range in screening of 45.9% in Benewah County to 77.0% in Nez Perce County. In 2020, Idaho ranked 48th among states and the District of Columbia for mammography screening rates among women aged 50–74 and also 48th among ages 40+.

Pap Test – 2018, 2020
Statewide, 71.2% 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 (75.1% versus 52.6% screened in the past 3 years). Pap screening differed significantly by county, with a range of 50.7% 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 – 2018, 2020
Statewide, 67.9% of adults aged 50–75 reported being current for colorectal cancer screening.** Persons with health insurance were over twice as likely to be current for colorectal cancer screening. In 2020, Idaho ranked 47th among states and the District of Columbia in the percentage of adults aged 50–75 and older who reported being up-to-date for colorectal cancer screening.

** 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, or a colonoscopy in the past 10 years.

Cancer Screening and Risk Factors

Tobacco Use

Current Tobacco Use – 2016–2021
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, 22.3% of adults aged 18 and older were current tobacco users. Tobacco use differed significantly by age of respondent, with 29.9% of persons aged 18-29, and 11.1% of persons aged 65 and older reporting current tobacco use. Tobacco use was lower among white non-Hispanics (22.4%) than among Native Americans (40.0%). Tobacco use differed significantly by county, with a range of 5.4% in Madison County to 41.6% 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 – 2015–2021
Statewide, 32.1% 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 32.5% of white non-Hispanics, compared to 28.2% of Hispanics and 24.6% of Native Americans, being in the healthy weight range. Males (25.5%) were significantly less likely to be in the healthy weight range than females (38.6%). BMI differed significantly by age of respondent, with 43.3% of persons aged 18–29, and 26.0% of persons aged 50–64, being in the healthy weight range. BMI differed significantly by county, with a range of 19.8% in Power County to 47.4% in Blaine County of adults being in the healthy weight range.

Any Physical Activity – 2015-2021
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, 78.7% 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 83.3% of persons aged 18–29, and 72.3% 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 64.3% in Clark County to 84.6% in Teton County.

Physical Activity Guidelines – 2011, 2013, 2015, 2017, 2019
Statewide, 21.9% 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 26.3% 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 9.6% in Franklin County to 30.6% in Blaine County.

Home Radon Testing – 2016, 2018, 2020
Statewide, 23.0% of adults have ever tested their house for radon. Radon test usage varied significantly by race/ethnicity, with 25.1% of white non-Hispanics, 7.4% 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 8.5% in Cassia County to 54.4% in Blaine County.

This project has been funded in whole or in part with Federal funds from the National Cancer Institute, National Institutes of Health, Department of Health and Human Services, under Contract No. HHSN261201800006I and the Centers for Disease Control and Prevention, Department of Health and Human Services, under Cooperative Agreement NU58DP007160. The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention or the National Cancer Institute.

BONNER COUNTY CANCER PROFILE

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

Cancer Incidence 2016–2020
Cancer Mortality 2017–2021
BRFSS 2011–2021

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.2016.3332). 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 2016–2020

Nearly one in two Idahoans are estimated to develop cancer during their lifetime. During 2016–2020, 45,610 cases of invasive cancer were diagnosed among Idaho residents, and 1,653 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, 2016–2020

Cancer Incidence 2016–2020	Bonner County	State of Idaho
All Sites/Types	**1,653**	**45,610**
Female Breast	**223**	**6,687**
Prostate	**256**	**6,417**
Lung & Bronchus	**189**	**4,887**
Colorectal	**150**	**3,451**

Table 3 (*Cancer Incidence 2016–2020, 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 739.8 cases per 100,000 person-years per year during 2016–2020. Comparing this crude rate with the crude rate for the remainder of Idaho (514.2) 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 520.6 cases per 100,000 persons per year during 2016–2020. There were more cases of cancer in Bonner County (1,653) than expected (1,632.7) 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 2017–2021

During 2017–2021, cancer was the second leading cause of death in Idaho; 15,121 Idaho residents and 563 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, 2017–2021

Mortality 2017–2021	Bonner County	State of Idaho
All Deaths	**2,483**	**77,431**
Cancer Deaths	**563**	**15,121**
% of All Deaths	*22.7%*	*19.5%*
Lung & Bronchus	**117**	**2,961**
Colorectal	**48**	**1,319**
Pancreas	**49**	**1,190**
Female Breast	**39**	**1,086**
Prostate	**42**	**949**

Table 4 (*Cancer Mortality 2017–2021, 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 168.8 deaths per 100,000 persons per year during 2017–2021, compared with 166.2 for the remainder of the state. There were more cancer deaths in Bonner County (563) than expected (554.3) 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 2016–2020
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	1,653	223,438	739.8	520.6	1,632.7	0.622	43,957	8,548,390	514.2
All Sites Combined	Male	931	111,621	834.1	549.6	923.3	0.808	23,358	4,285,289	545.1
All Sites Combined	Female	722	111,817	645.7	482.4	723.2	0.985	20,599	4,263,101	483.2
Bladder	Total	79	223,438	35.4	23.8	81.8	0.816	2,105	8,548,390	24.6
Bladder	Male	62	111,621	55.5	35.3	69.2	0.424	1,689	4,285,289	39.4
Bladder	Female	17	111,817	15.2	10.8	15.3	0.737	416	4,263,101	9.8
Brain - malignant	Total	24	223,438	10.7	8.3	20.3	0.467	601	8,548,390	7.0
Brain - malignant	Male	18	111,621	16.1	12.1	12.4	0.160	357	4,285,289	8.3
Brain - malignant	Female	6	111,817	5.4	4.3	8.0	0.615	244	4,263,101	5.7
Brain and other CNS - non-malignant	Total	48	223,438	21.5	16.2	47.8	1.000	1,376	8,548,390	16.1
Brain and other CNS - non-malignant	Male	18	111,621	16.1	12.0	16.2	0.721	462	4,285,289	10.8
Brain and other CNS - non-malignant	Female	30	111,817	26.8	20.7	31.0	0.945	914	4,263,101	21.4
Breast	Total	227	223,438	101.6	73.1	236.8	0.550	6,519	8,548,390	76.3
Breast	Male	4	111,621	3.6	2.4	2.1	0.337	55	4,285,289	1.3
Breast	Female	223	111,817	199.4	148.3	228.0	0.776	6,464	4,263,101	151.6
Breast - in situ	Total	45	223,438	20.1	14.4	43.5	0.860	1,194	8,548,390	14.0
Breast - in situ	Male	-	111,621	-	-	0.2	1.000	5	4,285,289	0.1
Breast - in situ	Female	45	111,817	40.2	29.7	42.2	0.709	1,189	4,263,101	27.9
Cervix	Female	11	111,817	9.8	8.9	8.5	0.469	293	4,263,101	6.9
Colorectal	Total	150	223,438	67.1	48.1	120.5	0.010 >>	3,301	8,548,390	38.6
Colorectal	Male	81	111,621	72.6	49.8	69.2	0.180	1,822	4,285,289	42.5
Colorectal	Female	69	111,817	61.7	46.2	51.8	0.026 >>	1,479	4,263,101	34.7
Corpus Uteri	Female	43	111,817	38.5	27.9	46.6	0.667	1,287	4,263,101	30.2
Esophagus	Total	24	223,438	10.7	7.3	18.5	0.250	482	8,548,390	5.6
Esophagus	Male	19	111,621	17.0	11.1	16.2	0.556	405	4,285,289	9.5
Esophagus	Female	5	111,817	4.5	3.2	2.8	0.318	77	4,263,101	1.8
Hodgkin Lymphoma	Total	3	223,438	1.3	1.2	5.8	0.331	207	8,548,390	2.4
Hodgkin Lymphoma	Male	2	111,621	1.8	1.6	3.4	0.675	116	4,285,289	2.7
Hodgkin Lymphoma	Female	1	111,817	0.9	0.9	2.5	0.594	91	4,263,101	2.1
Kidney and Renal Pelvis	Total	70	223,438	31.3	22.3	64.0	0.486	1,745	8,548,390	20.4
Kidney and Renal Pelvis	Male	42	111,621	37.6	25.8	43.4	0.917	1,140	4,285,289	26.6
Kidney and Renal Pelvis	Female	28	111,817	25.0	18.6	21.4	0.193	605	4,263,101	14.2
Larynx	Total	9	223,438	4.0	2.7	7.9	0.789	206	8,548,390	2.4
Larynx	Male	6	111,621	5.4	3.5	6.2	1.000	154	4,285,289	3.6
Larynx	Female	3	111,817	2.7	2.0	1.9	0.578	52	4,263,101	1.2
Leukemia	Total	59	223,438	26.4	19.2	56.6	0.788	1,572	8,548,390	18.4
Leukemia	Male	37	111,621	33.1	23.0	35.7	0.870	952	4,285,289	22.2
Leukemia	Female	22	111,817	19.7	14.9	21.5	0.978	620	4,263,101	14.5
Liver and Bile Duct	Total	39	223,438	17.5	11.8	30.6	0.160	790	8,548,390	9.2
Liver and Bile Duct	Male	33	111,621	29.6	19.0	22.5	0.045 >>	557	4,285,289	13.0
Liver and Bile Duct	Female	6	111,817	5.4	3.8	8.5	0.506	233	4,263,101	5.5
Lung and Bronchus	Total	189	223,438	84.6	56.3	184.3	0.750	4,698	8,548,390	55.0
Lung and Bronchus	Male	103	111,621	92.3	58.0	97.4	0.599	2,349	4,285,289	54.8
Lung and Bronchus	Female	86	111,817	76.9	54.1	87.6	0.920	2,349	4,263,101	55.1
Melanoma of the Skin	Total	75	223,438	33.6	24.6	102.2	0.006 <<	2,867	8,548,390	33.5
Melanoma of the Skin	Male	48	111,621	43.0	29.4	65.5	0.029 <<	1,717	4,285,289	40.1
Melanoma of the Skin	Female	27	111,817	24.1	19.1	38.2	0.073	1,150	4,263,101	27.0
Myeloma	Total	25	223,438	11.2	7.6	26.3	0.901	683	8,548,390	8.0
Myeloma	Male	17	111,621	15.2	9.8	17.2	1.000	424	4,285,289	9.9
Myeloma	Female	8	111,817	7.2	5.1	9.5	0.782	259	4,263,101	6.1
Non-Hodgkin Lymphoma	Total	58	223,438	26.0	18.4	69.4	0.186	1,882	8,548,390	22.0
Non-Hodgkin Lymphoma	Male	31	111,621	27.8	18.9	42.0	0.094	1,098	4,285,289	25.6
Non-Hodgkin Lymphoma	Female	27	111,817	24.1	17.8	28.0	0.955	784	4,263,101	18.4
Oral Cavity and Pharynx	Total	43	223,438	19.2	13.3	47.4	0.582	1,252	8,548,390	14.6
Oral Cavity and Pharynx	Male	31	111,621	27.8	18.4	35.7	0.495	905	4,285,289	21.1
Oral Cavity and Pharynx	Female	12	111,817	10.7	7.8	12.5	1.000	347	4,263,101	8.1
Ovary	Female	22	111,817	19.7	14.8	17.8	0.378	511	4,263,101	12.0
Pancreas	Total	59	223,438	26.4	18.1	52.1	0.376	1,364	8,548,390	16.0
Pancreas	Male	33	111,621	29.6	19.2	30.2	0.657	751	4,285,289	17.5
Pancreas	Female	26	111,817	23.3	16.8	22.3	0.487	613	4,263,101	14.4
Prostate	Male	256	111,621	229.3	143.2	256.9	0.987	6,161	4,285,289	143.8
Stomach	Total	13	223,438	5.8	4.1	16.8	0.425	454	8,548,390	5.3
Stomach	Male	9	111,621	8.1	5.3	11.8	0.513	300	4,285,289	7.0
Stomach	Female	4	111,817	3.6	2.7	5.3	0.786	154	4,263,101	3.6
Testis	Male	5	111,621	4.5	5.2	5.9	0.938	260	4,285,289	6.1
Thyroid	Total	31	223,438	13.9	12.1	35.7	0.491	1,189	8,548,390	13.9
Thyroid	Male	12	111,621	10.8	8.6	11.2	0.891	343	4,285,289	8.0
Thyroid	Female	19	111,817	17.0	15.4	24.5	0.309	846	4,263,101	19.8
Pediatric Age 0 to 19	Total	5	48,024	10.4	10.4	8.3	0.333	416	2,412,499	17.2
Pediatric Age 0 to 19	Male	3	24,279	12.4	12.4	4.3	0.750	220	1,232,231	17.9
Pediatric Age 0 to 19	Female	2	23,745	8.4	8.4	4.0	0.485	196	1,180,268	16.6

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 2017–2021
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	2,483	230,506	1,077.2	785.2	2,706.1	0.000 <<	74,947	8,758,209	855.7
All Causes of Death	Male	1,377	115,499	1,192.2	827.8	1,501.3	0.001 <<	39,679	4,396,369	902.5
All Causes of Death	Female	1,106	115,007	961.7	732.6	1,220.6	0.001 <<	35,268	4,361,840	808.6
All Malignant Cancers	Total	563	230,506	244.2	168.8	554.3	0.724	14,558	8,758,209	166.2
All Malignant Cancers	Male	318	115,499	275.3	179.8	316.1	0.931	7,858	4,396,369	178.7
All Malignant Cancers	Female	245	115,007	213.0	155.1	242.7	0.897	6,700	4,361,840	153.6
Bladder	Total	23	230,506	10.0	6.9	17.6	0.250	466	8,758,209	5.3
Bladder	Male	21	115,499	18.2	12.0	14.2	0.109	357	4,396,369	8.1
Bladder	Female	2	115,007	1.7	1.3	3.9	0.494	109	4,361,840	2.5
Brain and Other Nervous System	Total	19	230,506	8.2	5.9	17.7	0.828	485	8,758,209	5.5
Brain and Other Nervous System	Male	12	115,499	10.4	7.2	10.9	0.812	286	4,396,369	6.5
Brain and Other Nervous System	Female	7	115,007	6.1	4.5	7.0	1.000	199	4,361,840	4.6
Breast	Total	40	230,506	17.4	12.3	39.3	0.954	1,062	8,758,209	12.1
Breast	Male	1	115,499	0.9	0.5	0.6	0.927	15	4,396,369	0.3
Breast	Female	39	115,007	33.9	25.1	37.4	0.830	1,047	4,361,840	24.0
Cervix	Female	1	115,007	0.9	0.7	2.6	0.523	82	4,361,840	1.9
Colorectal	Total	48	230,506	20.8	14.7	47.4	0.969	1,271	8,758,209	14.5
Colorectal	Male	28	115,499	24.2	16.4	26.9	0.885	691	4,396,369	15.7
Colorectal	Female	20	115,007	17.4	12.9	20.7	0.996	580	4,361,840	13.3
Corpus Uteri	Female	5	115,007	4.3	3.1	6.3	0.807	168	4,361,840	3.9
Esophagus	Total	28	230,506	12.1	8.3	17.3	0.022 >>	449	8,758,209	5.1
Esophagus	Male	23	115,499	19.9	12.9	15.3	0.078	378	4,396,369	8.6
Esophagus	Female	5	115,007	4.3	3.2	2.6	0.235	71	4,361,840	1.6
Hodgkin Lymphoma	Total	2	230,506	0.9	0.7	0.9	0.482	27	8,758,209	0.3
Hodgkin Lymphoma	Male	1	115,499	0.9	0.6	0.5	0.742	13	4,396,369	0.3
Hodgkin Lymphoma	Female	1	115,007	0.9	0.7	0.5	0.757	14	4,361,840	0.3
Kidney	Total	19	230,506	8.2	5.6	14.2	0.253	366	8,758,209	4.2
Kidney	Male	8	115,499	6.9	4.5	9.5	0.782	234	4,396,369	5.3
Kidney	Female	11	115,007	9.6	6.8	4.9	0.023 >>	132	4,361,840	3.0
Larynx	Total	2	230,506	0.9	0.6	2.7	1.000	69	8,758,209	0.8
Larynx	Male	2	115,499	1.7	1.1	2.3	1.000	56	4,396,369	1.3
Larynx	Female	-	115,007	-	-	0.5	1.000	13	4,361,840	0.3
Leukemia	Total	27	230,506	11.7	8.3	23.5	0.526	633	8,758,209	7.2
Leukemia	Male	12	115,499	10.4	7.0	14.7	0.593	374	4,396,369	8.5
Leukemia	Female	15	115,007	13.0	9.7	9.2	0.093	259	4,361,840	5.9
Liver and Bile Duct	Total	27	230,506	11.7	7.8	22.6	0.409	576	8,758,209	6.6
Liver and Bile Duct	Male	22	115,499	19.0	12.1	16.0	0.176	386	4,396,369	8.8
Liver and Bile Duct	Female	5	115,007	4.3	3.1	7.1	0.587	190	4,361,840	4.4
Lung and Bronchus	Total	117	230,506	50.8	34.0	111.6	0.637	2,844	8,758,209	32.5
Lung and Bronchus	Male	59	115,499	51.1	32.2	62.4	0.729	1,497	4,396,369	34.1
Lung and Bronchus	Female	58	115,007	50.4	35.8	50.0	0.288	1,347	4,361,840	30.9
Melanoma of the Skin	Total	10	230,506	4.3	3.1	10.4	1.000	279	8,758,209	3.2
Melanoma of the Skin	Male	7	115,499	6.1	4.1	7.3	1.000	185	4,396,369	4.2
Melanoma of the Skin	Female	3	115,007	2.6	1.9	3.3	1.000	94	4,361,840	2.2
Myeloma	Total	1	230,506	0.4	0.3	12.9	0.000 <<	330	8,758,209	3.8
Myeloma	Male	1	115,499	0.9	0.5	8.1	0.006 <<	195	4,396,369	4.4
Myeloma	Female	-	115,007	-	-	5.0	0.014 <<	135	4,361,840	3.1
Non-Hodgkin Lymphoma	Total	14	230,506	6.1	4.2	21.1	0.137	555	8,758,209	6.3
Non-Hodgkin Lymphoma	Male	7	115,499	6.1	4.0	12.0	0.182	300	4,396,369	6.8
Non-Hodgkin Lymphoma	Female	7	115,007	6.1	4.4	9.3	0.588	255	4,361,840	5.8
Oral Cavity and Pharynx	Total	9	230,506	3.9	2.7	9.9	0.931	257	8,758,209	2.9
Oral Cavity and Pharynx	Male	6	115,499	5.2	3.3	7.4	0.782	181	4,396,369	4.1
Oral Cavity and Pharynx	Female	3	115,007	2.6	1.9	2.8	1.000	76	4,361,840	1.7
Ovary	Female	9	115,007	7.8	5.6	12.5	0.397	341	4,361,840	7.8
Pancreas	Total	49	230,506	21.3	14.4	44.5	0.537	1,141	8,758,209	13.0
Pancreas	Male	23	115,499	19.9	12.7	25.4	0.726	619	4,396,369	14.1
Pancreas	Female	26	115,007	22.6	16.1	19.4	0.173	522	4,361,840	12.0
Prostate	Male	42	115,499	36.4	23.8	36.4	0.389	907	4,396,369	20.6
Stomach	Total	6	230,506	2.6	1.9	7.0	0.901	192	8,758,209	2.2
Stomach	Male	4	115,499	3.5	2.3	4.5	1.000	117	4,396,369	2.7
Stomach	Female	2	115,007	1.7	1.4	2.5	1.000	75	4,361,840	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, 2020.

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 (BRFS) since 1984. These surveys are conducted with randomly selected adult Idahoans to measure population prevalences of risk factors for the major causes of death, including cancer. DPH provided data sets containing Behavioral Risk Factor Surveillance System (BRFSS) data from 2011 through 2021 to CDRI staff, who performed the analyses reported in these *County Profiles*. Analysis weights were poststratified to 2020 population estimates by age group, sex, and county, beginning with the BRFSS raked weights. Not all questions were asked in all years. 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* 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, 2011–2021

Measure	State of Idaho	HD 1	HD 2	HD 3	HD 4	HD 5	HD 6	HD 7	Bonner County
Access to Care									
Have Health Insurance, Age <65 (2015–2021)	83.1%	82.8%	85.1%	77.2%	85.8%	78.9%	85.4%	85.4%	80.4%
Not See Doctor Due to Cost in Past Year (2015–2021)	12.6%	11.4%	11.8%	14.5%	12.4%	12.3%	11.8%	12.9%	12.8%
Cancer Screening									
Mammogram Past 2 Years, Age 50–74 (2014, 2016, 2018, 2020)	69.1%	67.0%	73.8%	68.2%	73.2%	64.8%	64.5%	67.1%	65.5%
Pap Test Past 3 Years, Cervix Intact Age 21–65 (2018, 2020)	71.2%	73.6%	73.6%	70.8%	72.9%	69.1%	69.5%	65.9%	68.9%
Colorectal Cancer Screening, Age 50–75 (2018, 2020)	67.9%	66.9%	73.6%	71.4%	70.6%	61.7%	61.5%	64.7%	57.8%
Tobacco Use									
Current Tobacco User (2016–2021)	22.3%	26.7%	23.1%	23.6%	21.8%	21.4%	22.7%	16.9%	28.8%
Other Cancer-Related									
Healthy Weight by Body Mass Index, Age 20+ (2015–2021)	32.1%	32.8%	31.7%	27.9%	36.1%	29.8%	27.9%	31.9%	36.1%
Any Physical Activity Besides Job Past 30 Days (2015-2021)	78.7%	79.2%	78.1%	74.5%	83.2%	73.4%	76.3%	79.7%	79.2%
Meet Physical Activity Guidelines (2011, 2013, 2015, 2017, 2019)	21.9%	22.8%	19.4%	20.0%	25.2%	19.5%	20.4%	20.2%	22.3%
Home Ever Tested for Radon (2016, 2018, 2020)	23.0%	30.9%	18.2%	16.9%	25.1%	19.9%	23.0%	21.8%	24.3%

Access to Care

Have Health Insurance – 2015–2021
Statewide, 83.1% of adults aged 18–64 reported having health care coverage. Health care coverage differed significantly by race/ethnicity, with 86.0% of white non-Hispanics, compared to 64.8% of Hispanics and 83.3% of Native Americans, having health insurance. Spanish-speaking respondents were significantly less likely to be insured (33.3%) than English-speaking respondents (84.2%). Health care coverage differed significantly by age of respondent, with 79.8% of persons aged 18–29, and 87.8% of persons aged 50–64, having health insurance. Health care coverage differed significantly by county, with a range of 62.1% in Adams County to 91.6% in Oneida County having health insurance.

Not See Doctor Due to Cost in Past Year – 2015–2021
Statewide, 12.6% 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 (11.5% of white non-Hispanics, 19.2% of Hispanics, and 21.0% of Native Americans). Inability to see a doctor due to cost differed significantly by annual household income (24.9% for less than $15,000, 6.1% for greater than $50,000). Inability to see a doctor due to cost differed significantly by county, with a range of 7.4% in Franklin County to 17.5% in Power County.

Cancer Screening

Mammogram – 2014, 2016, 2018, 2020
Statewide, 69.1% of women aged 50–74 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 (72.1% versus 36.7%). Mammography rates differed significantly by county, with a range in screening of 45.9% in Benewah County to 77.0% in Nez Perce County. In 2020, Idaho ranked 48th among states and the District of Columbia for mammography screening rates among women aged 50–74 and also 48th among ages 40+.

Pap Test – 2018, 2020
Statewide, 71.2% 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 (75.1% versus 52.6% screened in the past 3 years). Pap screening differed significantly by county, with a range of 50.7% 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 – 2018, 2020
Statewide, 67.9% of adults aged 50–75 reported being current for colorectal cancer screening.** Persons with health insurance were over twice as likely to be current for colorectal cancer screening. In 2020, Idaho ranked 47th among states and the District of Columbia in the percentage of adults aged 50–75 and older who reported being up-to-date for colorectal cancer screening.

** 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, or a colonoscopy in the past 10 years.

Cancer Screening and Risk Factors

Tobacco Use

Current Tobacco Use – 2016–2021
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, 22.3% of adults aged 18 and older were current tobacco users. Tobacco use differed significantly by age of respondent, with 29.9% of persons aged 18-29, and 11.1% of persons aged 65 and older reporting current tobacco use. Tobacco use was lower among white non-Hispanics (22.4%) than among Native Americans (40.0%). Tobacco use differed significantly by county, with a range of 5.4% in Madison County to 41.6% 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 – 2015–2021
Statewide, 32.1% 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 32.5% of white non-Hispanics, compared to 28.2% of Hispanics and 24.6% of Native Americans, being in the healthy weight range. Males (25.5%) were significantly less likely to be in the healthy weight range than females (38.6%). BMI differed significantly by age of respondent, with 43.3% of persons aged 18–29, and 26.0% of persons aged 50–64, being in the healthy weight range. BMI differed significantly by county, with a range of 19.8% in Power County to 47.4% in Blaine County of adults being in the healthy weight range.

Any Physical Activity – 2015-2021
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, 78.7% 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 83.3% of persons aged 18–29, and 72.3% 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 64.3% in Clark County to 84.6% in Teton County.

Physical Activity Guidelines – 2011, 2013, 2015, 2017, 2019
Statewide, 21.9% 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 26.3% 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 9.6% in Franklin County to 30.6% in Blaine County.

Home Radon Testing – 2016, 2018, 2020
Statewide, 23.0% of adults have ever tested their house for radon. Radon test usage varied significantly by race/ethnicity, with 25.1% of white non-Hispanics, 7.4% 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 8.5% in Cassia County to 54.4% in Blaine County.

This project has been funded in whole or in part with Federal funds from the National Cancer Institute, National Institutes of Health, Department of Health and Human Services, under Contract No. HHSN261201800006I and the Centers for Disease Control and Prevention, Department of Health and Human Services, under Cooperative Agreement NU58DP007160. The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention or the National Cancer Institute.

CDRI Cancer Data Registry of Idaho

Idaho Hospital Association

BONNEVILLE COUNTY CANCER PROFILE

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

Cancer Incidence 2016–2020
Cancer Mortality 2017–2021
BRFSS 2011–2021

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.2016.3332). 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 2016–2020

Nearly one in two Idahoans are estimated to develop cancer during their lifetime. During 2016–2020, 45,610 cases of invasive cancer were diagnosed among Idaho residents, and 2,722 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, 2016–2020

Cancer Incidence 2016–2020	Bonneville County	State of Idaho
All Sites/Types	**2,722**	**45,610**
Female Breast	**375**	**6,687**
Prostate	**376**	**6,417**
Lung & Bronchus	**204**	**4,887**
Colorectal	**221**	**3,451**

Table 3 (*Cancer Incidence 2016–2020, 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 465.4 cases per 100,000 person-years per year during 2016–2020. Comparing this crude rate with the crude rate for the remainder of Idaho (523.9) 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 543.0 cases per 100,000 persons per year during 2016–2020. There were more cases of cancer in Bonneville County (2,722) than expected (2,626.1) 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 2017–2021

During 2017–2021, cancer was the second leading cause of death in Idaho; 15,121 Idaho residents and 815 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, 2017–2021

Mortality 2017–2021	Bonneville County	State of Idaho
All Deaths	**5,016**	**77,431**
Cancer Deaths	**815**	**15,121**
% of All Deaths	*16.2%*	*19.5%*
Lung & Bronchus	**132**	**2,961**
Colorectal	**82**	**1,319**
Pancreas	**60**	**1,190**
Female Breast	**65**	**1,086**
Prostate	**47**	**949**

Table 4 (*Cancer Mortality 2017–2021, 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 160.7 deaths per 100,000 persons per year during 2017–2021, compared with 170.6 for the remainder of the state. There were fewer cancer deaths in Bonneville County (815) than expected (864.7) 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 2016–2020
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	2,722	584,851	465.4	543.0	2,626.1	0.064	42,888	8,186,977	523.9
All Sites Combined	Male	1,423	291,696	487.8	579.3	1,368.2	0.143	22,866	4,105,214	557.0
All Sites Combined	Female	1,299	293,155	443.1	509.6	1,250.5	0.176	20,022	4,081,763	490.5
Bladder	Total	124	584,851	21.2	25.2	124.0	1.000	2,060	8,186,977	25.2
Bladder	Male	98	291,696	33.6	40.6	97.3	0.968	1,653	4,105,214	40.3
Bladder	Female	26	293,155	8.9	10.4	25.0	0.895	407	4,081,763	10.0
Brain - malignant	Total	42	584,851	7.2	8.0	37.4	0.491	583	8,186,977	7.1
Brain - malignant	Male	23	291,696	7.9	8.9	22.2	0.918	352	4,105,214	8.6
Brain - malignant	Female	19	293,155	6.5	7.1	15.0	0.368	231	4,081,763	5.7
Brain and other CNS - non-malignant	Total	108	584,851	18.5	21.0	82.7	0.009 >>	1,316	8,186,977	16.1
Brain and other CNS - non-malignant	Male	33	291,696	11.3	12.8	28.1	0.400	447	4,105,214	10.9
Brain and other CNS - non-malignant	Female	75	293,155	25.6	29.0	55.0	0.012 >>	869	4,081,763	21.3
Breast	Total	378	584,851	64.6	75.1	391.7	0.506	6,368	8,186,977	77.8
Breast	Male	3	291,696	1.0	1.2	3.4	1.000	56	4,105,214	1.4
Breast	Female	375	293,155	127.9	148.0	391.9	0.410	6,312	4,081,763	154.6
Breast - in situ	Total	69	584,851	11.8	13.8	71.7	0.812	1,170	8,186,977	14.3
Breast - in situ	Male	-	291,696	-	-	0.3	1.000	5	4,105,214	0.1
Breast - in situ	Female	69	293,155	23.5	27.4	71.8	0.798	1,165	4,081,763	28.5
Cervix	Female	18	293,155	6.1	6.6	19.2	0.910	286	4,081,763	7.0
Colorectal	Total	221	584,851	37.8	43.9	198.6	0.124	3,230	8,186,977	39.5
Colorectal	Male	113	291,696	38.7	45.4	108.6	0.697	1,790	4,105,214	43.6
Colorectal	Female	108	293,155	36.8	42.4	89.9	0.070	1,440	4,081,763	35.3
Corpus Uteri	Female	93	293,155	31.7	37.0	76.2	0.068	1,237	4,081,763	30.3
Esophagus	Total	26	584,851	4.4	5.3	29.0	0.662	480	8,186,977	5.9
Esophagus	Male	19	291,696	6.5	7.8	24.1	0.351	405	4,105,214	9.9
Esophagus	Female	7	293,155	2.4	2.8	4.6	0.355	75	4,081,763	1.8
Hodgkin Lymphoma	Total	9	584,851	1.5	1.6	13.5	0.276	201	8,186,977	2.5
Hodgkin Lymphoma	Male	8	291,696	2.7	3.0	7.3	0.879	110	4,105,214	2.7
Hodgkin Lymphoma	Female	1	293,155	0.3	0.4	6.2	0.029 <<	91	4,081,763	2.2
Kidney and Renal Pelvis	Total	114	584,851	19.5	22.6	104.7	0.385	1,701	8,186,977	20.8
Kidney and Renal Pelvis	Male	64	291,696	21.9	25.7	67.8	0.700	1,118	4,105,214	27.2
Kidney and Renal Pelvis	Female	50	293,155	17.1	19.5	36.5	0.039 >>	583	4,081,763	14.3
Larynx	Total	5	584,851	0.9	1.0	12.7	0.027 <<	210	8,186,977	2.6
Larynx	Male	3	291,696	1.0	1.2	9.3	0.034 <<	157	4,105,214	3.8
Larynx	Female	2	293,155	0.7	0.8	3.2	0.742	53	4,081,763	1.3
Leukemia	Total	114	584,851	19.5	22.2	95.2	0.066	1,517	8,186,977	18.5
Leukemia	Male	69	291,696	23.7	27.2	56.9	0.132	920	4,105,214	22.4
Leukemia	Female	45	293,155	15.4	17.4	37.9	0.283	597	4,081,763	14.6
Liver and Bile Duct	Total	37	584,851	6.3	7.5	47.9	0.125	792	8,186,977	9.7
Liver and Bile Duct	Male	27	291,696	9.3	11.0	33.5	0.297	563	4,105,214	13.7
Liver and Bile Duct	Female	10	293,155	3.4	4.0	14.2	0.332	229	4,081,763	5.6
Lung and Bronchus	Total	204	584,851	34.9	41.6	280.3	0.000 <<	4,683	8,186,977	57.2
Lung and Bronchus	Male	108	291,696	37.0	45.0	137.0	0.012 <<	2,344	4,105,214	57.1
Lung and Bronchus	Female	96	293,155	32.7	38.5	142.8	0.000 <<	2,339	4,081,763	57.3
Melanoma of the Skin	Total	207	584,851	35.4	40.7	169.9	0.006 >>	2,735	8,186,977	33.4
Melanoma of the Skin	Male	119	291,696	40.8	47.9	99.6	0.064	1,646	4,105,214	40.1
Melanoma of the Skin	Female	88	293,155	30.0	33.8	69.4	0.036 >>	1,089	4,081,763	26.7
Myeloma	Total	46	584,851	7.9	9.3	39.8	0.367	662	8,186,977	8.1
Myeloma	Male	29	291,696	9.9	12.0	24.2	0.379	412	4,105,214	10.0
Myeloma	Female	17	293,155	5.8	6.8	15.4	0.740	250	4,081,763	6.1
Non-Hodgkin Lymphoma	Total	119	584,851	20.3	23.6	112.1	0.537	1,821	8,186,977	22.2
Non-Hodgkin Lymphoma	Male	67	291,696	23.0	26.9	64.4	0.783	1,062	4,105,214	25.9
Non-Hodgkin Lymphoma	Female	52	293,155	17.7	20.5	47.2	0.521	759	4,081,763	18.6
Oral Cavity and Pharynx	Total	73	584,851	12.5	14.7	74.2	0.946	1,222	8,186,977	14.9
Oral Cavity and Pharynx	Male	57	291,696	19.5	23.1	52.7	0.594	879	4,105,214	21.4
Oral Cavity and Pharynx	Female	16	293,155	5.5	6.3	21.2	0.305	343	4,081,763	8.4
Ovary	Female	27	293,155	9.2	10.6	31.6	0.473	506	4,081,763	12.4
Pancreas	Total	78	584,851	13.3	15.7	81.4	0.763	1,345	8,186,977	16.4
Pancreas	Male	40	291,696	13.7	16.4	44.1	0.601	744	4,105,214	18.1
Pancreas	Female	38	293,155	13.0	15.1	37.1	0.926	601	4,081,763	14.7
Prostate	Male	376	291,696	128.9	156.3	354.1	0.256	6,041	4,105,214	147.2
Stomach	Total	26	584,851	4.4	5.2	27.0	0.942	441	8,186,977	5.4
Stomach	Male	21	291,696	7.2	8.6	17.2	0.420	288	4,105,214	7.0
Stomach	Female	5	293,155	1.7	1.9	9.7	0.162	153	4,081,763	3.7
Testis	Male	18	291,696	6.2	6.3	17.2	0.916	247	4,105,214	6.0
Thyroid	Total	135	584,851	23.1	25.1	71.2	0.000 >>	1,085	8,186,977	13.3
Thyroid	Male	39	291,696	13.4	14.9	20.1	0.000 >>	316	4,105,214	7.7
Thyroid	Female	96	293,155	32.7	35.2	51.3	0.000 >>	769	4,081,763	18.8
Pediatric Age 0 to 19	Total	34	193,841	17.5	17.7	32.9	0.888	387	2,266,682	17.1
Pediatric Age 0 to 19	Male	19	98,908	19.2	19.2	17.5	0.778	204	1,157,602	17.6
Pediatric Age 0 to 19	Female	15	94,933	15.8	16.1	15.4	1.000	183	1,109,080	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 2017–2021
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	5,016	600,619	835.1	967.3	4,476.6	0.000 >>	72,414	8,388,096	863.3
All Causes of Death	Male	2,606	300,057	868.5	1,019.0	2,334.7	0.000 >>	38,450	4,211,811	912.9
All Causes of Death	Female	2,410	300,562	801.8	919.7	2,131.1	0.000 >>	33,964	4,176,285	813.3
All Malignant Cancers	Total	815	600,619	135.7	160.7	864.7	0.092	14,306	8,388,096	170.6
All Malignant Cancers	Male	428	300,057	142.6	171.7	458.4	0.160	7,748	4,211,811	184.0
All Malignant Cancers	Female	387	300,562	128.8	150.5	403.7	0.422	6,558	4,176,285	157.0
Bladder	Total	25	600,619	4.2	4.9	28.1	0.640	464	8,388,096	5.5
Bladder	Male	20	300,057	6.7	8.0	21.3	0.896	358	4,211,811	8.5
Bladder	Female	5	300,562	1.7	1.9	6.5	0.733	106	4,176,285	2.5
Brain and Other Nervous System	Total	39	600,619	6.5	7.5	28.8	0.080	465	8,388,096	5.5
Brain and Other Nervous System	Male	25	300,057	8.3	9.8	16.6	0.064	273	4,211,811	6.5
Brain and Other Nervous System	Female	14	300,562	4.7	5.3	12.1	0.655	192	4,176,285	4.6
Breast	Total	67	600,619	11.2	13.1	63.2	0.666	1,035	8,388,096	12.3
Breast	Male	2	300,057	0.7	0.8	0.8	0.406	14	4,211,811	0.3
Breast	Female	65	300,562	21.6	25.2	63.1	0.839	1,021	4,176,285	24.4
Cervix	Female	5	300,562	1.7	1.9	5.0	1.000	78	4,176,285	1.9
Colorectal	Total	82	600,619	13.7	16.1	75.3	0.469	1,237	8,388,096	14.7
Colorectal	Male	43	300,057	14.3	17.0	40.6	0.743	676	4,211,811	16.1
Colorectal	Female	39	300,562	13.0	15.1	34.7	0.506	561	4,176,285	13.4
Corpus Uteri	Female	4	300,562	1.3	1.6	10.2	0.050 <<	169	4,176,285	4.0
Esophagus	Total	23	600,619	3.8	4.6	27.2	0.487	454	8,388,096	5.4
Esophagus	Male	20	300,057	6.7	8.1	22.4	0.706	381	4,211,811	9.0
Esophagus	Female	3	300,562	1.0	1.2	4.5	0.697	73	4,176,285	1.7
Hodgkin Lymphoma	Total	3	600,619	0.5	0.6	1.6	0.444	26	8,388,096	0.3
Hodgkin Lymphoma	Male	1	300,057	0.3	0.4	0.8	1.000	13	4,211,811	0.3
Hodgkin Lymphoma	Female	2	300,562	0.7	0.8	0.8	0.398	13	4,176,285	0.3
Kidney	Total	19	600,619	3.2	3.8	22.0	0.609	366	8,388,096	4.4
Kidney	Male	13	300,057	4.3	5.2	13.5	1.000	229	4,211,811	5.4
Kidney	Female	6	300,562	2.0	2.3	8.4	0.533	137	4,176,285	3.3
Larynx	Total	3	600,619	0.5	0.6	4.1	0.829	68	8,388,096	0.8
Larynx	Male	3	300,057	1.0	1.2	3.3	1.000	55	4,211,811	1.3
Larynx	Female	-	300,562	-	-	0.8	0.913	13	4,176,285	0.3
Leukemia	Total	35	600,619	5.8	6.8	38.2	0.676	625	8,388,096	7.5
Leukemia	Male	22	300,057	7.3	8.7	21.8	1.000	364	4,211,811	8.6
Leukemia	Female	13	300,562	4.3	5.0	16.3	0.506	261	4,176,285	6.2
Liver and Bile Duct	Total	27	600,619	4.5	5.4	34.4	0.231	576	8,388,096	6.9
Liver and Bile Duct	Male	14	300,057	4.7	5.7	23.2	0.058	394	4,211,811	9.4
Liver and Bile Duct	Female	13	300,562	4.3	5.1	11.1	0.644	182	4,176,285	4.4
Lung and Bronchus	Total	132	600,619	22.0	26.4	168.8	0.004 <<	2,829	8,388,096	33.7
Lung and Bronchus	Male	72	300,057	24.0	29.3	86.5	0.127	1,484	4,211,811	35.2
Lung and Bronchus	Female	60	300,562	20.0	23.6	82.0	0.014 <<	1,345	4,176,285	32.2
Melanoma of the Skin	Total	19	600,619	3.2	3.7	16.5	0.592	270	8,388,096	3.2
Melanoma of the Skin	Male	11	300,057	3.7	4.4	10.8	1.000	181	4,211,811	4.3
Melanoma of the Skin	Female	8	300,562	2.7	3.1	5.5	0.385	89	4,176,285	2.1
Myeloma	Total	21	600,619	3.5	4.2	18.5	0.627	310	8,388,096	3.7
Myeloma	Male	13	300,057	4.3	5.3	10.6	0.547	183	4,211,811	4.3
Myeloma	Female	8	300,562	2.7	3.1	7.8	1.000	127	4,176,285	3.0
Non-Hodgkin Lymphoma	Total	39	600,619	6.5	7.7	32.1	0.262	530	8,388,096	6.3
Non-Hodgkin Lymphoma	Male	19	300,057	6.3	7.6	17.1	0.716	288	4,211,811	6.8
Non-Hodgkin Lymphoma	Female	20	300,562	6.7	7.8	14.9	0.238	242	4,176,285	5.8
Oral Cavity and Pharynx	Total	13	600,619	2.2	2.6	15.2	0.693	253	8,388,096	3.0
Oral Cavity and Pharynx	Male	8	300,057	2.7	3.2	10.5	0.557	179	4,211,811	4.2
Oral Cavity and Pharynx	Female	5	300,562	1.7	2.0	4.5	0.947	74	4,176,285	1.8
Ovary	Female	26	300,562	8.7	10.2	19.8	0.206	324	4,176,285	7.8
Pancreas	Total	60	600,619	10.0	11.9	67.7	0.386	1,130	8,388,096	13.5
Pancreas	Male	27	300,057	9.0	10.9	36.1	0.145	615	4,211,811	14.6
Pancreas	Female	33	300,562	11.0	12.9	31.4	0.829	515	4,176,285	12.3
Prostate	Male	47	300,057	15.7	18.9	53.4	0.424	902	4,211,811	21.4
Stomach	Total	5	600,619	0.8	1.0	11.9	0.044 <<	193	8,388,096	2.3
Stomach	Male	5	300,057	1.7	2.0	6.9	0.620	116	4,211,811	2.8
Stomach	Female	-	300,562	-	-	4.9	0.015 <<	77	4,176,285	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, 2020.

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 (BRFS) since 1984. These surveys are conducted with randomly selected adult Idahoans to measure population prevalences of risk factors for the major causes of death, including cancer. DPH provided data sets containing Behavioral Risk Factor Surveillance System (BRFSS) data from 2011 through 2021 to CDRI staff, who performed the analyses reported in these *County Profiles*. Analysis weights were poststratified to 2020 population estimates by age group, sex, and county, beginning with the BRFSS raked weights. Not all questions were asked in all years. 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* 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, 2011–2021

Measure	State of Idaho	HD 1	HD 2	HD 3	HD 4	HD 5	HD 6	HD 7	Bonneville County
Access to Care									
Have Health Insurance, Age <65 (2015–2021)	83.1%	82.8%	85.1%	77.2%	85.8%	78.9%	85.4%	85.4%	85.7%
Not See Doctor Due to Cost in Past Year (2015–2021)	12.6%	11.4%	11.8%	14.5%	12.4%	12.3%	11.8%	12.9%	14.8%
Cancer Screening									
Mammogram Past 2 Years, Age 50–74 (2014, 2016, 2018, 2020)	69.1%	67.0%	73.8%	68.2%	73.2%	64.8%	64.5%	67.1%	70.5%
Pap Test Past 3 Years, Cervix Intact Age 21–65 (2018, 2020)	71.2%	73.6%	73.6%	70.8%	72.9%	69.1%	69.5%	65.9%	68.6%
Colorectal Cancer Screening, Age 50–75 (2018, 2020)	67.9%	66.9%	73.6%	71.4%	70.6%	61.7%	61.5%	64.7%	69.2%
Tobacco Use									
Current Tobacco User (2016–2021)	22.3%	26.7%	23.1%	23.6%	21.8%	21.4%	22.7%	16.9%	20.3%
Other Cancer-Related									
Healthy Weight by Body Mass Index, Age 20+ (2015–2021)	32.1%	32.8%	31.7%	27.9%	36.1%	29.8%	27.9%	31.9%	30.5%
Any Physical Activity Besides Job Past 30 Days (2015-2021)	78.7%	79.2%	78.1%	74.5%	83.2%	73.4%	76.3%	79.7%	78.8%
Meet Physical Activity Guidelines (2011, 2013, 2015, 2017, 2019)	21.9%	22.8%	19.4%	20.0%	25.2%	19.5%	20.4%	20.2%	21.0%
Home Ever Tested for Radon (2016, 2018, 2020)	23.0%	30.9%	18.2%	16.9%	25.1%	19.9%	23.0%	21.8%	21.9%

Access to Care

Have Health Insurance – 2015–2021
Statewide, 83.1% of adults aged 18–64 reported having health care coverage. Health care coverage differed significantly by race/ethnicity, with 86.0% of white non-Hispanics, compared to 64.8% of Hispanics and 83.3% of Native Americans, having health insurance. Spanish-speaking respondents were significantly less likely to be insured (33.3%) than English-speaking respondents (84.2%). Health care coverage differed significantly by age of respondent, with 79.8% of persons aged 18–29, and 87.8% of persons aged 50–64, having health insurance. Health care coverage differed significantly by county, with a range of 62.1% in Adams County to 91.6% in Oneida County having health insurance.

Not See Doctor Due to Cost in Past Year – 2015–2021
Statewide, 12.6% 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 (11.5% of white non-Hispanics, 19.2% of Hispanics, and 21.0% of Native Americans). Inability to see a doctor due to cost differed significantly by annual household income (24.9% for less than $15,000, 6.1% for greater than $50,000). Inability to see a doctor due to cost differed significantly by county, with a range of 7.4% in Franklin County to 17.5% in Power County.

Cancer Screening

Mammogram – 2014, 2016, 2018, 2020
Statewide, 69.1% of women aged 50–74 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 (72.1% versus 36.7%). Mammography rates differed significantly by county, with a range in screening of 45.9% in Benewah County to 77.0% in Nez Perce County. In 2020, Idaho ranked 48th among states and the District of Columbia for mammography screening rates among women aged 50–74 and also 48th among ages 40+.

Pap Test – 2018, 2020
Statewide, 71.2% 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 (75.1% versus 52.6% screened in the past 3 years). Pap screening differed significantly by county, with a range of 50.7% 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 – 2018, 2020
Statewide, 67.9% of adults aged 50–75 reported being current for colorectal cancer screening.** Persons with health insurance were over twice as likely to be current for colorectal cancer screening. In 2020, Idaho ranked 47th among states and the District of Columbia in the percentage of adults aged 50–75 and older who reported being up-to-date for colorectal cancer screening.

** 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, or a colonoscopy in the past 10 years.

Cancer Screening and Risk Factors

Tobacco Use

Current Tobacco Use – 2016–2021
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, 22.3% of adults aged 18 and older were current tobacco users. Tobacco use differed significantly by age of respondent, with 29.9% of persons aged 18-29, and 11.1% of persons aged 65 and older reporting current tobacco use. Tobacco use was lower among white non-Hispanics (22.4%) than among Native Americans (40.0%). Tobacco use differed significantly by county, with a range of 5.4% in Madison County to 41.6% 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 – 2015–2021
Statewide, 32.1% 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 32.5% of white non-Hispanics, compared to 28.2% of Hispanics and 24.6% of Native Americans, being in the healthy weight range. Males (25.5%) were significantly less likely to be in the healthy weight range than females (38.6%). BMI differed significantly by age of respondent, with 43.3% of persons aged 18–29, and 26.0% of persons aged 50–64, being in the healthy weight range. BMI differed significantly by county, with a range of 19.8% in Power County to 47.4% in Blaine County of adults being in the healthy weight range.

Any Physical Activity – 2015-2021
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, 78.7% 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 83.3% of persons aged 18–29, and 72.3% 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 64.3% in Clark County to 84.6% in Teton County.

Physical Activity Guidelines – 2011, 2013, 2015, 2017, 2019
Statewide, 21.9% 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 26.3% 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 9.6% in Franklin County to 30.6% in Blaine County.

Home Radon Testing – 2016, 2018, 2020
Statewide, 23.0% of adults have ever tested their house for radon. Radon test usage varied significantly by race/ethnicity, with 25.1% of white non-Hispanics, 7.4% 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 8.5% in Cassia County to 54.4% in Blaine County.

This project has been funded in whole or in part with Federal funds from the National Cancer Institute, National Institutes of Health, Department of Health and Human Services, under Contract No. HHSN261201800006I and the Centers for Disease Control and Prevention, Department of Health and Human Services, under Cooperative Agreement NU58DP007160. The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention or the National Cancer Institute.

CDRI Cancer Data Registry of Idaho

Idaho Hospital Association

BOUNDARY COUNTY CANCER PROFILE

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

Cancer Incidence 2016–2020
Cancer Mortality 2017–2021
BRFSS 2011–2021

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.2016.3332). 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 2016–2020

Nearly one in two Idahoans are estimated to develop cancer during their lifetime. During 2016–2020, 45,610 cases of invasive cancer were diagnosed among Idaho residents, and 410 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, 2016–2020

Cancer Incidence 2016–2020	Boundary County	State of Idaho
All Sites/Types	**410**	**45,610**
Female Breast	**53**	**6,687**
Prostate	**55**	**6,417**
Lung & Bronchus	**50**	**4,887**
Colorectal	**48**	**3,451**

Table 3 (*Cancer Incidence 2016–2020, 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 674.6 cases per 100,000 person-years per year during 2016–2020. Comparing this crude rate with the crude rate for the remainder of Idaho (518.9) 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 522.2 cases per 100,000 persons per year during 2016–2020. There were more cases of cancer in Boundary County (410) than expected (407.4) 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 2017–2021

During 2017–2021, cancer was the second leading cause of death in Idaho; 15,121 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, 2017–2021

Mortality 2017–2021	Boundary County	State of Idaho
All Deaths	**669**	**77,431**
Cancer Deaths	**154**	**15,121**
% of All Deaths	*23.0%*	*19.5%*
Lung & Bronchus	**33**	**2,961**
Colorectal	**12**	**1,319**
Pancreas	**4**	**1,190**
Female Breast	**8**	**1,086**
Prostate	**14**	**949**

Table 4 (*Cancer Mortality 2017–2021, 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 186.5 deaths per 100,000 persons per year during 2017–2021, compared with 167.7 for the remainder of the state. There were more cancer deaths in Boundary County (154) than expected (138.5) 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 2016–2020
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	410	60,778	674.6	522.2	407.4	0.910	45,200	8,711,050	518.9
All Sites Combined	Male	222	30,616	725.1	535.9	228.3	0.707	24,067	4,366,294	551.2
All Sites Combined	Female	188	30,162	623.3	502.9	181.8	0.667	21,133	4,344,756	486.4
Bladder	Total	14	60,778	23.0	17.0	20.5	0.175	2,170	8,711,050	24.9
Bladder	Male	12	30,616	39.2	27.9	17.1	0.257	1,739	4,366,294	39.8
Bladder	Female	2	30,162	6.6	5.1	3.9	0.503	431	4,344,756	9.9
Brain - malignant	Total	7	60,778	11.5	9.6	5.2	0.525	618	8,711,050	7.1
Brain - malignant	Male	3	30,616	9.8	8.0	3.2	1.000	372	4,366,294	8.5
Brain - malignant	Female	4	30,162	13.3	11.2	2.0	0.295	246	4,344,756	5.7
Brain and other CNS - non-malignant	Total	11	60,778	18.1	14.7	12.1	0.891	1,413	8,711,050	16.2
Brain and other CNS - non-malignant	Male	5	30,616	16.3	13.3	4.1	0.783	475	4,366,294	10.9
Brain and other CNS - non-malignant	Female	6	30,162	19.9	16.4	7.9	0.650	938	4,344,756	21.6
Breast	Total	53	60,778	87.2	69.1	58.9	0.486	6,693	8,711,050	76.8
Breast	Male	-	30,616	-	-	0.6	1.000	59	4,366,294	1.4
Breast	Female	53	30,162	175.7	142.3	56.9	0.667	6,634	4,344,756	152.7
Breast - in situ	Total	7	60,778	11.5	9.2	10.8	0.313	1,232	8,711,050	14.1
Breast - in situ	Male	-	30,616	-	-	0.0	1.000	5	4,366,294	0.1
Breast - in situ	Female	7	30,162	23.2	18.8	10.5	0.358	1,227	4,344,756	28.2
Cervix	Female	4	30,162	13.3	12.7	2.2	0.354	300	4,344,756	6.9
Colorectal	Total	48	60,778	79.0	61.8	30.3	0.004 >>	3,403	8,711,050	39.1
Colorectal	Male	26	30,616	84.9	64.8	17.2	0.058	1,877	4,366,294	43.0
Colorectal	Female	22	30,162	72.9	58.6	13.2	0.033 >>	1,526	4,344,756	35.1
Corpus Uteri	Female	16	30,162	53.0	42.2	11.5	0.240	1,314	4,344,756	30.2
Esophagus	Total	5	60,778	8.2	6.2	4.6	0.991	501	8,711,050	5.8
Esophagus	Male	4	30,616	13.1	9.5	4.0	1.000	420	4,366,294	9.6
Esophagus	Female	1	30,162	3.3	2.6	0.7	1.000	81	4,344,756	1.9
Hodgkin Lymphoma	Total	-	60,778	-	-	1.5	0.436	210	8,711,050	2.4
Hodgkin Lymphoma	Male	-	30,616	-	-	0.9	0.823	118	4,366,294	2.7
Hodgkin Lymphoma	Female	-	30,162	-	-	0.6	1.000	92	4,344,756	2.1
Kidney and Renal Pelvis	Total	11	60,778	18.1	14.2	16.1	0.246	1,804	8,711,050	20.7
Kidney and Renal Pelvis	Male	8	30,616	26.1	20.0	10.8	0.506	1,174	4,366,294	26.9
Kidney and Renal Pelvis	Female	3	30,162	9.9	8.0	5.4	0.418	630	4,344,756	14.5
Larynx	Total	3	60,778	4.9	3.7	2.0	0.623	212	8,711,050	2.4
Larynx	Male	1	30,616	3.3	2.4	1.5	1.000	159	4,366,294	3.6
Larynx	Female	2	30,162	6.6	5.2	0.5	0.163	53	4,344,756	1.2
Leukemia	Total	18	60,778	29.6	23.2	14.4	0.402	1,613	8,711,050	18.5
Leukemia	Male	12	30,616	39.2	29.9	9.0	0.392	977	4,366,294	22.4
Leukemia	Female	6	30,162	19.9	16.0	5.5	0.942	636	4,344,756	14.6
Liver and Bile Duct	Total	1	60,778	1.6	1.2	7.7	0.008 <<	828	8,711,050	9.5
Liver and Bile Duct	Male	1	30,616	3.3	2.4	5.7	0.047 <<	589	4,366,294	13.5
Liver and Bile Duct	Female	-	30,162	-	-	2.1	0.238	239	4,344,756	5.5
Lung and Bronchus	Total	50	60,778	82.3	60.7	45.7	0.566	4,837	8,711,050	55.5
Lung and Bronchus	Male	29	30,616	94.7	67.0	24.0	0.357	2,423	4,366,294	55.5
Lung and Bronchus	Female	21	30,162	69.6	53.4	21.9	0.967	2,414	4,344,756	55.6
Melanoma of the Skin	Total	22	60,778	36.2	29.0	25.4	0.581	2,920	8,711,050	33.5
Melanoma of the Skin	Male	15	30,616	49.0	37.3	16.1	0.912	1,750	4,366,294	40.1
Melanoma of the Skin	Female	7	30,162	23.2	19.7	9.6	0.522	1,170	4,344,756	26.9
Myeloma	Total	5	60,778	8.2	6.2	6.5	0.724	703	8,711,050	8.1
Myeloma	Male	4	30,616	13.1	9.4	4.2	1.000	437	4,366,294	10.0
Myeloma	Female	1	30,162	3.3	2.6	2.4	0.623	266	4,344,756	6.1
Non-Hodgkin Lymphoma	Total	22	60,778	36.2	28.1	17.2	0.302	1,918	8,711,050	22.0
Non-Hodgkin Lymphoma	Male	14	30,616	45.7	34.7	10.3	0.319	1,115	4,366,294	25.5
Non-Hodgkin Lymphoma	Female	8	30,162	26.5	21.0	7.0	0.812	803	4,344,756	18.5
Oral Cavity and Pharynx	Total	9	60,778	14.8	11.4	11.7	0.540	1,286	8,711,050	14.8
Oral Cavity and Pharynx	Male	8	30,616	26.1	19.5	8.7	0.991	928	4,366,294	21.3
Oral Cavity and Pharynx	Female	1	30,162	3.3	2.6	3.1	0.358	358	4,344,756	8.2
Ovary	Female	9	30,162	29.8	24.1	4.5	0.080	524	4,344,756	12.1
Pancreas	Total	10	60,778	16.5	12.3	13.1	0.480	1,413	8,711,050	16.2
Pancreas	Male	8	30,616	26.1	19.0	7.5	0.946	776	4,366,294	17.8
Pancreas	Female	2	30,162	6.6	5.1	5.7	0.152	637	4,344,756	14.7
Prostate	Male	55	30,616	179.6	127.8	62.7	0.365	6,362	4,366,294	145.7
Stomach	Total	7	60,778	11.5	8.9	4.2	0.257	460	8,711,050	5.3
Stomach	Male	4	30,616	13.1	9.7	2.9	0.658	305	4,366,294	7.0
Stomach	Female	3	30,162	9.9	8.0	1.3	0.304	155	4,344,756	3.6
Testis	Male	2	30,616	6.5	7.7	1.6	0.929	263	4,366,294	6.0
Thyroid	Total	6	60,778	9.9	9.2	9.1	0.397	1,214	8,711,050	13.9
Thyroid	Male	1	30,616	3.3	2.8	2.8	0.447	354	4,366,294	8.1
Thyroid	Female	5	30,162	16.6	15.8	6.2	0.814	860	4,344,756	19.8
Pediatric Age 0 to 19	Total	5	15,601	32.0	31.7	2.7	0.271	416	2,444,922	17.0
Pediatric Age 0 to 19	Male	4	8,145	49.1	48.4	1.4	0.119	219	1,248,365	17.5
Pediatric Age 0 to 19	Female	1	7,456	13.4	13.2	1.2	1.000	197	1,196,557	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 2017–2021
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	669	61,625	1,085.6	823.3	698.7	0.269	76,761	8,927,090	859.9
All Causes of Death	Male	370	31,109	1,189.4	899.7	373.4	0.887	40,686	4,480,759	908.0
All Causes of Death	Female	299	30,516	979.8	738.5	328.5	0.107	36,075	4,446,331	811.3
All Malignant Cancers	Total	154	61,625	249.9	186.5	138.5	0.204	14,967	8,927,090	167.7
All Malignant Cancers	Male	83	31,109	266.8	193.5	77.5	0.559	8,093	4,480,759	180.6
All Malignant Cancers	Female	71	30,516	232.7	178.2	61.6	0.259	6,874	4,446,331	154.6
Bladder	Total	4	61,625	6.5	4.7	4.6	1.000	485	8,927,090	5.4
Bladder	Male	4	31,109	12.9	9.2	3.6	0.975	374	4,480,759	8.3
Bladder	Female	-	30,516	-	-	1.0	0.717	111	4,446,331	2.5
Brain and Other Nervous System	Total	6	61,625	9.7	7.7	4.4	0.548	498	8,927,090	5.6
Brain and Other Nervous System	Male	3	31,109	9.6	7.4	2.7	0.995	295	4,480,759	6.6
Brain and Other Nervous System	Female	3	30,516	9.8	7.9	1.7	0.505	203	4,446,331	4.6
Breast	Total	8	61,625	13.0	9.9	9.9	0.691	1,094	8,927,090	12.3
Breast	Male	-	31,109	-	-	0.2	1.000	16	4,480,759	0.4
Breast	Female	8	30,516	26.2	20.3	9.5	0.775	1,078	4,446,331	24.2
Cervix	Female	1	30,516	3.3	2.9	0.6	0.952	82	4,446,331	1.8
Colorectal	Total	12	61,625	19.5	14.8	11.9	1.000	1,307	8,927,090	14.6
Colorectal	Male	5	31,109	16.1	12.0	6.6	0.705	714	4,480,759	15.9
Colorectal	Female	7	30,516	22.9	17.5	5.3	0.574	593	4,446,331	13.3
Corpus Uteri	Female	3	30,516	9.8	7.4	1.5	0.406	170	4,446,331	3.8
Esophagus	Total	4	61,625	6.5	4.8	4.4	1.000	473	8,927,090	5.3
Esophagus	Male	3	31,109	9.6	7.0	3.8	0.946	398	4,480,759	8.9
Esophagus	Female	1	30,516	3.3	2.5	0.7	0.980	75	4,446,331	1.7
Hodgkin Lymphoma	Total	1	61,625	1.6	1.3	0.2	0.428	28	8,927,090	0.3
Hodgkin Lymphoma	Male	1	31,109	3.2	2.6	0.1	0.212	13	4,480,759	0.3
Hodgkin Lymphoma	Female	-	30,516	-	-	0.1	1.000	15	4,446,331	0.3
Kidney	Total	3	61,625	4.9	3.6	3.6	1.000	382	8,927,090	4.3
Kidney	Male	3	31,109	9.6	7.0	2.3	0.807	239	4,480,759	5.3
Kidney	Female	-	30,516	-	-	1.3	0.533	143	4,446,331	3.2
Larynx	Total	-	61,625	-	-	0.7	1.000	71	8,927,090	0.8
Larynx	Male	-	31,109	-	-	0.5	1.000	58	4,480,759	1.3
Larynx	Female	-	30,516	-	-	0.1	1.000	13	4,446,331	0.3
Leukemia	Total	6	61,625	9.7	7.3	6.0	1.000	654	8,927,090	7.3
Leukemia	Male	4	31,109	12.9	9.5	3.6	0.972	382	4,480,759	8.5
Leukemia	Female	2	30,516	6.6	5.0	2.4	1.000	272	4,446,331	6.1
Liver and Bile Duct	Total	2	61,625	3.2	2.4	5.6	0.163	601	8,927,090	6.7
Liver and Bile Duct	Male	-	31,109	-	-	4.0	0.038 <<	408	4,480,759	9.1
Liver and Bile Duct	Female	2	30,516	6.6	5.0	1.7	1.000	193	4,446,331	4.3
Lung and Bronchus	Total	33	61,625	53.5	39.3	27.5	0.342	2,928	8,927,090	32.8
Lung and Bronchus	Male	21	31,109	67.5	47.7	15.1	0.172	1,535	4,480,759	34.3
Lung and Bronchus	Female	12	30,516	39.3	29.8	12.6	1.000	1,393	4,446,331	31.3
Melanoma of the Skin	Total	1	61,625	1.6	1.2	2.6	0.536	288	8,927,090	3.2
Melanoma of the Skin	Male	1	31,109	3.2	2.4	1.8	0.941	191	4,480,759	4.3
Melanoma of the Skin	Female	-	30,516	-	-	0.8	0.867	97	4,446,331	2.2
Myeloma	Total	2	61,625	3.2	2.4	3.1	0.799	329	8,927,090	3.7
Myeloma	Male	1	31,109	3.2	2.3	1.9	0.852	195	4,480,759	4.4
Myeloma	Female	1	30,516	3.3	2.5	1.2	1.000	134	4,446,331	3.0
Non-Hodgkin Lymphoma	Total	11	61,625	17.8	13.3	5.2	0.035 >>	558	8,927,090	6.3
Non-Hodgkin Lymphoma	Male	7	31,109	22.5	16.4	2.9	0.053	300	4,480,759	6.7
Non-Hodgkin Lymphoma	Female	4	30,516	13.1	9.9	2.3	0.419	258	4,446,331	5.8
Oral Cavity and Pharynx	Total	2	61,625	3.2	2.4	2.4	1.000	264	8,927,090	3.0
Oral Cavity and Pharynx	Male	1	31,109	3.2	2.3	1.8	0.939	186	4,480,759	4.2
Oral Cavity and Pharynx	Female	1	30,516	3.3	2.5	0.7	1.000	78	4,446,331	1.8
Ovary	Female	10	30,516	32.8	25.2	3.0	0.002 >>	340	4,446,331	7.6
Pancreas	Total	4	61,625	6.5	4.8	11.1	0.029 <<	1,186	8,927,090	13.3
Pancreas	Male	4	31,109	12.9	9.2	6.2	0.529	638	4,480,759	14.2
Pancreas	Female	-	30,516	-	-	4.9	0.014 <<	548	4,446,331	12.3
Prostate	Male	14	31,109	45.0	32.2	9.1	0.157	935	4,480,759	20.9
Stomach	Total	3	61,625	4.9	3.8	1.7	0.504	195	8,927,090	2.2
Stomach	Male	1	31,109	3.2	2.4	1.1	1.000	120	4,480,759	2.7
Stomach	Female	2	30,516	6.6	5.2	0.6	0.273	75	4,446,331	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, 2020.

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 (BRFS) since 1984. These surveys are conducted with randomly selected adult Idahoans to measure population prevalences of risk factors for the major causes of death, including cancer. DPH provided data sets containing Behavioral Risk Factor Surveillance System (BRFSS) data from 2011 through 2021 to CDRI staff, who performed the analyses reported in these *County Profiles*. Analysis weights were poststratified to 2020 population estimates by age group, sex, and county, beginning with the BRFSS raked weights. Not all questions were asked in all years. 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* 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, 2011–2021

Measure	State of Idaho	HD 1	HD 2	HD 3	HD 4	HD 5	HD 6	HD 7	Boundary County
Access to Care									
Have Health Insurance, Age <65 (2015–2021)	83.1%	82.8%	85.1%	77.2%	85.8%	78.9%	85.4%	85.4%	72.0%
Not See Doctor Due to Cost in Past Year (2015–2021)	12.6%	11.4%	11.8%	14.5%	12.4%	12.3%	11.8%	12.9%	8.9%
Cancer Screening									
Mammogram Past 2 Years, Age 50–74 (2014, 2016, 2018, 2020)	69.1%	67.0%	73.8%	68.2%	73.2%	64.8%	64.5%	67.1%	.
Pap Test Past 3 Years, Cervix Intact Age 21–65 (2018, 2020)	71.2%	73.6%	73.6%	70.8%	72.9%	69.1%	69.5%	65.9%	.
Colorectal Cancer Screening, Age 50–75 (2018, 2020)	67.9%	66.9%	73.6%	71.4%	70.6%	61.7%	61.5%	64.7%	.
Tobacco Use									
Current Tobacco User (2016–2021)	22.3%	26.7%	23.1%	23.6%	21.8%	21.4%	22.7%	16.9%	20.1%
Other Cancer-Related									
Healthy Weight by Body Mass Index, Age 20+ (2015–2021)	32.1%	32.8%	31.7%	27.9%	36.1%	29.8%	27.9%	31.9%	29.6%
Any Physical Activity Besides Job Past 30 Days (2015-2021)	78.7%	79.2%	78.1%	74.5%	83.2%	73.4%	76.3%	79.7%	76.2%
Meet Physical Activity Guidelines (2011, 2013, 2015, 2017, 2019)	21.9%	22.8%	19.4%	20.0%	25.2%	19.5%	20.4%	20.2%	21.3%
Home Ever Tested for Radon (2016, 2018, 2020)	23.0%	30.9%	18.2%	16.9%	25.1%	19.9%	23.0%	21.8%	17.4%

Access to Care

Have Health Insurance – 2015–2021
Statewide, 83.1% of adults aged 18–64 reported having health care coverage. Health care coverage differed significantly by race/ethnicity, with 86.0% of white non-Hispanics, compared to 64.8% of Hispanics and 83.3% of Native Americans, having health insurance. Spanish-speaking respondents were significantly less likely to be insured (33.3%) than English-speaking respondents (84.2%). Health care coverage differed significantly by age of respondent, with 79.8% of persons aged 18–29, and 87.8% of persons aged 50–64, having health insurance. Health care coverage differed significantly by county, with a range of 62.1% in Adams County to 91.6% in Oneida County having health insurance.

Not See Doctor Due to Cost in Past Year – 2015–2021
Statewide, 12.6% 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 (11.5% of white non-Hispanics, 19.2% of Hispanics, and 21.0% of Native Americans). Inability to see a doctor due to cost differed significantly by annual household income (24.9% for less than $15,000, 6.1% for greater than $50,000). Inability to see a doctor due to cost differed significantly by county, with a range of 7.4% in Franklin County to 17.5% in Power County.

Cancer Screening

Mammogram – 2014, 2016, 2018, 2020
Statewide, 69.1% of women aged 50–74 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 (72.1% versus 36.7%). Mammography rates differed significantly by county, with a range in screening of 45.9% in Benewah County to 77.0% in Nez Perce County. In 2020, Idaho ranked 48th among states and the District of Columbia for mammography screening rates among women aged 50–74 and also 48th among ages 40+.

Pap Test – 2018, 2020
Statewide, 71.2% 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 (75.1% versus 52.6% screened in the past 3 years). Pap screening differed significantly by county, with a range of 50.7% 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 – 2018, 2020
Statewide, 67.9% of adults aged 50–75 reported being current for colorectal cancer screening.** Persons with health insurance were over twice as likely to be current for colorectal cancer screening. In 2020, Idaho ranked 47th among states and the District of Columbia in the percentage of adults aged 50–75 and older who reported being up-to-date for colorectal cancer screening.

** 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, or a colonoscopy in the past 10 years.

Cancer Screening and Risk Factors

Tobacco Use

Current Tobacco Use – 2016–2021
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, 22.3% of adults aged 18 and older were current tobacco users. Tobacco use differed significantly by age of respondent, with 29.9% of persons aged 18-29, and 11.1% of persons aged 65 and older reporting current tobacco use. Tobacco use was lower among white non-Hispanics (22.4%) than among Native Americans (40.0%). Tobacco use differed significantly by county, with a range of 5.4% in Madison County to 41.6% 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 – 2015–2021
Statewide, 32.1% 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 32.5% of white non-Hispanics, compared to 28.2% of Hispanics and 24.6% of Native Americans, being in the healthy weight range. Males (25.5%) were significantly less likely to be in the healthy weight range than females (38.6%). BMI differed significantly by age of respondent, with 43.3% of persons aged 18–29, and 26.0% of persons aged 50–64, being in the healthy weight range. BMI differed significantly by county, with a range of 19.8% in Power County to 47.4% in Blaine County of adults being in the healthy weight range.

Any Physical Activity – 2015-2021
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, 78.7% 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 83.3% of persons aged 18–29, and 72.3% 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 64.3% in Clark County to 84.6% in Teton County.

Physical Activity Guidelines – 2011, 2013, 2015, 2017, 2019
Statewide, 21.9% 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 26.3% 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 9.6% in Franklin County to 30.6% in Blaine County.

Home Radon Testing – 2016, 2018, 2020
Statewide, 23.0% of adults have ever tested their house for radon. Radon test usage varied significantly by race/ethnicity, with 25.1% of white non-Hispanics, 7.4% 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 8.5% in Cassia County to 54.4% in Blaine County.

This project has been funded in whole or in part with Federal funds from the National Cancer Institute, National Institutes of Health, Department of Health and Human Services, under Contract No. HHSN261201800006I and the Centers for Disease Control and Prevention, Department of Health and Human Services, under Cooperative Agreement NU58DP007160. The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention or the National Cancer Institute.

BUTTE COUNTY CANCER PROFILE

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

Cancer Incidence 2016–2020
Cancer Mortality 2017–2021
BRFSS 2011–2021

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.2016.3332). 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 2016–2020

Nearly one in two Idahoans are estimated to develop cancer during their lifetime. During 2016–2020, 45,610 cases of invasive cancer were diagnosed among Idaho residents, and 88 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, 2016–2020

Cancer Incidence 2016–2020	Butte County	State of Idaho
All Sites/Types	**88**	**45,610**
Female Breast	**8**	**6,687**
Prostate	**6**	**6,417**
Lung & Bronchus	**14**	**4,887**
Colorectal	**5**	**3,451**

Table 3 (*Cancer Incidence 2016–2020, 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 676.2 cases per 100,000 person-years per year during 2016–2020. Comparing this crude rate with the crude rate for the remainder of Idaho (519.7) 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 496.0 cases per 100,000 persons per year during 2016–2020. There were fewer cases of cancer in Butte County (88) than expected (92.2) 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 2017–2021

During 2017–2021, cancer was the second leading cause of death in Idaho; 15,121 Idaho residents and 37 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, 2017–2021

Mortality 2017–2021	Butte County	State of Idaho
All Deaths	**183**	**77,431**
Cancer Deaths	**37**	**15,121**
% of All Deaths	*20.2%*	*19.5%*
Lung & Bronchus	**10**	**2,961**
Colorectal	**3**	**1,319**
Pancreas	**0**	**1,190**
Female Breast	**2**	**1,086**
Prostate	**0**	**949**

Table 4 (*Cancer Mortality 2017–2021, 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 191.7 deaths per 100,000 persons per year during 2017–2021, compared with 168.1 for the remainder of the state. There were more cancer deaths in Butte County (37) than expected (32.4) 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 2016–2020
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	88	13,013	676.2	496.0	92.2	0.710	45,522	8,758,815	519.7
All Sites Combined	Male	49	6,622	740.0	507.5	53.3	0.613	24,240	4,390,288	552.1
All Sites Combined	Female	39	6,391	610.2	476.4	39.9	0.973	21,282	4,368,527	487.2
Bladder	Total	4	13,013	30.7	20.7	4.8	0.949	2,180	8,758,815	24.9
Bladder	Male	4	6,622	60.4	38.5	4.1	1.000	1,747	4,390,288	39.8
Bladder	Female	-	6,391	-	-	0.9	0.824	433	4,368,527	9.9
Brain - malignant	Total	3	13,013	23.1	18.5	1.2	0.220	622	8,758,815	7.1
Brain - malignant	Male	1	6,622	15.1	11.8	0.7	1.000	374	4,390,288	8.5
Brain - malignant	Female	2	6,391	31.3	25.5	0.4	0.148	248	4,368,527	5.7
Brain and other CNS - non-malignant	Total	3	13,013	23.1	17.9	2.7	1.000	1,421	8,758,815	16.2
Brain and other CNS - non-malignant	Male	2	6,622	30.2	23.2	0.9	0.484	478	4,390,288	10.9
Brain and other CNS - non-malignant	Female	1	6,391	15.6	12.4	1.7	0.964	943	4,368,527	21.6
Breast	Total	8	13,013	61.5	47.3	13.0	0.200	6,738	8,758,815	76.9
Breast	Male	-	6,622	-	-	0.1	1.000	59	4,390,288	1.3
Breast	Female	8	6,391	125.2	100.3	12.2	0.285	6,679	4,368,527	152.9
Breast - in situ	Total	4	13,013	30.7	24.4	2.3	0.406	1,235	8,758,815	14.1
Breast - in situ	Male	-	6,622	-	-	0.0	1.000	5	4,390,288	0.1
Breast - in situ	Female	4	6,391	62.6	51.8	2.2	0.351	1,230	4,368,527	28.2
Cervix	Female	-	6,391	-	-	0.4	1.000	304	4,368,527	7.0
Colorectal	Total	5	13,013	38.4	28.4	6.9	0.618	3,446	8,758,815	39.3
Colorectal	Male	3	6,622	45.3	32.5	4.0	0.869	1,900	4,390,288	43.3
Colorectal	Female	2	6,391	31.3	23.7	3.0	0.855	1,546	4,368,527	35.4
Corpus Uteri	Female	2	6,391	31.3	24.7	2.5	1.000	1,328	4,368,527	30.4
Esophagus	Total	1	13,013	7.7	5.4	1.1	1.000	505	8,758,815	5.8
Esophagus	Male	1	6,622	15.1	10.2	0.9	1.000	423	4,390,288	9.6
Esophagus	Female	-	6,391	-	-	0.2	1.000	82	4,368,527	1.9
Hodgkin Lymphoma	Total	-	13,013	-	-	0.3	1.000	210	8,758,815	2.4
Hodgkin Lymphoma	Male	-	6,622	-	-	0.2	1.000	118	4,390,288	2.7
Hodgkin Lymphoma	Female	-	6,391	-	-	0.1	1.000	92	4,368,527	2.1
Kidney and Renal Pelvis	Total	3	13,013	23.1	17.3	3.6	1.000	1,812	8,758,815	20.7
Kidney and Renal Pelvis	Male	2	6,622	30.2	21.8	2.5	1.000	1,180	4,390,288	26.9
Kidney and Renal Pelvis	Female	1	6,391	15.6	12.1	1.2	1.000	632	4,368,527	14.5
Larynx	Total	-	13,013	-	-	0.5	1.000	215	8,758,815	2.5
Larynx	Male	-	6,622	-	-	0.4	1.000	160	4,390,288	3.6
Larynx	Female	-	6,391	-	-	0.1	1.000	55	4,368,527	1.3
Leukemia	Total	5	13,013	38.4	28.0	3.3	0.482	1,626	8,758,815	18.6
Leukemia	Male	3	6,622	45.3	31.7	2.1	0.715	986	4,390,288	22.5
Leukemia	Female	2	6,391	31.3	23.7	1.2	0.702	640	4,368,527	14.7
Liver and Bile Duct	Total	1	13,013	7.7	5.5	1.7	0.977	828	8,758,815	9.5
Liver and Bile Duct	Male	1	6,622	15.1	10.4	1.3	1.000	589	4,390,288	13.4
Liver and Bile Duct	Female	-	6,391	-	-	0.5	1.000	239	4,368,527	5.5
Lung and Bronchus	Total	14	13,013	107.6	73.0	10.7	0.378	4,873	8,758,815	55.6
Lung and Bronchus	Male	8	6,622	120.8	77.3	5.8	0.448	2,444	4,390,288	55.7
Lung and Bronchus	Female	6	6,391	93.9	67.3	5.0	0.753	2,429	4,368,527	55.6
Melanoma of the Skin	Total	8	13,013	61.5	47.0	5.7	0.432	2,934	8,758,815	33.5
Melanoma of the Skin	Male	4	6,622	60.4	42.7	3.8	1.000	1,761	4,390,288	40.1
Melanoma of the Skin	Female	4	6,391	62.6	52.3	2.1	0.305	1,173	4,368,527	26.9
Myeloma	Total	6	13,013	46.1	31.9	1.5	0.009 >>	702	8,758,815	8.0
Myeloma	Male	5	6,622	75.5	49.3	1.0	0.008 >>	436	4,390,288	9.9
Myeloma	Female	1	6,391	15.6	11.4	0.5	0.830	266	4,368,527	6.1
Non-Hodgkin Lymphoma	Total	4	13,013	30.7	22.5	3.9	1.000	1,936	8,758,815	22.1
Non-Hodgkin Lymphoma	Male	2	6,622	30.2	21.2	2.4	1.000	1,127	4,390,288	25.7
Non-Hodgkin Lymphoma	Female	2	6,391	31.3	23.5	1.6	0.934	809	4,368,527	18.5
Oral Cavity and Pharynx	Total	4	13,013	30.7	22.8	2.6	0.523	1,291	8,758,815	14.7
Oral Cavity and Pharynx	Male	3	6,622	45.3	32.4	2.0	0.630	933	4,390,288	21.3
Oral Cavity and Pharynx	Female	1	6,391	15.6	12.1	0.7	0.986	358	4,368,527	8.2
Ovary	Female	2	6,391	31.3	24.7	1.0	0.515	531	4,368,527	12.2
Pancreas	Total	-	13,013	-	-	3.1	0.094	1,423	8,758,815	16.2
Pancreas	Male	-	6,622	-	-	1.8	0.334	784	4,390,288	17.9
Pancreas	Female	-	6,391	-	-	1.3	0.547	639	4,368,527	14.6
Prostate	Male	6	6,622	90.6	60.6	14.5	0.021 <<	6,411	4,390,288	146.0
Stomach	Total	1	13,013	7.7	5.5	1.0	1.000	466	8,758,815	5.3
Stomach	Male	-	6,622	-	-	0.7	1.000	309	4,390,288	7.0
Stomach	Female	1	6,391	15.6	11.8	0.3	0.526	157	4,368,527	3.6
Testis	Male	-	6,622	-	-	0.3	1.000	265	4,390,288	6.0
Thyroid	Total	4	13,013	30.7	28.9	1.9	0.257	1,216	8,758,815	13.9
Thyroid	Male	1	6,622	15.1	12.8	0.6	0.935	354	4,390,288	8.1
Thyroid	Female	3	6,391	46.9	46.3	1.3	0.276	862	4,368,527	19.7
Pediatric Age 0 to 19	Total	1	3,406	29.4	30.1	0.6	0.868	420	2,457,117	17.1
Pediatric Age 0 to 19	Male	-	1,748	-	-	0.3	1.000	223	1,254,762	17.8
Pediatric Age 0 to 19	Female	1	1,658	60.3	62.3	0.3	0.463	197	1,202,355	16.4

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 2017–2021
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	183	13,094	1,397.6	944.3	166.8	0.226	77,247	8,975,621	860.6
All Causes of Death	Male	114	6,647	1,715.1	1,164.7	89.0	0.012 >>	40,942	4,505,221	908.8
All Causes of Death	Female	69	6,447	1,070.3	709.9	78.9	0.287	36,305	4,470,400	812.1
All Malignant Cancers	Total	37	13,094	282.6	191.7	32.4	0.467	15,084	8,975,621	168.1
All Malignant Cancers	Male	23	6,647	346.0	225.7	18.4	0.342	8,153	4,505,221	181.0
All Malignant Cancers	Female	14	6,447	217.2	153.1	14.2	1.000	6,931	4,470,400	155.0
Bladder	Total	2	13,094	15.3	9.7	1.1	0.616	487	8,975,621	5.4
Bladder	Male	2	6,647	30.1	18.9	0.9	0.443	376	4,505,221	8.3
Bladder	Female	-	6,447	-	-	0.2	1.000	111	4,470,400	2.5
Brain and Other Nervous System	Total	1	13,094	7.6	5.7	1.0	1.000	503	8,975,621	5.6
Brain and Other Nervous System	Male	1	6,647	15.0	10.9	0.6	0.909	297	4,505,221	6.6
Brain and Other Nervous System	Female	-	6,447	-	-	0.4	1.000	206	4,470,400	4.6
Breast	Total	3	13,094	22.9	16.2	2.3	0.793	1,099	8,975,621	12.2
Breast	Male	1	6,647	15.0	9.9	0.0	0.066	15	4,505,221	0.3
Breast	Female	2	6,447	31.0	22.5	2.2	1.000	1,084	4,470,400	24.2
Cervix	Female	-	6,447	-	-	0.1	1.000	83	4,470,400	1.9
Colorectal	Total	3	13,094	22.9	16.0	2.8	1.000	1,316	8,975,621	14.7
Colorectal	Male	2	6,647	30.1	20.8	1.5	0.904	717	4,505,221	15.9
Colorectal	Female	1	6,447	15.5	10.8	1.2	1.000	599	4,470,400	13.4
Corpus Uteri	Female	-	6,447	-	-	0.3	1.000	173	4,470,400	3.9
Esophagus	Total	-	13,094	-	-	1.0	0.729	477	8,975,621	5.3
Esophagus	Male	-	6,647	-	-	0.9	0.819	401	4,505,221	8.9
Esophagus	Female	-	6,447	-	-	0.2	1.000	76	4,470,400	1.7
Hodgkin Lymphoma	Total	-	13,094	-	-	0.1	1.000	29	8,975,621	0.3
Hodgkin Lymphoma	Male	-	6,647	-	-	0.0	1.000	14	4,505,221	0.3
Hodgkin Lymphoma	Female	-	6,447	-	-	0.0	1.000	15	4,470,400	0.3
Kidney	Total	2	13,094	15.3	10.2	0.8	0.409	383	8,975,621	4.3
Kidney	Male	2	6,647	30.1	19.6	0.5	0.207	240	4,505,221	5.3
Kidney	Female	-	6,447	-	-	0.3	1.000	143	4,470,400	3.2
Larynx	Total	-	13,094	-	-	0.2	1.000	71	8,975,621	0.8
Larynx	Male	-	6,647	-	-	0.1	1.000	58	4,505,221	1.3
Larynx	Female	-	6,447	-	-	0.0	1.000	13	4,470,400	0.3
Leukemia	Total	2	13,094	15.3	10.2	1.4	0.844	658	8,975,621	7.3
Leukemia	Male	-	6,647	-	-	0.9	0.834	386	4,505,221	8.6
Leukemia	Female	2	6,447	31.0	21.0	0.6	0.230	272	4,470,400	6.1
Liver and Bile Duct	Total	2	13,094	15.3	10.6	1.3	0.723	601	8,975,621	6.7
Liver and Bile Duct	Male	2	6,647	30.1	19.9	0.9	0.458	406	4,505,221	9.0
Liver and Bile Duct	Female	-	6,447	-	-	0.4	1.000	195	4,470,400	4.4
Lung and Bronchus	Total	10	13,094	76.4	51.0	6.4	0.237	2,951	8,975,621	32.9
Lung and Bronchus	Male	6	6,647	90.3	57.6	3.6	0.308	1,550	4,505,221	34.4
Lung and Bronchus	Female	4	6,447	62.0	43.2	2.9	0.662	1,401	4,470,400	31.3
Melanoma of the Skin	Total	1	13,094	7.6	5.3	0.6	0.906	288	8,975,621	3.2
Melanoma of the Skin	Male	-	6,647	-	-	0.4	1.000	192	4,505,221	4.3
Melanoma of the Skin	Female	1	6,447	15.5	11.5	0.2	0.341	96	4,470,400	2.1
Myeloma	Total	2	13,094	15.3	9.9	0.7	0.338	329	8,975,621	3.7
Myeloma	Male	2	6,647	30.1	18.8	0.5	0.156	194	4,505,221	4.3
Myeloma	Female	-	6,447	-	-	0.3	1.000	135	4,470,400	3.0
Non-Hodgkin Lymphoma	Total	2	13,094	15.3	10.1	1.2	0.709	567	8,975,621	6.3
Non-Hodgkin Lymphoma	Male	1	6,647	15.0	9.9	0.7	0.996	306	4,505,221	6.8
Non-Hodgkin Lymphoma	Female	1	6,447	15.5	10.3	0.6	0.867	261	4,470,400	5.8
Oral Cavity and Pharynx	Total	-	13,094	-	-	0.6	1.000	266	8,975,621	3.0
Oral Cavity and Pharynx	Male	-	6,647	-	-	0.4	1.000	187	4,505,221	4.2
Oral Cavity and Pharynx	Female	-	6,447	-	-	0.2	1.000	79	4,470,400	1.8
Ovary	Female	1	6,447	15.5	11.1	0.7	1.000	349	4,470,400	7.8
Pancreas	Total	-	13,094	-	-	2.6	0.154	1,190	8,975,621	13.3
Pancreas	Male	-	6,647	-	-	1.5	0.463	642	4,505,221	14.3
Pancreas	Female	-	6,447	-	-	1.1	0.655	548	4,470,400	12.3
Prostate	Male	-	6,647	-	-	2.3	0.210	949	4,505,221	21.1
Stomach	Total	1	13,094	7.6	5.4	0.4	0.666	197	8,975,621	2.2
Stomach	Male	-	6,647	-	-	0.3	1.000	121	4,505,221	2.7
Stomach	Female	1	6,447	15.5	11.3	0.2	0.279	76	4,470,400	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, 2020.

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 (BRFS) since 1984. These surveys are conducted with randomly selected adult Idahoans to measure population prevalences of risk factors for the major causes of death, including cancer. DPH provided data sets containing Behavioral Risk Factor Surveillance System (BRFSS) data from 2011 through 2021 to CDRI staff, who performed the analyses reported in these *County Profiles*. Analysis weights were poststratified to 2020 population estimates by age group, sex, and county, beginning with the BRFSS raked weights. Not all questions were asked in all years. 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* 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, 2011–2021

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 (2015–2021)	83.1%	82.8%	85.1%	77.2%	85.8%	78.9%	85.4%	85.4%	77.8%
Not See Doctor Due to Cost in Past Year (2015–2021)	12.6%	11.4%	11.8%	14.5%	12.4%	12.3%	11.8%	12.9%	9.9%
Cancer Screening									
Mammogram Past 2 Years, Age 50–74 (2014, 2016, 2018, 2020)	69.1%	67.0%	73.8%	68.2%	73.2%	64.8%	64.5%	67.1%	.
Pap Test Past 3 Years, Cervix Intact Age 21–65 (2018, 2020)	71.2%	73.6%	73.6%	70.8%	72.9%	69.1%	69.5%	65.9%	.
Colorectal Cancer Screening, Age 50–75 (2018, 2020)	67.9%	66.9%	73.6%	71.4%	70.6%	61.7%	61.5%	64.7%	.
Tobacco Use									
Current Tobacco User (2016–2021)	22.3%	26.7%	23.1%	23.6%	21.8%	21.4%	22.7%	16.9%	24.8%
Other Cancer-Related									
Healthy Weight by Body Mass Index, Age 20+ (2015–2021)	32.1%	32.8%	31.7%	27.9%	36.1%	29.8%	27.9%	31.9%	33.0%
Any Physical Activity Besides Job Past 30 Days (2015-2021)	78.7%	79.2%	78.1%	74.5%	83.2%	73.4%	76.3%	79.7%	71.6%
Meet Physical Activity Guidelines (2011, 2013, 2015, 2017, 2019)	21.9%	22.8%	19.4%	20.0%	25.2%	19.5%	20.4%	20.2%	17.2%
Home Ever Tested for Radon (2016, 2018, 2020)	23.0%	30.9%	18.2%	16.9%	25.1%	19.9%	23.0%	21.8%	39.5%

Access to Care

Have Health Insurance – 2015–2021
Statewide, 83.1% of adults aged 18–64 reported having health care coverage. Health care coverage differed significantly by race/ethnicity, with 86.0% of white non-Hispanics, compared to 64.8% of Hispanics and 83.3% of Native Americans, having health insurance. Spanish-speaking respondents were significantly less likely to be insured (33.3%) than English-speaking respondents (84.2%). Health care coverage differed significantly by age of respondent, with 79.8% of persons aged 18–29, and 87.8% of persons aged 50–64, having health insurance. Health care coverage differed significantly by county, with a range of 62.1% in Adams County to 91.6% in Oneida County having health insurance.

Not See Doctor Due to Cost in Past Year – 2015–2021
Statewide, 12.6% 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 (11.5% of white non-Hispanics, 19.2% of Hispanics, and 21.0% of Native Americans). Inability to see a doctor due to cost differed significantly by annual household income (24.9% for less than $15,000, 6.1% for greater than $50,000). Inability to see a doctor due to cost differed significantly by county, with a range of 7.4% in Franklin County to 17.5% in Power County.

Cancer Screening

Mammogram – 2014, 2016, 2018, 2020
Statewide, 69.1% of women aged 50–74 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 (72.1% versus 36.7%). Mammography rates differed significantly by county, with a range in screening of 45.9% in Benewah County to 77.0% in Nez Perce County. In 2020, Idaho ranked 48th among states and the District of Columbia for mammography screening rates among women aged 50–74 and also 48th among ages 40+.

Pap Test – 2018, 2020
Statewide, 71.2% 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 (75.1% versus 52.6% screened in the past 3 years). Pap screening differed significantly by county, with a range of 50.7% 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 – 2018, 2020
Statewide, 67.9% of adults aged 50–75 reported being current for colorectal cancer screening.** Persons with health insurance were over twice as likely to be current for colorectal cancer screening. In 2020, Idaho ranked 47th among states and the District of Columbia in the percentage of adults aged 50–75 and older who reported being up-to-date for colorectal cancer screening.

** 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, or a colonoscopy in the past 10 years.

Cancer Screening and Risk Factors

Tobacco Use

Current Tobacco Use – 2016–2021
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, 22.3% of adults aged 18 and older were current tobacco users. Tobacco use differed significantly by age of respondent, with 29.9% of persons aged 18-29, and 11.1% of persons aged 65 and older reporting current tobacco use. Tobacco use was lower among white non-Hispanics (22.4%) than among Native Americans (40.0%). Tobacco use differed significantly by county, with a range of 5.4% in Madison County to 41.6% 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 – 2015–2021
Statewide, 32.1% 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 32.5% of white non-Hispanics, compared to 28.2% of Hispanics and 24.6% of Native Americans, being in the healthy weight range. Males (25.5%) were significantly less likely to be in the healthy weight range than females (38.6%). BMI differed significantly by age of respondent, with 43.3% of persons aged 18–29, and 26.0% of persons aged 50–64, being in the healthy weight range. BMI differed significantly by county, with a range of 19.8% in Power County to 47.4% in Blaine County of adults being in the healthy weight range.

Any Physical Activity – 2015-2021
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, 78.7% 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 83.3% of persons aged 18–29, and 72.3% 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 64.3% in Clark County to 84.6% in Teton County.

Physical Activity Guidelines – 2011, 2013, 2015, 2017, 2019
Statewide, 21.9% 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 26.3% 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 9.6% in Franklin County to 30.6% in Blaine County.

Home Radon Testing – 2016, 2018, 2020
Statewide, 23.0% of adults have ever tested their house for radon. Radon test usage varied significantly by race/ethnicity, with 25.1% of white non-Hispanics, 7.4% 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 8.5% in Cassia County to 54.4% in Blaine County.

This project has been funded in whole or in part with Federal funds from the National Cancer Institute, National Institutes of Health, Department of Health and Human Services, under Contract No. HHSN261201800006I and the Centers for Disease Control and Prevention, Department of Health and Human Services, under Cooperative Agreement NU58DP007160. The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention or the National Cancer Institute.

CDRI Cancer Data Registry of Idaho

Idaho Hospital Association

CAMAS COUNTY CANCER PROFILE

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

Cancer Incidence 2016–2020
Cancer Mortality 2017–2021
BRFSS 2011–2021

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.2016.3332). 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 2016–2020

Nearly one in two Idahoans are estimated to develop cancer during their lifetime. During 2016–2020, 45,610 cases of invasive cancer were diagnosed among Idaho residents, and 35 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, 2016–2020

Cancer Incidence 2016–2020	Camas County	State of Idaho
All Sites/Types	**35**	**45,610**
Female Breast	**2**	**6,687**
Prostate	**7**	**6,417**
Lung & Bronchus	**5**	**4,887**
Colorectal	**3**	**3,451**

Table 3 (*Cancer Incidence 2016–2020, 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 637.6 cases per 100,000 person-years per year during 2016–2020. Comparing this crude rate with the crude rate for the remainder of Idaho (519.9) 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 485.6 cases per 100,000 persons per year during 2016–2020. There were fewer cases of cancer in Camas County (35) than expected (37.5) 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 2017–2021

During 2017–2021, cancer was the second leading cause of death in Idaho; 15,121 Idaho residents and 16 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, 2017–2021

Mortality 2017–2021	Camas County	State of Idaho
All Deaths	**60**	**77,431**
Cancer Deaths	**16**	**15,121**
% of All Deaths	*26.7%*	*19.5%*
Lung & Bronchus	**2**	**2,961**
Colorectal	**1**	**1,319**
Pancreas	**0**	**1,190**
Female Breast	**0**	**1,086**
Prostate	**4**	**949**

Table 4 (*Cancer Mortality 2017–2021, 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 217.2 deaths per 100,000 persons per year during 2017–2021, compared with 168.1 for the remainder of the state. There were more cancer deaths in Camas County (16) than expected (12.4) 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 2016–2020
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	35	5,489	637.6	485.6	37.5	0.766	45,575	8,766,339	519.9
All Sites Combined	Male	19	2,830	671.4	455.1	23.1	0.468	24,270	4,394,080	552.3
All Sites Combined	Female	16	2,659	601.7	510.1	15.3	0.922	21,305	4,372,259	487.3
Bladder	Total	1	5,489	18.2	13.5	1.8	0.897	2,183	8,766,339	24.9
Bladder	Male	1	2,830	35.3	23.2	1.7	0.976	1,750	4,394,080	39.8
Bladder	Female	-	2,659	-	-	0.3	1.000	433	4,372,259	9.9
Brain - malignant	Total	-	5,489	-	-	0.5	1.000	625	8,766,339	7.1
Brain - malignant	Male	-	2,830	-	-	0.3	1.000	375	4,394,080	8.5
Brain - malignant	Female	-	2,659	-	-	0.2	1.000	250	4,372,259	5.7
Brain and other CNS - non-malignant	Total	3	5,489	54.7	43.5	1.1	0.206	1,421	8,766,339	16.2
Brain and other CNS - non-malignant	Male	2	2,830	70.7	53.2	0.4	0.128	478	4,394,080	10.9
Brain and other CNS - non-malignant	Female	1	2,659	37.6	32.3	0.7	0.974	943	4,372,259	21.6
Breast	Total	2	5,489	36.4	27.9	5.5	0.174	6,744	8,766,339	76.9
Breast	Male	-	2,830	-	-	0.1	1.000	59	4,394,080	1.3
Breast	Female	2	2,659	75.2	62.8	4.9	0.272	6,685	4,372,259	152.9
Breast - in situ	Total	-	5,489	-	-	1.0	0.718	1,239	8,766,339	14.1
Breast - in situ	Male	-	2,830	-	-	0.0	1.000	5	4,394,080	0.1
Breast - in situ	Female	-	2,659	-	-	0.9	0.803	1,234	4,372,259	28.2
Cervix	Female	-	2,659	-	-	0.2	1.000	304	4,372,259	7.0
Colorectal	Total	3	5,489	54.7	42.4	2.8	1.000	3,448	8,766,339	39.3
Colorectal	Male	3	2,830	106.0	75.2	1.7	0.498	1,900	4,394,080	43.2
Colorectal	Female	-	2,659	-	-	1.1	0.662	1,548	4,372,259	35.4
Corpus Uteri	Female	1	2,659	37.6	30.9	1.0	1.000	1,329	4,372,259	30.4
Esophagus	Total	-	5,489	-	-	0.4	1.000	506	8,766,339	5.8
Esophagus	Male	-	2,830	-	-	0.4	1.000	424	4,394,080	9.6
Esophagus	Female	-	2,659	-	-	0.1	1.000	82	4,372,259	1.9
Hodgkin Lymphoma	Total	-	5,489	-	-	0.1	1.000	210	8,766,339	2.4
Hodgkin Lymphoma	Male	-	2,830	-	-	0.1	1.000	118	4,394,080	2.7
Hodgkin Lymphoma	Female	-	2,659	-	-	0.1	1.000	92	4,372,259	2.1
Kidney and Renal Pelvis	Total	1	5,489	18.2	14.0	1.5	1.000	1,814	8,766,339	20.7
Kidney and Renal Pelvis	Male	-	2,830	-	-	1.1	0.676	1,182	4,394,080	26.9
Kidney and Renal Pelvis	Female	1	2,659	37.6	32.1	0.5	0.726	632	4,372,259	14.5
Larynx	Total	-	5,489	-	-	0.2	1.000	215	8,766,339	2.5
Larynx	Male	-	2,830	-	-	0.2	1.000	160	4,394,080	3.6
Larynx	Female	-	2,659	-	-	0.0	1.000	55	4,372,259	1.3
Leukemia	Total	2	5,489	36.4	28.6	1.3	0.746	1,629	8,766,339	18.6
Leukemia	Male	1	2,830	35.3	25.2	0.9	1.000	988	4,394,080	22.5
Leukemia	Female	1	2,659	37.6	32.8	0.4	0.721	641	4,372,259	14.7
Liver and Bile Duct	Total	2	5,489	36.4	26.8	0.7	0.314	827	8,766,339	9.4
Liver and Bile Duct	Male	1	2,830	35.3	23.3	0.6	0.875	589	4,394,080	13.4
Liver and Bile Duct	Female	1	2,659	37.6	31.4	0.2	0.318	238	4,372,259	5.4
Lung and Bronchus	Total	5	5,489	91.1	67.1	4.2	0.802	4,882	8,766,339	55.7
Lung and Bronchus	Male	1	2,830	35.3	22.9	2.4	0.602	2,451	4,394,080	55.8
Lung and Bronchus	Female	4	2,659	150.4	126.3	1.8	0.205	2,431	4,372,259	55.6
Melanoma of the Skin	Total	1	5,489	18.2	14.3	2.3	0.642	2,941	8,766,339	33.5
Melanoma of the Skin	Male	1	2,830	35.3	24.8	1.6	1.000	1,764	4,394,080	40.1
Melanoma of the Skin	Female	-	2,659	-	-	0.8	0.880	1,177	4,372,259	26.9
Myeloma	Total	-	5,489	-	-	0.6	1.000	708	8,766,339	8.1
Myeloma	Male	-	2,830	-	-	0.4	1.000	441	4,394,080	10.0
Myeloma	Female	-	2,659	-	-	0.2	1.000	267	4,372,259	6.1
Non-Hodgkin Lymphoma	Total	1	5,489	18.2	14.0	1.6	1.000	1,939	8,766,339	22.1
Non-Hodgkin Lymphoma	Male	-	2,830	-	-	1.1	0.697	1,129	4,394,080	25.7
Non-Hodgkin Lymphoma	Female	1	2,659	37.6	31.9	0.6	0.880	810	4,372,259	18.5
Oral Cavity and Pharynx	Total	2	5,489	36.4	27.2	1.1	0.590	1,293	8,766,339	14.7
Oral Cavity and Pharynx	Male	1	2,830	35.3	24.0	0.9	1.000	935	4,394,080	21.3
Oral Cavity and Pharynx	Female	1	2,659	37.6	31.2	0.3	0.462	358	4,372,259	8.2
Ovary	Female	1	2,659	37.6	31.8	0.4	0.636	532	4,372,259	12.2
Pancreas	Total	-	5,489	-	-	1.2	0.606	1,423	8,766,339	16.2
Pancreas	Male	-	2,830	-	-	0.8	0.939	784	4,394,080	17.8
Pancreas	Female	-	2,659	-	-	0.5	1.000	639	4,372,259	14.6
Prostate	Male	7	2,830	247.3	158.6	6.4	0.927	6,410	4,394,080	145.9
Stomach	Total	-	5,489	-	-	0.4	1.000	467	8,766,339	5.3
Stomach	Male	-	2,830	-	-	0.3	1.000	309	4,394,080	7.0
Stomach	Female	-	2,659	-	-	0.1	1.000	158	4,372,259	3.6
Testis	Male	-	2,830	-	-	0.1	1.000	265	4,394,080	6.0
Thyroid	Total	2	5,489	36.4	32.7	0.9	0.419	1,218	8,766,339	13.9
Thyroid	Male	-	2,830	-	-	0.3	1.000	355	4,394,080	8.1
Thyroid	Female	2	2,659	75.2	71.7	0.6	0.212	863	4,372,259	19.7
Pediatric Age 0 to 19	Total	-	1,357	-	-	0.2	1.000	421	2,459,166	17.1
Pediatric Age 0 to 19	Male	-	642	-	-	0.1	1.000	223	1,255,868	17.8
Pediatric Age 0 to 19	Female	-	715	-	-	0.1	1.000	198	1,203,298	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 2017–2021
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	60	5,550	1,081.1	843.0	61.3	0.935	77,370	8,983,165	861.3
All Causes of Death	Male	40	2,861	1,398.1	1,035.5	35.1	0.454	41,016	4,509,007	909.6
All Causes of Death	Female	20	2,689	743.8	598.8	27.1	0.194	36,354	4,474,158	812.5
All Malignant Cancers	Total	16	5,550	288.3	217.2	12.4	0.370	15,105	8,983,165	168.1
All Malignant Cancers	Male	12	2,861	419.4	290.3	7.5	0.157	8,164	4,509,007	181.1
All Malignant Cancers	Female	4	2,689	148.8	121.8	5.1	0.849	6,941	4,474,158	155.1
Bladder	Total	2	5,550	36.0	27.3	0.4	0.121	487	8,983,165	5.4
Bladder	Male	2	2,861	69.9	50.6	0.3	0.087	376	4,509,007	8.3
Bladder	Female	-	2,689	-	-	0.1	1.000	111	4,474,158	2.5
Brain and Other Nervous System	Total	-	5,550	-	-	0.4	1.000	504	8,983,165	5.6
Brain and Other Nervous System	Male	-	2,861	-	-	0.3	1.000	298	4,509,007	6.6
Brain and Other Nervous System	Female	-	2,689	-	-	0.1	1.000	206	4,474,158	4.6
Breast	Total	-	5,550	-	-	0.9	0.814	1,102	8,983,165	12.3
Breast	Male	-	2,861	-	-	0.0	1.000	16	4,509,007	0.4
Breast	Female	-	2,689	-	-	0.8	0.895	1,086	4,474,158	24.3
Cervix	Female	-	2,689	-	-	0.1	1.000	83	4,474,158	1.9
Colorectal	Total	1	5,550	18.0	13.8	1.1	1.000	1,318	8,983,165	14.7
Colorectal	Male	1	2,861	35.0	24.7	0.6	0.951	718	4,509,007	15.9
Colorectal	Female	-	2,689	-	-	0.4	1.000	600	4,474,158	13.4
Corpus Uteri	Female	-	2,689	-	-	0.1	1.000	173	4,474,158	3.9
Esophagus	Total	-	5,550	-	-	0.4	1.000	477	8,983,165	5.3
Esophagus	Male	-	2,861	-	-	0.4	1.000	401	4,509,007	8.9
Esophagus	Female	-	2,689	-	-	0.1	1.000	76	4,474,158	1.7
Hodgkin Lymphoma	Total	-	5,550	-	-	0.0	1.000	29	8,983,165	0.3
Hodgkin Lymphoma	Male	-	2,861	-	-	0.0	1.000	14	4,509,007	0.3
Hodgkin Lymphoma	Female	-	2,689	-	-	0.0	1.000	15	4,474,158	0.3
Kidney	Total	-	5,550	-	-	0.3	1.000	385	8,983,165	4.3
Kidney	Male	-	2,861	-	-	0.2	1.000	242	4,509,007	5.4
Kidney	Female	-	2,689	-	-	0.1	1.000	143	4,474,158	3.2
Larynx	Total	1	5,550	18.0	13.9	0.1	0.109	70	8,983,165	0.8
Larynx	Male	1	2,861	35.0	25.2	0.1	0.098	57	4,509,007	1.3
Larynx	Female	-	2,689	-	-	0.0	1.000	13	4,474,158	0.3
Leukemia	Total	1	5,550	18.0	14.0	0.5	0.816	659	8,983,165	7.3
Leukemia	Male	-	2,861	-	-	0.3	1.000	386	4,509,007	8.6
Leukemia	Female	1	2,689	37.2	30.9	0.2	0.359	273	4,474,158	6.1
Liver and Bile Duct	Total	2	5,550	36.0	26.4	0.5	0.185	601	8,983,165	6.7
Liver and Bile Duct	Male	1	2,861	35.0	23.1	0.4	0.648	407	4,509,007	9.0
Liver and Bile Duct	Female	1	2,689	37.2	30.3	0.1	0.267	194	4,474,158	4.3
Lung and Bronchus	Total	2	5,550	36.0	26.7	2.5	1.000	2,959	8,983,165	32.9
Lung and Bronchus	Male	1	2,861	35.0	23.2	1.5	1.000	1,555	4,509,007	34.5
Lung and Bronchus	Female	1	2,689	37.2	30.7	1.0	1.000	1,404	4,474,158	31.4
Melanoma of the Skin	Total	-	5,550	-	-	0.2	1.000	289	8,983,165	3.2
Melanoma of the Skin	Male	-	2,861	-	-	0.2	1.000	192	4,509,007	4.3
Melanoma of the Skin	Female	-	2,689	-	-	0.1	1.000	97	4,474,158	2.2
Myeloma	Total	-	5,550	-	-	0.3	1.000	331	8,983,165	3.7
Myeloma	Male	-	2,861	-	-	0.2	1.000	196	4,509,007	4.3
Myeloma	Female	-	2,689	-	-	0.1	1.000	135	4,474,158	3.0
Non-Hodgkin Lymphoma	Total	1	5,550	18.0	14.0	0.5	0.729	568	8,983,165	6.3
Non-Hodgkin Lymphoma	Male	-	2,861	-	-	0.3	1.000	307	4,509,007	6.8
Non-Hodgkin Lymphoma	Female	1	2,689	37.2	31.1	0.2	0.342	261	4,474,158	5.8
Oral Cavity and Pharynx	Total	-	5,550	-	-	0.2	1.000	266	8,983,165	3.0
Oral Cavity and Pharynx	Male	-	2,861	-	-	0.2	1.000	187	4,509,007	4.1
Oral Cavity and Pharynx	Female	-	2,689	-	-	0.1	1.000	79	4,474,158	1.8
Ovary	Female	-	2,689	-	-	0.3	1.000	350	4,474,158	7.8
Pancreas	Total	-	5,550	-	-	1.0	0.738	1,190	8,983,165	13.2
Pancreas	Male	-	2,861	-	-	0.6	1.000	642	4,509,007	14.2
Pancreas	Female	-	2,689	-	-	0.4	1.000	548	4,474,158	12.2
Prostate	Male	4	2,861	139.8	99.9	0.8	0.021 >>	945	4,509,007	21.0
Stomach	Total	-	5,550	-	-	0.2	1.000	198	8,983,165	2.2
Stomach	Male	-	2,861	-	-	0.1	1.000	121	4,509,007	2.7
Stomach	Female	-	2,689	-	-	0.1	1.000	77	4,474,158	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, 2020.

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 (BRFS) since 1984. These surveys are conducted with randomly selected adult Idahoans to measure population prevalences of risk factors for the major causes of death, including cancer. DPH provided data sets containing Behavioral Risk Factor Surveillance System (BRFSS) data from 2011 through 2021 to CDRI staff, who performed the analyses reported in these *County Profiles*. Analysis weights were poststratified to 2020 population estimates by age group, sex, and county, beginning with the BRFSS raked weights. Not all questions were asked in all years. 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* 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, 2011–2021

Measure	State of Idaho	HD 1	HD 2	HD 3	HD 4	HD 5	HD 6	HD 7	Camas County
Access to Care									
Have Health Insurance, Age <65 (2015–2021)	83.1%	82.8%	85.1%	77.2%	85.8%	78.9%	85.4%	85.4%	.
Not See Doctor Due to Cost in Past Year (2015–2021)	12.6%	11.4%	11.8%	14.5%	12.4%	12.3%	11.8%	12.9%	14.0%
Cancer Screening									
Mammogram Past 2 Years, Age 50–74 (2014, 2016, 2018, 2020)	69.1%	67.0%	73.8%	68.2%	73.2%	64.8%	64.5%	67.1%	.
Pap Test Past 3 Years, Cervix Intact Age 21–65 (2018, 2020)	71.2%	73.6%	73.6%	70.8%	72.9%	69.1%	69.5%	65.9%	.
Colorectal Cancer Screening, Age 50–75 (2018, 2020)	67.9%	66.9%	73.6%	71.4%	70.6%	61.7%	61.5%	64.7%	.
Tobacco Use									
Current Tobacco User (2016–2021)	22.3%	26.7%	23.1%	23.6%	21.8%	21.4%	22.7%	16.9%	.
Other Cancer-Related									
Healthy Weight by Body Mass Index, Age 20+ (2015–2021)	32.1%	32.8%	31.7%	27.9%	36.1%	29.8%	27.9%	31.9%	.
Any Physical Activity Besides Job Past 30 Days (2015-2021)	78.7%	79.2%	78.1%	74.5%	83.2%	73.4%	76.3%	79.7%	67.0%
Meet Physical Activity Guidelines (2011, 2013, 2015, 2017, 2019)	21.9%	22.8%	19.4%	20.0%	25.2%	19.5%	20.4%	20.2%	.
Home Ever Tested for Radon (2016, 2018, 2020)	23.0%	30.9%	18.2%	16.9%	25.1%	19.9%	23.0%	21.8%	.

Access to Care

Have Health Insurance – 2015–2021
Statewide, 83.1% of adults aged 18–64 reported having health care coverage. Health care coverage differed significantly by race/ethnicity, with 86.0% of white non-Hispanics, compared to 64.8% of Hispanics and 83.3% of Native Americans, having health insurance. Spanish-speaking respondents were significantly less likely to be insured (33.3%) than English-speaking respondents (84.2%). Health care coverage differed significantly by age of respondent, with 79.8% of persons aged 18–29, and 87.8% of persons aged 50–64, having health insurance. Health care coverage differed significantly by county, with a range of 62.1% in Adams County to 91.6% in Oneida County having health insurance.

Not See Doctor Due to Cost in Past Year – 2015–2021
Statewide, 12.6% 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 (11.5% of white non-Hispanics, 19.2% of Hispanics, and 21.0% of Native Americans). Inability to see a doctor due to cost differed significantly by annual household income (24.9% for less than $15,000, 6.1% for greater than $50,000). Inability to see a doctor due to cost differed significantly by county, with a range of 7.4% in Franklin County to 17.5% in Power County.

Cancer Screening

Mammogram – 2014, 2016, 2018, 2020
Statewide, 69.1% of women aged 50–74 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 (72.1% versus 36.7%). Mammography rates differed significantly by county, with a range in screening of 45.9% in Benewah County to 77.0% in Nez Perce County. In 2020, Idaho ranked 48th among states and the District of Columbia for mammography screening rates among women aged 50–74 and also 48th among ages 40+.

Pap Test – 2018, 2020
Statewide, 71.2% 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 (75.1% versus 52.6% screened in the past 3 years). Pap screening differed significantly by county, with a range of 50.7% 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 – 2018, 2020
Statewide, 67.9% of adults aged 50–75 reported being current for colorectal cancer screening.** Persons with health insurance were over twice as likely to be current for colorectal cancer screening. In 2020, Idaho ranked 47th among states and the District of Columbia in the percentage of adults aged 50–75 and older who reported being up-to-date for colorectal cancer screening.

** 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, or a colonoscopy in the past 10 years.

Cancer Screening and Risk Factors

Tobacco Use

Current Tobacco Use – 2016–2021
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, 22.3% of adults aged 18 and older were current tobacco users. Tobacco use differed significantly by age of respondent, with 29.9% of persons aged 18-29, and 11.1% of persons aged 65 and older reporting current tobacco use. Tobacco use was lower among white non-Hispanics (22.4%) than among Native Americans (40.0%). Tobacco use differed significantly by county, with a range of 5.4% in Madison County to 41.6% 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 – 2015–2021
Statewide, 32.1% 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 32.5% of white non-Hispanics, compared to 28.2% of Hispanics and 24.6% of Native Americans, being in the healthy weight range. Males (25.5%) were significantly less likely to be in the healthy weight range than females (38.6%). BMI differed significantly by age of respondent, with 43.3% of persons aged 18–29, and 26.0% of persons aged 50–64, being in the healthy weight range. BMI differed significantly by county, with a range of 19.8% in Power County to 47.4% in Blaine County of adults being in the healthy weight range.

Any Physical Activity – 2015-2021
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, 78.7% 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 83.3% of persons aged 18–29, and 72.3% 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 64.3% in Clark County to 84.6% in Teton County.

Physical Activity Guidelines – 2011, 2013, 2015, 2017, 2019
Statewide, 21.9% 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 26.3% 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 9.6% in Franklin County to 30.6% in Blaine County.

Home Radon Testing – 2016, 2018, 2020
Statewide, 23.0% of adults have ever tested their house for radon. Radon test usage varied significantly by race/ethnicity, with 25.1% of white non-Hispanics, 7.4% 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 8.5% in Cassia County to 54.4% in Blaine County.

This project has been funded in whole or in part with Federal funds from the National Cancer Institute, National Institutes of Health, Department of Health and Human Services, under Contract No. HHSN261201800006I and the Centers for Disease Control and Prevention, Department of Health and Human Services, under Cooperative Agreement NU58DP007160. The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention or the National Cancer Institute.

CANYON COUNTY CANCER PROFILE

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

Cancer Incidence 2016–2020
Cancer Mortality 2017–2021
BRFSS 2011–2021

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.2016.3332). 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 2016–2020

Nearly one in two Idahoans are estimated to develop cancer during their lifetime. During 2016–2020, 45,610 cases of invasive cancer were diagnosed among Idaho residents, and 5,395 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, 2016–2020

Cancer Incidence 2016–2020	Canyon County	State of Idaho
All Sites/Types	**5,395**	**45,610**
Female Breast	**825**	**6,687**
Prostate	**721**	**6,417**
Lung & Bronchus	**593**	**4,887**
Colorectal	**413**	**3,451**

Table 3 (*Cancer Incidence 2016–2020, 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 481.9 cases per 100,000 person-years per year during 2016–2020. Comparing this crude rate with the crude rate for the remainder of Idaho (525.5) 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 548.8 cases per 100,000 persons per year during 2016–2020. There were statistically significantly more cases of cancer in Canyon County (5,395) than expected (5,166.5) 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 2017–2021

During 2017–2021, cancer was the second leading cause of death in Idaho; 15,121 Idaho residents and 1,723 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, 2017–2021

Mortality 2017–2021	Canyon County	State of Idaho
All Deaths	**8,896**	**77,431**
Cancer Deaths	**1,723**	**15,121**
% of All Deaths	*19.4%*	*19.5%*
Lung & Bronchus	**341**	**2,961**
Colorectal	**165**	**1,319**
Pancreas	**130**	**1,190**
Female Breast	**137**	**1,086**
Prostate	**90**	**949**

Table 4 (*Cancer Mortality 2017–2021, 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 175.3 deaths per 100,000 persons per year during 2017–2021, compared with 170.9 for the remainder of the state. There were more cancer deaths in Canyon County (1,723) than expected (1,680.1) 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 2016–2020
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	5,395	1,119,451	481.9	548.8	5,166.5	0.002 >>	40,215	7,652,377	525.5
All Sites Combined	Male	2,808	555,176	505.8	585.9	2,679.6	0.014 >>	21,481	3,841,734	559.1
All Sites Combined	Female	2,587	564,275	458.5	514.2	2,473.4	0.024 >>	18,734	3,810,643	491.6
Bladder	Total	256	1,119,451	22.9	26.7	241.1	0.354	1,928	7,652,377	25.2
Bladder	Male	208	555,176	37.5	44.4	188.3	0.165	1,543	3,841,734	40.2
Bladder	Female	48	564,275	8.5	9.9	49.2	0.940	385	3,810,643	10.1
Brain - malignant	Total	76	1,119,451	6.8	7.5	73.2	0.771	549	7,652,377	7.2
Brain - malignant	Male	47	555,176	8.5	9.4	42.8	0.564	328	3,841,734	8.5
Brain - malignant	Female	29	564,275	5.1	5.6	29.9	0.961	221	3,810,643	5.8
Brain and other CNS - non-malignant	Total	193	1,119,451	17.2	19.1	162.2	0.020 >>	1,231	7,652,377	16.1
Brain and other CNS - non-malignant	Male	77	555,176	13.9	15.3	52.7	0.002 >>	403	3,841,734	10.5
Brain and other CNS - non-malignant	Female	116	564,275	20.6	22.8	110.6	0.630	828	3,810,643	21.7
Breast	Total	827	1,119,451	73.9	83.0	771.0	0.048 >>	5,919	7,652,377	77.3
Breast	Male	2	555,176	0.4	0.4	7.0	0.057	57	3,841,734	1.5
Breast	Female	825	564,275	146.2	163.0	778.4	0.101	5,862	3,810,643	153.8
Breast - in situ	Total	150	1,119,451	13.4	14.9	143.2	0.591	1,089	7,652,377	14.2
Breast - in situ	Male	-	555,176	-	-	0.6	1.000	5	3,841,734	0.1
Breast - in situ	Female	150	564,275	26.6	29.4	145.2	0.714	1,084	3,810,643	28.4
Cervix	Female	54	564,275	9.6	9.9	35.8	0.005 >>	250	3,810,643	6.6
Colorectal	Total	413	1,119,451	36.9	42.0	390.4	0.265	3,038	7,652,377	39.7
Colorectal	Male	230	555,176	41.4	47.5	210.9	0.203	1,673	3,841,734	43.5
Colorectal	Female	183	564,275	32.4	36.7	178.6	0.759	1,365	3,810,643	35.8
Corpus Uteri	Female	166	564,275	29.4	33.1	153.2	0.318	1,164	3,810,643	30.5
Esophagus	Total	58	1,119,451	5.2	6.0	56.5	0.877	448	7,652,377	5.9
Esophagus	Male	47	555,176	8.5	9.9	46.5	0.982	377	3,841,734	9.8
Esophagus	Female	11	564,275	1.9	2.3	9.1	0.607	71	3,810,643	1.9
Hodgkin Lymphoma	Total	27	1,119,451	2.4	2.5	25.9	0.873	183	7,652,377	2.4
Hodgkin Lymphoma	Male	13	555,176	2.3	2.5	14.4	0.841	105	3,841,734	2.7
Hodgkin Lymphoma	Female	14	564,275	2.5	2.5	11.3	0.503	78	3,810,643	2.0
Kidney and Renal Pelvis	Total	241	1,119,451	21.5	24.4	203.5	0.011 >>	1,574	7,652,377	20.6
Kidney and Renal Pelvis	Male	145	555,176	26.1	29.8	131.4	0.254	1,037	3,841,734	27.0
Kidney and Renal Pelvis	Female	96	564,275	17.0	19.1	70.8	0.005 >>	537	3,810,643	14.1
Larynx	Total	31	1,119,451	2.8	3.2	23.1	0.134	184	7,652,377	2.4
Larynx	Male	24	555,176	4.3	5.1	16.6	0.105	136	3,841,734	3.5
Larynx	Female	7	564,275	1.2	1.4	6.2	0.860	48	3,810,643	1.3
Leukemia	Total	193	1,119,451	17.2	19.4	186.6	0.658	1,438	7,652,377	18.8
Leukemia	Male	112	555,176	20.2	22.9	111.7	1.000	877	3,841,734	22.8
Leukemia	Female	81	564,275	14.4	16.1	74.0	0.443	561	3,810,643	14.7
Liver and Bile Duct	Total	107	1,119,451	9.6	11.0	91.7	0.128	722	7,652,377	9.4
Liver and Bile Duct	Male	77	555,176	13.9	16.2	63.6	0.114	513	3,841,734	13.4
Liver and Bile Duct	Female	30	564,275	5.3	6.0	27.2	0.642	209	3,810,643	5.5
Lung and Bronchus	Total	593	1,119,451	53.0	61.8	538.4	0.021 >>	4,294	7,652,377	56.1
Lung and Bronchus	Male	308	555,176	55.5	65.5	262.3	0.006 >>	2,144	3,841,734	55.8
Lung and Bronchus	Female	285	564,275	50.5	58.4	275.3	0.576	2,150	3,810,643	56.4
Melanoma of the Skin	Total	282	1,119,451	25.2	28.3	346.7	0.000 <<	2,660	7,652,377	34.8
Melanoma of the Skin	Male	167	555,176	30.1	34.5	201.6	0.014 <<	1,598	3,841,734	41.6
Melanoma of the Skin	Female	115	564,275	20.4	22.3	143.5	0.016 <<	1,062	3,810,643	27.9
Myeloma	Total	85	1,119,451	7.6	8.8	78.6	0.499	623	7,652,377	8.1
Myeloma	Male	43	555,176	7.7	9.1	49.2	0.423	398	3,841,734	10.4
Myeloma	Female	42	564,275	7.4	8.6	28.9	0.026 >>	225	3,810,643	5.9
Non-Hodgkin Lymphoma	Total	232	1,119,451	20.7	23.6	219.7	0.424	1,708	7,652,377	22.3
Non-Hodgkin Lymphoma	Male	139	555,176	25.0	28.6	125.1	0.233	990	3,841,734	25.8
Non-Hodgkin Lymphoma	Female	93	564,275	16.5	18.7	93.7	1.000	718	3,810,643	18.8
Oral Cavity and Pharynx	Total	142	1,119,451	12.7	14.5	147.4	0.694	1,153	7,652,377	15.1
Oral Cavity and Pharynx	Male	108	555,176	19.5	22.5	103.5	0.683	828	3,841,734	21.6
Oral Cavity and Pharynx	Female	34	564,275	6.0	6.8	42.6	0.210	325	3,810,643	8.5
Ovary	Female	68	564,275	12.1	13.5	61.5	0.439	465	3,810,643	12.2
Pancreas	Total	157	1,119,451	14.0	16.3	159.5	0.882	1,266	7,652,377	16.5
Pancreas	Male	84	555,176	15.1	17.7	86.3	0.858	700	3,841,734	18.2
Pancreas	Female	73	564,275	12.9	14.9	72.7	1.000	566	3,810,643	14.9
Prostate	Male	721	555,176	129.9	152.5	701.2	0.464	5,696	3,841,734	148.3
Stomach	Total	66	1,119,451	5.9	6.8	50.9	0.048 >>	401	7,652,377	5.2
Stomach	Male	40	555,176	7.2	8.4	33.3	0.287	269	3,841,734	7.0
Stomach	Female	26	564,275	4.6	5.3	17.2	0.055	132	3,810,643	3.5
Testis	Male	32	555,176	5.8	5.8	33.4	0.899	233	3,841,734	6.1
Thyroid	Total	113	1,119,451	10.1	10.7	153.4	0.001 <<	1,107	7,652,377	14.5
Thyroid	Male	27	555,176	4.9	5.3	43.8	0.009 <<	328	3,841,734	8.5
Thyroid	Female	86	564,275	15.2	15.9	110.9	0.017 <<	779	3,810,643	20.4
Pediatric Age 0 to 19	Total	50	348,816	14.3	14.4	61.0	0.171	371	2,111,707	17.6
Pediatric Age 0 to 19	Male	30	178,131	16.8	16.9	31.8	0.834	193	1,078,379	17.9
Pediatric Age 0 to 19	Female	20	170,685	11.7	11.8	29.2	0.095	178	1,033,328	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 2017–2021
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	8,896	1,150,993	772.9	906.7	8,579.3	0.001 >>	68,534	7,837,722	874.4
All Causes of Death	Male	4,752	571,865	831.0	973.7	4,496.9	0.000 >>	36,304	3,940,003	921.4
All Causes of Death	Female	4,144	579,128	715.6	844.6	4,057.2	0.176	32,230	3,897,719	826.9
All Malignant Cancers	Total	1,723	1,150,993	149.7	175.3	1,680.1	0.301	13,398	7,837,722	170.9
All Malignant Cancers	Male	922	571,865	161.2	191.0	888.9	0.275	7,254	3,940,003	184.1
All Malignant Cancers	Female	801	579,128	138.3	160.6	786.2	0.608	6,144	3,897,719	157.6
Bladder	Total	37	1,150,993	3.2	3.9	55.3	0.012 <<	452	7,837,722	5.8
Bladder	Male	29	571,865	5.1	6.2	41.8	0.048 <<	349	3,940,003	8.9
Bladder	Female	8	579,128	1.4	1.6	12.9	0.207	103	3,897,719	2.6
Brain and Other Nervous System	Total	56	1,150,993	4.9	5.5	58.3	0.832	448	7,837,722	5.7
Brain and Other Nervous System	Male	31	571,865	5.4	6.2	34.0	0.689	267	3,940,003	6.8
Brain and Other Nervous System	Female	25	579,128	4.3	4.8	24.0	0.895	181	3,897,719	4.6
Breast	Total	137	1,150,993	11.9	13.8	122.2	0.200	965	7,837,722	12.3
Breast	Male	-	571,865	-	-	2.0	0.282	16	3,940,003	0.4
Breast	Female	137	579,128	23.7	27.2	122.4	0.207	949	3,897,719	24.3
Cervix	Female	16	579,128	2.8	3.0	9.3	0.057	67	3,897,719	1.7
Colorectal	Total	165	1,150,993	14.3	16.7	145.8	0.126	1,154	7,837,722	14.7
Colorectal	Male	88	571,865	15.4	17.9	78.6	0.317	631	3,940,003	16.0
Colorectal	Female	77	579,128	13.3	15.5	66.8	0.237	523	3,897,719	13.4
Corpus Uteri	Female	21	579,128	3.6	4.2	19.5	0.799	152	3,897,719	3.9
Esophagus	Total	67	1,150,993	5.8	6.8	51.6	0.045 >>	410	7,837,722	5.2
Esophagus	Male	55	571,865	9.6	11.3	42.7	0.078	346	3,940,003	8.8
Esophagus	Female	12	579,128	2.1	2.4	8.1	0.243	64	3,897,719	1.6
Hodgkin Lymphoma	Total	7	1,150,993	0.6	0.7	2.9	0.057	22	7,837,722	0.3
Hodgkin Lymphoma	Male	3	571,865	0.5	0.6	1.4	0.347	11	3,940,003	0.3
Hodgkin Lymphoma	Female	4	579,128	0.7	0.8	1.5	0.120	11	3,897,719	0.3
Kidney	Total	56	1,150,993	4.9	5.7	40.9	0.028 >>	329	7,837,722	4.2
Kidney	Male	32	571,865	5.6	6.6	25.7	0.258	210	3,940,003	5.3
Kidney	Female	24	579,128	4.1	4.9	14.9	0.036 >>	119	3,897,719	3.1
Larynx	Total	14	1,150,993	1.2	1.4	7.1	0.028 >>	57	7,837,722	0.7
Larynx	Male	12	571,865	2.1	2.5	5.6	0.024 >>	46	3,940,003	1.2
Larynx	Female	2	579,128	0.3	0.4	1.4	0.840	11	3,897,719	0.3
Leukemia	Total	74	1,150,993	6.4	7.5	73.4	0.977	586	7,837,722	7.5
Leukemia	Male	51	571,865	8.9	10.5	41.3	0.160	335	3,940,003	8.5
Leukemia	Female	23	579,128	4.0	4.7	31.8	0.132	251	3,897,719	6.4
Liver and Bile Duct	Total	67	1,150,993	5.8	6.8	67.6	1.000	536	7,837,722	6.8
Liver and Bile Duct	Male	46	571,865	8.0	9.5	44.6	0.870	362	3,940,003	9.2
Liver and Bile Duct	Female	21	579,128	3.6	4.2	22.4	0.877	174	3,897,719	4.5
Lung and Bronchus	Total	341	1,150,993	29.6	34.8	327.1	0.456	2,620	7,837,722	33.4
Lung and Bronchus	Male	197	571,865	34.4	40.9	166.0	0.021 >>	1,359	3,940,003	34.5
Lung and Bronchus	Female	144	579,128	24.9	29.1	160.4	0.207	1,261	3,897,719	32.4
Melanoma of the Skin	Total	29	1,150,993	2.5	2.9	32.9	0.570	260	7,837,722	3.3
Melanoma of the Skin	Male	22	571,865	3.8	4.5	20.9	0.864	170	3,940,003	4.3
Melanoma of the Skin	Female	7	579,128	1.2	1.4	11.8	0.202	90	3,897,719	2.3
Myeloma	Total	34	1,150,993	3.0	3.5	36.8	0.723	297	7,837,722	3.8
Myeloma	Male	18	571,865	3.1	3.8	21.5	0.527	178	3,940,003	4.5
Myeloma	Female	16	579,128	2.8	3.2	15.1	0.877	119	3,897,719	3.1
Non-Hodgkin Lymphoma	Total	65	1,150,993	5.6	6.7	62.7	0.800	504	7,837,722	6.4
Non-Hodgkin Lymphoma	Male	34	571,865	5.9	7.0	33.5	0.981	273	3,940,003	6.9
Non-Hodgkin Lymphoma	Female	31	579,128	5.4	6.4	28.9	0.748	231	3,897,719	5.9
Oral Cavity and Pharynx	Total	24	1,150,993	2.1	2.4	30.5	0.273	242	7,837,722	3.1
Oral Cavity and Pharynx	Male	13	571,865	2.3	2.7	21.6	0.068	174	3,940,003	4.4
Oral Cavity and Pharynx	Female	11	579,128	1.9	2.2	8.7	0.507	68	3,897,719	1.7
Ovary	Female	41	579,128	7.1	8.2	39.7	0.877	309	3,897,719	7.9
Pancreas	Total	130	1,150,993	11.3	13.2	133.2	0.824	1,060	7,837,722	13.5
Pancreas	Male	67	571,865	11.7	13.8	70.8	0.708	575	3,940,003	14.6
Pancreas	Female	63	579,128	10.9	12.6	62.1	0.944	485	3,897,719	12.4
Prostate	Male	90	571,865	15.7	19.2	102.4	0.236	859	3,940,003	21.8
Stomach	Total	35	1,150,993	3.0	3.5	20.7	0.005 >>	163	7,837,722	2.1
Stomach	Male	19	571,865	3.3	3.9	12.7	0.116	102	3,940,003	2.6
Stomach	Female	16	579,128	2.8	3.2	7.9	0.014 >>	61	3,897,719	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, 2020.

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 (BRFS) since 1984. These surveys are conducted with randomly selected adult Idahoans to measure population prevalences of risk factors for the major causes of death, including cancer. DPH provided data sets containing Behavioral Risk Factor Surveillance System (BRFSS) data from 2011 through 2021 to CDRI staff, who performed the analyses reported in these *County Profiles*. Analysis weights were poststratified to 2020 population estimates by age group, sex, and county, beginning with the BRFSS raked weights. Not all questions were asked in all years. 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* 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, 2011–2021

Measure	State of Idaho	HD 1	HD 2	HD 3	HD 4	HD 5	HD 6	HD 7	Canyon County
Access to Care									
Have Health Insurance, Age <65 (2015–2021)	83.1%	82.8%	85.1%	77.2%	85.8%	78.9%	85.4%	85.4%	77.3%
Not See Doctor Due to Cost in Past Year (2015–2021)	12.6%	11.4%	11.8%	14.5%	12.4%	12.3%	11.8%	12.9%	14.5%
Cancer Screening									
Mammogram Past 2 Years, Age 50–74 (2014, 2016, 2018, 2020)	69.1%	67.0%	73.8%	68.2%	73.2%	64.8%	64.5%	67.1%	69.6%
Pap Test Past 3 Years, Cervix Intact Age 21–65 (2018, 2020)	71.2%	73.6%	73.6%	70.8%	72.9%	69.1%	69.5%	65.9%	72.2%
Colorectal Cancer Screening, Age 50–75 (2018, 2020)	67.9%	66.9%	73.6%	71.4%	70.6%	61.7%	61.5%	64.7%	71.5%
Tobacco Use									
Current Tobacco User (2016–2021)	22.3%	26.7%	23.1%	23.6%	21.8%	21.4%	22.7%	16.9%	22.7%
Other Cancer-Related									
Healthy Weight by Body Mass Index, Age 20+ (2015–2021)	32.1%	32.8%	31.7%	27.9%	36.1%	29.8%	27.9%	31.9%	28.5%
Any Physical Activity Besides Job Past 30 Days (2015-2021)	78.7%	79.2%	78.1%	74.5%	83.2%	73.4%	76.3%	79.7%	75.2%
Meet Physical Activity Guidelines (2011, 2013, 2015, 2017, 2019)	21.9%	22.8%	19.4%	20.0%	25.2%	19.5%	20.4%	20.2%	20.7%
Home Ever Tested for Radon (2016, 2018, 2020)	23.0%	30.9%	18.2%	16.9%	25.1%	19.9%	23.0%	21.8%	17.0%

Access to Care

Have Health Insurance – 2015–2021
Statewide, 83.1% of adults aged 18–64 reported having health care coverage. Health care coverage differed significantly by race/ethnicity, with 86.0% of white non-Hispanics, compared to 64.8% of Hispanics and 83.3% of Native Americans, having health insurance. Spanish-speaking respondents were significantly less likely to be insured (33.3%) than English-speaking respondents (84.2%). Health care coverage differed significantly by age of respondent, with 79.8% of persons aged 18–29, and 87.8% of persons aged 50–64, having health insurance. Health care coverage differed significantly by county, with a range of 62.1% in Adams County to 91.6% in Oneida County having health insurance.

Not See Doctor Due to Cost in Past Year – 2015–2021
Statewide, 12.6% 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 (11.5% of white non-Hispanics, 19.2% of Hispanics, and 21.0% of Native Americans). Inability to see a doctor due to cost differed significantly by annual household income (24.9% for less than $15,000, 6.1% for greater than $50,000). Inability to see a doctor due to cost differed significantly by county, with a range of 7.4% in Franklin County to 17.5% in Power County.

Cancer Screening

Mammogram – 2014, 2016, 2018, 2020
Statewide, 69.1% of women aged 50–74 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 (72.1% versus 36.7%). Mammography rates differed significantly by county, with a range in screening of 45.9% in Benewah County to 77.0% in Nez Perce County. In 2020, Idaho ranked 48th among states and the District of Columbia for mammography screening rates among women aged 50–74 and also 48th among ages 40+.

Pap Test – 2018, 2020
Statewide, 71.2% 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 (75.1% versus 52.6% screened in the past 3 years). Pap screening differed significantly by county, with a range of 50.7% 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 – 2018, 2020
Statewide, 67.9% of adults aged 50–75 reported being current for colorectal cancer screening.** Persons with health insurance were over twice as likely to be current for colorectal cancer screening. In 2020, Idaho ranked 47th among states and the District of Columbia in the percentage of adults aged 50–75 and older who reported being up-to-date for colorectal cancer screening.

** 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, or a colonoscopy in the past 10 years.

Cancer Screening and Risk Factors

Tobacco Use

Current Tobacco Use – 2016–2021
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, 22.3% of adults aged 18 and older were current tobacco users. Tobacco use differed significantly by age of respondent, with 29.9% of persons aged 18-29, and 11.1% of persons aged 65 and older reporting current tobacco use. Tobacco use was lower among white non-Hispanics (22.4%) than among Native Americans (40.0%). Tobacco use differed significantly by county, with a range of 5.4% in Madison County to 41.6% 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 – 2015–2021
Statewide, 32.1% 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 32.5% of white non-Hispanics, compared to 28.2% of Hispanics and 24.6% of Native Americans, being in the healthy weight range. Males (25.5%) were significantly less likely to be in the healthy weight range than females (38.6%). BMI differed significantly by age of respondent, with 43.3% of persons aged 18–29, and 26.0% of persons aged 50–64, being in the healthy weight range. BMI differed significantly by county, with a range of 19.8% in Power County to 47.4% in Blaine County of adults being in the healthy weight range.

Any Physical Activity – 2015-2021
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, 78.7% 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 83.3% of persons aged 18–29, and 72.3% 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 64.3% in Clark County to 84.6% in Teton County.

Physical Activity Guidelines – 2011, 2013, 2015, 2017, 2019
Statewide, 21.9% 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 26.3% 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 9.6% in Franklin County to 30.6% in Blaine County.

Home Radon Testing – 2016, 2018, 2020
Statewide, 23.0% of adults have ever tested their house for radon. Radon test usage varied significantly by race/ethnicity, with 25.1% of white non-Hispanics, 7.4% 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 8.5% in Cassia County to 54.4% in Blaine County.

This project has been funded in whole or in part with Federal funds from the National Cancer Institute, National Institutes of Health, Department of Health and Human Services, under Contract No. HHSN261201800006I and the Centers for Disease Control and Prevention, Department of Health and Human Services, under Cooperative Agreement NU58DP007160. The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention or the National Cancer Institute.

CARIBOU COUNTY CANCER PROFILE

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

Cancer Incidence 2016–2020
Cancer Mortality 2017–2021
BRFSS 2011–2021

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.2016.3332). 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 2016–2020

Nearly one in two Idahoans are estimated to develop cancer during their lifetime. During 2016–2020, 45,610 cases of invasive cancer were diagnosed among Idaho residents, and 199 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, 2016–2020

Cancer Incidence 2016–2020	Caribou County	State of Idaho
All Sites/Types	**199**	**45,610**
Female Breast	**28**	**6,687**
Prostate	**33**	**6,417**
Lung & Bronchus	**16**	**4,887**
Colorectal	**11**	**3,451**

Table 3 (*Cancer Incidence 2016–2020, 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 566.3 cases per 100,000 person-years per year during 2016–2020. Comparing this crude rate with the crude rate for the remainder of Idaho (519.8) 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 531.4 cases per 100,000 persons per year during 2016–2020. There were more cases of cancer in Caribou County (199) than expected (194.7) 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 2017–2021

During 2017–2021, cancer was the second leading cause of death in Idaho; 15,121 Idaho residents and 59 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, 2017–2021

Mortality 2017–2021	Caribou County	State of Idaho
All Deaths	**381**	**77,431**
Cancer Deaths	**59**	**15,121**
% of All Deaths	*15.5%*	*19.5%*
Lung & Bronchus	**12**	**2,961**
Colorectal	**2**	**1,319**
Pancreas	**4**	**1,190**
Female Breast	**3**	**1,086**
Prostate	**0**	**949**

Table 4 (*Cancer Mortality 2017–2021, 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 152.9 deaths per 100,000 persons per year during 2017–2021, compared with 168.2 for the remainder of the state. There were fewer cancer deaths in Caribou County (59) than expected (64.9) 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 2016–2020
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	199	35,141	566.3	531.4	194.7	0.774	45,411	8,736,687	519.8
All Sites Combined	Male	115	17,849	644.3	608.5	104.3	0.319	24,174	4,379,061	552.0
All Sites Combined	Female	84	17,292	485.8	455.2	89.9	0.575	21,237	4,357,626	487.4
Bladder	Total	9	35,141	25.6	23.2	9.7	0.998	2,175	8,736,687	24.9
Bladder	Male	9	17,849	50.4	46.7	7.7	0.723	1,742	4,379,061	39.8
Bladder	Female	-	17,292	-	-	1.9	0.293	433	4,357,626	9.9
Brain - malignant	Total	5	35,141	14.2	13.6	2.6	0.246	620	8,736,687	7.1
Brain - malignant	Male	3	17,849	16.8	16.2	1.6	0.419	372	4,379,061	8.5
Brain - malignant	Female	2	17,292	11.6	11.0	1.0	0.557	248	4,357,626	5.7
Brain and other CNS - non-malignant	Total	12	35,141	34.1	32.4	6.0	0.039 >>	1,412	8,736,687	16.2
Brain and other CNS - non-malignant	Male	2	17,849	11.2	10.9	2.0	1.000	478	4,379,061	10.9
Brain and other CNS - non-malignant	Female	10	17,292	57.8	54.2	4.0	0.015 >>	934	4,357,626	21.4
Breast	Total	28	35,141	79.7	76.3	28.2	1.000	6,718	8,736,687	76.9
Breast	Male	-	17,849	-	-	0.3	1.000	59	4,379,061	1.3
Breast	Female	28	17,292	161.9	154.5	27.7	1.000	6,659	4,357,626	152.8
Breast - in situ	Total	2	35,141	5.7	5.5	5.1	0.232	1,237	8,736,687	14.2
Breast - in situ	Male	-	17,849	-	-	0.0	1.000	5	4,379,061	0.1
Breast - in situ	Female	2	17,292	11.6	11.3	5.0	0.248	1,232	4,357,626	28.3
Cervix	Female	3	17,292	17.3	17.8	1.2	0.225	301	4,357,626	6.9
Colorectal	Total	11	35,141	31.3	29.4	14.8	0.403	3,440	8,736,687	39.4
Colorectal	Male	5	17,849	28.0	26.7	8.1	0.363	1,898	4,379,061	43.3
Colorectal	Female	6	17,292	34.7	31.9	6.7	1.000	1,542	4,357,626	35.4
Corpus Uteri	Female	9	17,292	52.0	50.1	5.4	0.203	1,321	4,357,626	30.3
Esophagus	Total	-	35,141	-	-	2.2	0.222	506	8,736,687	5.8
Esophagus	Male	-	17,849	-	-	1.8	0.317	424	4,379,061	9.7
Esophagus	Female	-	17,292	-	-	0.4	1.000	82	4,357,626	1.9
Hodgkin Lymphoma	Total	3	35,141	8.5	8.7	0.8	0.101	207	8,736,687	2.4
Hodgkin Lymphoma	Male	1	17,849	5.6	5.6	0.5	0.757	117	4,379,061	2.7
Hodgkin Lymphoma	Female	2	17,292	11.6	11.9	0.3	0.096	90	4,357,626	2.1
Kidney and Renal Pelvis	Total	4	35,141	11.4	10.8	7.7	0.235	1,811	8,736,687	20.7
Kidney and Renal Pelvis	Male	4	17,849	22.4	21.5	5.0	0.876	1,178	4,379,061	26.9
Kidney and Renal Pelvis	Female	-	17,292	-	-	2.7	0.134	633	4,357,626	14.5
Larynx	Total	3	35,141	8.5	8.0	0.9	0.130	212	8,736,687	2.4
Larynx	Male	2	17,849	11.2	10.5	0.7	0.302	158	4,379,061	3.6
Larynx	Female	1	17,292	5.8	5.5	0.2	0.404	54	4,357,626	1.2
Leukemia	Total	8	35,141	22.8	21.0	7.1	0.821	1,623	8,736,687	18.6
Leukemia	Male	5	17,849	28.0	26.4	4.3	0.842	984	4,379,061	22.5
Leukemia	Female	3	17,292	17.3	15.8	2.8	1.000	639	4,357,626	14.7
Liver and Bile Duct	Total	3	35,141	8.5	8.0	3.6	1.000	826	8,736,687	9.5
Liver and Bile Duct	Male	2	17,849	11.2	10.5	2.6	1.000	588	4,379,061	13.4
Liver and Bile Duct	Female	1	17,292	5.8	5.3	1.0	1.000	238	4,357,626	5.5
Lung and Bronchus	Total	16	35,141	45.5	41.5	21.5	0.277	4,871	8,736,687	55.8
Lung and Bronchus	Male	9	17,849	50.4	46.9	10.7	0.747	2,443	4,379,061	55.8
Lung and Bronchus	Female	7	17,292	40.5	36.2	10.8	0.318	2,428	4,357,626	55.7
Melanoma of the Skin	Total	14	35,141	39.8	37.9	12.4	0.722	2,928	8,736,687	33.5
Melanoma of the Skin	Male	8	17,849	44.8	42.7	7.5	0.958	1,757	4,379,061	40.1
Melanoma of the Skin	Female	6	17,292	34.7	33.4	4.8	0.707	1,171	4,357,626	26.9
Myeloma	Total	6	35,141	17.1	15.6	3.1	0.185	702	8,736,687	8.0
Myeloma	Male	4	17,849	22.4	21.0	1.9	0.252	437	4,379,061	10.0
Myeloma	Female	2	17,292	11.6	10.4	1.2	0.650	265	4,357,626	6.1
Non-Hodgkin Lymphoma	Total	11	35,141	31.3	29.3	8.3	0.430	1,929	8,736,687	22.1
Non-Hodgkin Lymphoma	Male	9	17,849	50.4	47.7	4.8	0.115	1,120	4,379,061	25.6
Non-Hodgkin Lymphoma	Female	2	17,292	11.6	10.6	3.5	0.644	809	4,357,626	18.6
Oral Cavity and Pharynx	Total	5	35,141	14.2	13.5	5.5	1.000	1,290	8,736,687	14.8
Oral Cavity and Pharynx	Male	3	17,849	16.8	16.0	4.0	0.867	933	4,379,061	21.3
Oral Cavity and Pharynx	Female	2	17,292	11.6	10.9	1.5	0.890	357	4,357,626	8.2
Ovary	Female	-	17,292	-	-	2.2	0.216	533	4,357,626	12.2
Pancreas	Total	6	35,141	17.1	15.6	6.2	1.000	1,417	8,736,687	16.2
Pancreas	Male	4	17,849	22.4	21.0	3.4	0.879	780	4,379,061	17.8
Pancreas	Female	2	17,292	11.6	10.4	2.8	0.927	637	4,357,626	14.6
Prostate	Male	33	17,849	184.9	173.9	27.7	0.355	6,384	4,379,061	145.8
Stomach	Total	1	35,141	2.8	2.6	2.0	0.799	466	8,736,687	5.3
Stomach	Male	1	17,849	5.6	5.3	1.3	1.000	308	4,379,061	7.0
Stomach	Female	-	17,292	-	-	0.7	1.000	158	4,357,626	3.6
Testis	Male	2	17,849	11.2	12.2	1.0	0.518	263	4,379,061	6.0
Thyroid	Total	4	35,141	11.4	11.6	4.8	0.952	1,216	8,736,687	13.9
Thyroid	Male	4	17,849	22.4	22.3	1.4	0.116	351	4,379,061	8.0
Thyroid	Female	-	17,292	-	-	3.3	0.073	865	4,357,626	19.9
Pediatric Age 0 to 19	Total	1	10,899	9.2	9.3	1.8	0.898	420	2,449,624	17.1
Pediatric Age 0 to 19	Male	-	5,636	-	-	1.0	0.736	223	1,250,874	17.8
Pediatric Age 0 to 19	Female	1	5,263	19.0	19.4	0.8	1.000	197	1,198,750	16.4

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 2017–2021
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	381	35,382	1,076.8	974.0	336.6	0.019 >>	77,049	8,953,333	860.6
All Causes of Death	Male	197	17,961	1,096.8	1,036.5	172.8	0.076	40,859	4,493,907	909.2
All Causes of Death	Female	184	17,421	1,056.2	912.4	163.7	0.125	36,190	4,459,426	811.5
All Malignant Cancers	Total	59	35,382	166.8	152.9	64.9	0.508	15,062	8,953,333	168.2
All Malignant Cancers	Male	33	17,961	183.7	172.7	34.6	0.871	8,143	4,493,907	181.2
All Malignant Cancers	Female	26	17,421	149.2	134.2	30.1	0.527	6,919	4,459,426	155.2
Bladder	Total	2	35,382	5.7	5.0	2.2	1.000	487	8,953,333	5.4
Bladder	Male	2	17,961	11.1	10.3	1.6	0.965	376	4,493,907	8.4
Bladder	Female	-	17,421	-	-	0.5	1.000	111	4,459,426	2.5
Brain and Other Nervous System	Total	2	35,382	5.7	5.4	2.1	1.000	502	8,953,333	5.6
Brain and Other Nervous System	Male	1	17,961	5.6	5.4	1.2	1.000	297	4,493,907	6.6
Brain and Other Nervous System	Female	1	17,421	5.7	5.4	0.8	1.000	205	4,459,426	4.6
Breast	Total	3	35,382	8.5	7.9	4.7	0.628	1,099	8,953,333	12.3
Breast	Male	-	17,961	-	-	0.1	1.000	16	4,493,907	0.4
Breast	Female	3	17,421	17.2	15.8	4.6	0.645	1,083	4,459,426	24.3
Cervix	Female	-	17,421	-	-	0.3	1.000	83	4,459,426	1.9
Colorectal	Total	2	35,382	5.7	5.2	5.6	0.161	1,317	8,953,333	14.7
Colorectal	Male	1	17,961	5.6	5.3	3.0	0.391	718	4,493,907	16.0
Colorectal	Female	1	17,421	5.7	5.1	2.6	0.527	599	4,459,426	13.4
Corpus Uteri	Female	1	17,421	5.7	5.3	0.7	1.000	172	4,459,426	3.9
Esophagus	Total	2	35,382	5.7	5.3	2.0	1.000	475	8,953,333	5.3
Esophagus	Male	2	17,961	11.1	10.5	1.7	1.000	399	4,493,907	8.9
Esophagus	Female	-	17,421	-	-	0.3	1.000	76	4,459,426	1.7
Hodgkin Lymphoma	Total	-	35,382	-	-	0.1	1.000	29	8,953,333	0.3
Hodgkin Lymphoma	Male	-	17,961	-	-	0.1	1.000	14	4,493,907	0.3
Hodgkin Lymphoma	Female	-	17,421	-	-	0.1	1.000	15	4,459,426	0.3
Kidney	Total	-	35,382	-	-	1.7	0.377	385	8,953,333	4.3
Kidney	Male	-	17,961	-	-	1.0	0.716	242	4,493,907	5.4
Kidney	Female	-	17,421	-	-	0.6	1.000	143	4,459,426	3.2
Larynx	Total	-	35,382	-	-	0.3	1.000	71	8,953,333	0.8
Larynx	Male	-	17,961	-	-	0.2	1.000	58	4,493,907	1.3
Larynx	Female	-	17,421	-	-	0.1	1.000	13	4,459,426	0.3
Leukemia	Total	5	35,382	14.1	12.8	2.9	0.325	655	8,953,333	7.3
Leukemia	Male	3	17,961	16.7	15.8	1.6	0.445	383	4,493,907	8.5
Leukemia	Female	2	17,421	11.5	9.9	1.2	0.694	272	4,459,426	6.1
Liver and Bile Duct	Total	2	35,382	5.7	5.3	2.5	1.000	601	8,953,333	6.7
Liver and Bile Duct	Male	1	17,961	5.6	5.3	1.7	0.974	407	4,493,907	9.1
Liver and Bile Duct	Female	1	17,421	5.7	5.2	0.8	1.000	194	4,459,426	4.4
Lung and Bronchus	Total	12	35,382	33.9	31.0	12.7	0.984	2,949	8,953,333	32.9
Lung and Bronchus	Male	7	17,961	39.0	36.5	6.6	0.980	1,549	4,493,907	34.5
Lung and Bronchus	Female	5	17,421	28.7	25.6	6.1	0.851	1,400	4,459,426	31.4
Melanoma of the Skin	Total	1	35,382	2.8	2.6	1.2	1.000	288	8,953,333	3.2
Melanoma of the Skin	Male	1	17,961	5.6	5.3	0.8	1.000	191	4,493,907	4.3
Melanoma of the Skin	Female	-	17,421	-	-	0.4	1.000	97	4,459,426	2.2
Myeloma	Total	4	35,382	11.3	10.2	1.4	0.116	327	8,953,333	3.7
Myeloma	Male	4	17,961	22.3	20.7	0.8	0.020 >>	192	4,493,907	4.3
Myeloma	Female	-	17,421	-	-	0.6	1.000	135	4,459,426	3.0
Non-Hodgkin Lymphoma	Total	3	35,382	8.5	7.7	2.5	0.894	566	8,953,333	6.3
Non-Hodgkin Lymphoma	Male	2	17,961	11.1	10.5	1.3	0.741	305	4,493,907	6.8
Non-Hodgkin Lymphoma	Female	1	17,421	5.7	5.0	1.2	1.000	261	4,459,426	5.9
Oral Cavity and Pharynx	Total	1	35,382	2.8	2.6	1.1	1.000	265	8,953,333	3.0
Oral Cavity and Pharynx	Male	1	17,961	5.6	5.3	0.8	1.000	186	4,493,907	4.1
Oral Cavity and Pharynx	Female	-	17,421	-	-	0.3	1.000	79	4,459,426	1.8
Ovary	Female	3	17,421	17.2	15.8	1.5	0.373	347	4,459,426	7.8
Pancreas	Total	4	35,382	11.3	10.4	5.1	0.852	1,186	8,953,333	13.2
Pancreas	Male	3	17,961	16.7	15.8	2.7	1.000	639	4,493,907	14.2
Pancreas	Female	1	17,421	5.7	5.2	2.4	0.630	547	4,459,426	12.3
Prostate	Male	-	17,961	-	-	4.1	0.033 <<	949	4,493,907	21.1
Stomach	Total	-	35,382	-	-	0.8	0.864	198	8,953,333	2.2
Stomach	Male	-	17,961	-	-	0.5	1.000	121	4,493,907	2.7
Stomach	Female	-	17,421	-	-	0.3	1.000	77	4,459,426	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, 2020.

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 (BRFS) since 1984. These surveys are conducted with randomly selected adult Idahoans to measure population prevalences of risk factors for the major causes of death, including cancer. DPH provided data sets containing Behavioral Risk Factor Surveillance System (BRFSS) data from 2011 through 2021 to CDRI staff, who performed the analyses reported in these *County Profiles*. Analysis weights were poststratified to 2020 population estimates by age group, sex, and county, beginning with the BRFSS raked weights. Not all questions were asked in all years. 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* 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, 2011–2021

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 (2015–2021)	83.1%	82.8%	85.1%	77.2%	85.8%	78.9%	85.4%	85.4%	83.3%
Not See Doctor Due to Cost in Past Year (2015–2021)	12.6%	11.4%	11.8%	14.5%	12.4%	12.3%	11.8%	12.9%	11.5%
Cancer Screening									
Mammogram Past 2 Years, Age 50–74 (2014, 2016, 2018, 2020)	69.1%	67.0%	73.8%	68.2%	73.2%	64.8%	64.5%	67.1%	.
Pap Test Past 3 Years, Cervix Intact Age 21–65 (2018, 2020)	71.2%	73.6%	73.6%	70.8%	72.9%	69.1%	69.5%	65.9%	.
Colorectal Cancer Screening, Age 50–75 (2018, 2020)	67.9%	66.9%	73.6%	71.4%	70.6%	61.7%	61.5%	64.7%	.
Tobacco Use									
Current Tobacco User (2016–2021)	22.3%	26.7%	23.1%	23.6%	21.8%	21.4%	22.7%	16.9%	26.3%
Other Cancer-Related									
Healthy Weight by Body Mass Index, Age 20+ (2015–2021)	32.1%	32.8%	31.7%	27.9%	36.1%	29.8%	27.9%	31.9%	21.0%
Any Physical Activity Besides Job Past 30 Days (2015-2021)	78.7%	79.2%	78.1%	74.5%	83.2%	73.4%	76.3%	79.7%	78.9%
Meet Physical Activity Guidelines (2011, 2013, 2015, 2017, 2019)	21.9%	22.8%	19.4%	20.0%	25.2%	19.5%	20.4%	20.2%	17.4%
Home Ever Tested for Radon (2016, 2018, 2020)	23.0%	30.9%	18.2%	16.9%	25.1%	19.9%	23.0%	21.8%	17.1%

Access to Care

Have Health Insurance – 2015–2021
Statewide, 83.1% of adults aged 18–64 reported having health care coverage. Health care coverage differed significantly by race/ethnicity, with 86.0% of white non-Hispanics, compared to 64.8% of Hispanics and 83.3% of Native Americans, having health insurance. Spanish-speaking respondents were significantly less likely to be insured (33.3%) than English-speaking respondents (84.2%). Health care coverage differed significantly by age of respondent, with 79.8% of persons aged 18–29, and 87.8% of persons aged 50–64, having health insurance. Health care coverage differed significantly by county, with a range of 62.1% in Adams County to 91.6% in Oneida County having health insurance.

Not See Doctor Due to Cost in Past Year – 2015–2021
Statewide, 12.6% 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 (11.5% of white non-Hispanics, 19.2% of Hispanics, and 21.0% of Native Americans). Inability to see a doctor due to cost differed significantly by annual household income (24.9% for less than $15,000, 6.1% for greater than $50,000). Inability to see a doctor due to cost differed significantly by county, with a range of 7.4% in Franklin County to 17.5% in Power County.

Cancer Screening

Mammogram – 2014, 2016, 2018, 2020
Statewide, 69.1% of women aged 50–74 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 (72.1% versus 36.7%). Mammography rates differed significantly by county, with a range in screening of 45.9% in Benewah County to 77.0% in Nez Perce County. In 2020, Idaho ranked 48th among states and the District of Columbia for mammography screening rates among women aged 50–74 and also 48th among ages 40+.

Pap Test – 2018, 2020
Statewide, 71.2% 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 (75.1% versus 52.6% screened in the past 3 years). Pap screening differed significantly by county, with a range of 50.7% 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 – 2018, 2020
Statewide, 67.9% of adults aged 50–75 reported being current for colorectal cancer screening.** Persons with health insurance were over twice as likely to be current for colorectal cancer screening. In 2020, Idaho ranked 47th among states and the District of Columbia in the percentage of adults aged 50–75 and older who reported being up-to-date for colorectal cancer screening.

** 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, or a colonoscopy in the past 10 years.

Cancer Screening and Risk Factors

Tobacco Use

Current Tobacco Use – 2016–2021
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, 22.3% of adults aged 18 and older were current tobacco users. Tobacco use differed significantly by age of respondent, with 29.9% of persons aged 18-29, and 11.1% of persons aged 65 and older reporting current tobacco use. Tobacco use was lower among white non-Hispanics (22.4%) than among Native Americans (40.0%). Tobacco use differed significantly by county, with a range of 5.4% in Madison County to 41.6% 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 – 2015–2021
Statewide, 32.1% 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 32.5% of white non-Hispanics, compared to 28.2% of Hispanics and 24.6% of Native Americans, being in the healthy weight range. Males (25.5%) were significantly less likely to be in the healthy weight range than females (38.6%). BMI differed significantly by age of respondent, with 43.3% of persons aged 18–29, and 26.0% of persons aged 50–64, being in the healthy weight range. BMI differed significantly by county, with a range of 19.8% in Power County to 47.4% in Blaine County of adults being in the healthy weight range.

Any Physical Activity – 2015-2021
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, 78.7% 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 83.3% of persons aged 18–29, and 72.3% 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 64.3% in Clark County to 84.6% in Teton County.

Physical Activity Guidelines – 2011, 2013, 2015, 2017, 2019
Statewide, 21.9% 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 26.3% 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 9.6% in Franklin County to 30.6% in Blaine County.

Home Radon Testing – 2016, 2018, 2020
Statewide, 23.0% of adults have ever tested their house for radon. Radon test usage varied significantly by race/ethnicity, with 25.1% of white non-Hispanics, 7.4% 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 8.5% in Cassia County to 54.4% in Blaine County.

This project has been funded in whole or in part with Federal funds from the National Cancer Institute, National Institutes of Health, Department of Health and Human Services, under Contract No. HHSN261201800006I and the Centers for Disease Control and Prevention, Department of Health and Human Services, under Cooperative Agreement NU58DP007160. The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention or the National Cancer Institute.

CASSIA COUNTY CANCER PROFILE

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

Cancer Incidence 2016–2020
Cancer Mortality 2017–2021
BRFSS 2011–2021

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.2016.3332). 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 2016–2020

Nearly one in two Idahoans are estimated to develop cancer during their lifetime. During 2016–2020, 45,610 cases of invasive cancer were diagnosed among Idaho residents, and 486 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, 2016–2020

Cancer Incidence 2016–2020	Cassia County	State of Idaho
All Sites/Types	**486**	**45,610**
Female Breast	**81**	**6,687**
Prostate	**55**	**6,417**
Lung & Bronchus	**38**	**4,887**
Colorectal	**35**	**3,451**

Table 3 (*Cancer Incidence 2016–2020, 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 407.6 cases per 100,000 person-years per year during 2016–2020. Comparing this crude rate with the crude rate for the remainder of Idaho (521.5) 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 450.4 cases per 100,000 persons per year during 2016–2020. There were statistically significantly fewer cases of cancer in Cassia County (486) than expected (562.7) 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 2017–2021

During 2017–2021, cancer was the second leading cause of death in Idaho; 15,121 Idaho residents and 172 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, 2017–2021

Mortality 2017–2021	Cassia County	State of Idaho
All Deaths	**1,096**	**77,431**
Cancer Deaths	**172**	**15,121**
% of All Deaths	*15.7%*	*19.5%*
Lung & Bronchus	**17**	**2,961**
Colorectal	**18**	**1,319**
Pancreas	**13**	**1,190**
Female Breast	**12**	**1,086**
Prostate	**13**	**949**

Table 4 (*Cancer Mortality 2017–2021, 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 154.2 deaths per 100,000 persons per year during 2017–2021, compared with 168.6 for the remainder of the state. There were fewer cancer deaths in Cassia County (172) than expected (188.1) 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 2016–2020
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	486	119,236	407.6	450.4	562.7	0.001 <<	45,124	8,652,592	521.5
All Sites Combined	Male	252	60,911	413.7	464.2	300.9	0.004 <<	24,037	4,335,999	554.4
All Sites Combined	Female	234	58,325	401.2	437.7	261.1	0.096	21,087	4,316,593	488.5
Bladder	Total	32	119,236	26.8	29.3	27.2	0.399	2,152	8,652,592	24.9
Bladder	Male	25	60,911	41.0	46.0	21.6	0.524	1,726	4,335,999	39.8
Bladder	Female	7	58,325	12.0	12.9	5.4	0.588	426	4,316,593	9.9
Brain - malignant	Total	7	119,236	5.9	6.3	7.9	0.933	618	8,652,592	7.1
Brain - malignant	Male	5	60,911	8.2	9.0	4.8	1.000	370	4,335,999	8.5
Brain - malignant	Female	2	58,325	3.4	3.6	3.2	0.773	248	4,316,593	5.7
Brain and other CNS - non-malignant	Total	32	119,236	26.8	29.3	17.6	0.003 >>	1,392	8,652,592	16.1
Brain and other CNS - non-malignant	Male	9	60,911	14.8	16.2	6.0	0.311	471	4,335,999	10.9
Brain and other CNS - non-malignant	Female	23	58,325	39.4	42.6	11.5	0.004 >>	921	4,316,593	21.3
Breast	Total	82	119,236	68.8	76.8	82.2	1.000	6,664	8,652,592	77.0
Breast	Male	1	60,911	1.6	1.8	0.7	1.000	58	4,335,999	1.3
Breast	Female	81	58,325	138.9	154.2	80.4	0.976	6,606	4,316,593	153.0
Breast - in situ	Total	8	119,236	6.7	7.6	15.0	0.076	1,231	8,652,592	14.2
Breast - in situ	Male	-	60,911	-	-	0.1	1.000	5	4,335,999	0.1
Breast - in situ	Female	8	58,325	13.7	15.5	14.6	0.091	1,226	4,316,593	28.4
Cervix	Female	2	58,325	3.4	3.8	3.7	0.569	302	4,316,593	7.0
Colorectal	Total	35	119,236	29.4	32.3	42.8	0.260	3,416	8,652,592	39.5
Colorectal	Male	19	60,911	31.2	34.9	23.7	0.396	1,884	4,335,999	43.5
Colorectal	Female	16	58,325	27.4	29.5	19.2	0.549	1,532	4,316,593	35.5
Corpus Uteri	Female	9	58,325	15.4	17.3	15.9	0.090	1,321	4,316,593	30.6
Esophagus	Total	3	119,236	2.5	2.8	6.3	0.256	503	8,652,592	5.8
Esophagus	Male	3	60,911	4.9	5.5	5.3	0.459	421	4,335,999	9.7
Esophagus	Female	-	58,325	-	-	1.0	0.722	82	4,316,593	1.9
Hodgkin Lymphoma	Total	4	119,236	3.4	3.6	2.7	0.563	206	8,652,592	2.4
Hodgkin Lymphoma	Male	3	60,911	4.9	5.3	1.5	0.383	115	4,335,999	2.7
Hodgkin Lymphoma	Female	1	58,325	1.7	1.8	1.2	1.000	91	4,316,593	2.1
Kidney and Renal Pelvis	Total	21	119,236	17.6	19.5	22.3	0.892	1,794	8,652,592	20.7
Kidney and Renal Pelvis	Male	12	60,911	19.7	22.1	14.6	0.595	1,170	4,335,999	27.0
Kidney and Renal Pelvis	Female	9	58,325	15.4	16.8	7.7	0.744	624	4,316,593	14.5
Larynx	Total	1	119,236	0.8	0.9	2.7	0.510	214	8,652,592	2.5
Larynx	Male	-	60,911	-	-	2.0	0.267	160	4,335,999	3.7
Larynx	Female	1	58,325	1.7	1.9	0.7	0.968	54	4,316,593	1.3
Leukemia	Total	21	119,236	17.6	18.9	20.7	1.000	1,610	8,652,592	18.6
Leukemia	Male	14	60,911	23.0	25.1	12.5	0.755	975	4,335,999	22.5
Leukemia	Female	7	58,325	12.0	12.7	8.1	0.868	635	4,316,593	14.7
Liver and Bile Duct	Total	8	119,236	6.7	7.5	10.1	0.633	821	8,652,592	9.5
Liver and Bile Duct	Male	7	60,911	11.5	13.0	7.3	1.000	583	4,335,999	13.4
Liver and Bile Duct	Female	1	58,325	1.7	1.9	3.0	0.412	238	4,316,593	5.5
Lung and Bronchus	Total	38	119,236	31.9	35.1	60.6	0.003 <<	4,849	8,652,592	56.0
Lung and Bronchus	Male	23	60,911	37.8	42.6	30.3	0.212	2,429	4,335,999	56.0
Lung and Bronchus	Female	15	58,325	25.7	27.8	30.3	0.003 <<	2,420	4,316,593	56.1
Melanoma of the Skin	Total	39	119,236	32.7	36.1	36.3	0.693	2,903	8,652,592	33.6
Melanoma of the Skin	Male	22	60,911	36.1	40.4	21.9	1.000	1,743	4,335,999	40.2
Melanoma of the Skin	Female	17	58,325	29.1	31.9	14.3	0.546	1,160	4,316,593	26.9
Myeloma	Total	7	119,236	5.9	6.5	8.8	0.702	701	8,652,592	8.1
Myeloma	Male	4	60,911	6.6	7.4	5.5	0.728	437	4,335,999	10.1
Myeloma	Female	3	58,325	5.1	5.6	3.3	1.000	264	4,316,593	6.1
Non-Hodgkin Lymphoma	Total	16	119,236	13.4	14.7	24.2	0.105	1,924	8,652,592	22.2
Non-Hodgkin Lymphoma	Male	11	60,911	18.1	20.1	14.1	0.499	1,118	4,335,999	25.8
Non-Hodgkin Lymphoma	Female	5	58,325	8.6	9.3	10.1	0.128	806	4,316,593	18.7
Oral Cavity and Pharynx	Total	13	119,236	10.9	12.2	15.8	0.586	1,282	8,652,592	14.8
Oral Cavity and Pharynx	Male	9	60,911	14.8	16.7	11.5	0.570	927	4,335,999	21.4
Oral Cavity and Pharynx	Female	4	58,325	6.9	7.6	4.3	1.000	355	4,316,593	8.2
Ovary	Female	4	58,325	6.9	7.5	6.5	0.442	529	4,316,593	12.3
Pancreas	Total	16	119,236	13.4	14.7	17.7	0.806	1,407	8,652,592	16.3
Pancreas	Male	6	60,911	9.9	11.0	9.7	0.294	778	4,335,999	17.9
Pancreas	Female	10	58,325	17.1	18.3	8.0	0.555	629	4,316,593	14.6
Prostate	Male	55	60,911	90.3	102.9	78.4	0.007 <<	6,362	4,335,999	146.7
Stomach	Total	5	119,236	4.2	4.6	5.8	0.949	462	8,652,592	5.3
Stomach	Male	2	60,911	3.3	3.7	3.9	0.520	307	4,335,999	7.1
Stomach	Female	3	58,325	5.1	5.4	2.0	0.637	155	4,316,593	3.6
Testis	Male	4	60,911	6.6	7.0	3.4	0.897	261	4,335,999	6.0
Thyroid	Total	18	119,236	15.1	16.6	15.1	0.512	1,202	8,652,592	13.9
Thyroid	Male	5	60,911	8.2	9.1	4.4	0.910	350	4,335,999	8.1
Thyroid	Female	13	58,325	22.3	24.5	10.5	0.513	852	4,316,593	19.7
Pediatric Age 0 to 19	Total	11	41,175	26.7	26.9	6.9	0.187	410	2,419,348	16.9
Pediatric Age 0 to 19	Male	6	21,363	28.1	28.2	3.7	0.350	217	1,235,147	17.6
Pediatric Age 0 to 19	Female	5	19,812	25.2	25.5	3.2	0.436	193	1,184,201	16.3

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 2017–2021
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	1,096	120,923	906.4	951.7	991.4	0.001 >>	76,334	8,867,792	860.8
All Causes of Death	Male	567	61,850	916.7	1,004.5	513.6	0.021 >>	40,489	4,450,018	909.9
All Causes of Death	Female	529	59,073	895.5	896.9	478.6	0.024 >>	35,845	4,417,774	811.4
All Malignant Cancers	Total	172	120,923	142.2	154.2	188.1	0.254	14,949	8,867,792	168.6
All Malignant Cancers	Male	97	61,850	156.8	174.7	100.8	0.753	8,079	4,450,018	181.5
All Malignant Cancers	Female	75	59,073	127.0	134.4	86.8	0.222	6,870	4,417,774	155.5
Bladder	Total	10	120,923	8.3	8.7	6.2	0.203	479	8,867,792	5.4
Bladder	Male	7	61,850	11.3	12.4	4.7	0.393	371	4,450,018	8.3
Bladder	Female	3	59,073	5.1	5.2	1.4	0.343	108	4,417,774	2.4
Brain and Other Nervous System	Total	6	120,923	5.0	5.4	6.2	1.000	498	8,867,792	5.6
Brain and Other Nervous System	Male	5	61,850	8.1	9.0	3.7	0.612	293	4,450,018	6.6
Brain and Other Nervous System	Female	1	59,073	1.7	1.8	2.5	0.560	205	4,417,774	4.6
Breast	Total	12	120,923	9.9	10.8	13.7	0.784	1,090	8,867,792	12.3
Breast	Male	-	61,850	-	-	0.2	1.000	16	4,450,018	0.4
Breast	Female	12	59,073	20.3	21.7	13.5	0.828	1,074	4,417,774	24.3
Cervix	Female	-	59,073	-	-	1.0	0.733	83	4,417,774	1.9
Colorectal	Total	18	120,923	14.9	16.1	16.4	0.751	1,301	8,867,792	14.7
Colorectal	Male	5	61,850	8.1	9.0	8.9	0.245	714	4,450,018	16.0
Colorectal	Female	13	59,073	22.0	23.0	7.5	0.087	587	4,417,774	13.3
Corpus Uteri	Female	2	59,073	3.4	3.7	2.1	1.000	171	4,417,774	3.9
Esophagus	Total	2	120,923	1.7	1.8	5.9	0.135	475	8,867,792	5.4
Esophagus	Male	2	61,850	3.2	3.6	4.9	0.260	399	4,450,018	9.0
Esophagus	Female	-	59,073	-	-	1.0	0.767	76	4,417,774	1.7
Hodgkin Lymphoma	Total	-	120,923	-	-	0.4	1.000	29	8,867,792	0.3
Hodgkin Lymphoma	Male	-	61,850	-	-	0.2	1.000	14	4,450,018	0.3
Hodgkin Lymphoma	Female	-	59,073	-	-	0.2	1.000	15	4,417,774	0.3
Kidney	Total	6	120,923	5.0	5.4	4.8	0.687	379	8,867,792	4.3
Kidney	Male	4	61,850	6.5	7.2	3.0	0.686	238	4,450,018	5.3
Kidney	Female	2	59,073	3.4	3.5	1.8	1.000	141	4,417,774	3.2
Larynx	Total	1	120,923	0.8	0.9	0.9	1.000	70	8,867,792	0.8
Larynx	Male	-	61,850	-	-	0.7	0.964	58	4,450,018	1.3
Larynx	Female	1	59,073	1.7	1.9	0.1	0.269	12	4,417,774	0.3
Leukemia	Total	4	120,923	3.3	3.5	8.4	0.154	656	8,867,792	7.4
Leukemia	Male	2	61,850	3.2	3.6	4.9	0.274	384	4,450,018	8.6
Leukemia	Female	2	59,073	3.4	3.5	3.6	0.617	272	4,417,774	6.2
Liver and Bile Duct	Total	9	120,923	7.4	8.3	7.3	0.619	594	8,867,792	6.7
Liver and Bile Duct	Male	7	61,850	11.3	12.8	4.9	0.454	401	4,450,018	9.0
Liver and Bile Duct	Female	2	59,073	3.4	3.7	2.4	1.000	193	4,417,774	4.4
Lung and Bronchus	Total	17	120,923	14.1	15.4	36.7	0.000 <<	2,944	8,867,792	33.2
Lung and Bronchus	Male	14	61,850	22.6	25.5	19.0	0.295	1,542	4,450,018	34.7
Lung and Bronchus	Female	3	59,073	5.1	5.4	17.6	0.000 <<	1,402	4,417,774	31.7
Melanoma of the Skin	Total	7	120,923	5.8	6.3	3.5	0.136	282	8,867,792	3.2
Melanoma of the Skin	Male	3	61,850	4.9	5.4	2.4	0.844	189	4,450,018	4.2
Melanoma of the Skin	Female	4	59,073	6.8	7.3	1.2	0.060	93	4,417,774	2.1
Myeloma	Total	8	120,923	6.6	7.1	4.1	0.113	323	8,867,792	3.6
Myeloma	Male	5	61,850	8.1	9.0	2.4	0.188	191	4,450,018	4.3
Myeloma	Female	3	59,073	5.1	5.3	1.7	0.477	132	4,417,774	3.0
Non-Hodgkin Lymphoma	Total	8	120,923	6.6	7.1	7.1	0.843	561	8,867,792	6.3
Non-Hodgkin Lymphoma	Male	6	61,850	9.7	10.7	3.8	0.362	301	4,450,018	6.8
Non-Hodgkin Lymphoma	Female	2	59,073	3.4	3.5	3.4	0.692	260	4,417,774	5.9
Oral Cavity and Pharynx	Total	3	120,923	2.5	2.7	3.2	1.000	263	8,867,792	3.0
Oral Cavity and Pharynx	Male	2	61,850	3.2	3.6	2.3	1.000	185	4,450,018	4.2
Oral Cavity and Pharynx	Female	1	59,073	1.7	1.8	1.0	1.000	78	4,417,774	1.8
Ovary	Female	2	59,073	3.4	3.7	4.3	0.396	348	4,417,774	7.9
Pancreas	Total	13	120,923	10.8	11.8	14.6	0.804	1,177	8,867,792	13.3
Pancreas	Male	5	61,850	8.1	9.1	7.9	0.406	637	4,450,018	14.3
Pancreas	Female	8	59,073	13.5	14.5	6.7	0.722	540	4,417,774	12.2
Prostate	Male	13	61,850	21.0	23.0	11.9	0.818	936	4,450,018	21.0
Stomach	Total	3	120,923	2.5	2.7	2.5	0.890	195	8,867,792	2.2
Stomach	Male	2	61,850	3.2	3.6	1.5	0.873	119	4,450,018	2.7
Stomach	Female	1	59,073	1.7	1.8	1.0	1.000	76	4,417,774	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, 2020.

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 (BRFS) since 1984. These surveys are conducted with randomly selected adult Idahoans to measure population prevalences of risk factors for the major causes of death, including cancer. DPH provided data sets containing Behavioral Risk Factor Surveillance System (BRFSS) data from 2011 through 2021 to CDRI staff, who performed the analyses reported in these *County Profiles*. Analysis weights were poststratified to 2020 population estimates by age group, sex, and county, beginning with the BRFSS raked weights. Not all questions were asked in all years. 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* 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, 2011–2021

Measure	State of Idaho	HD 1	HD 2	HD 3	HD 4	HD 5	HD 6	HD 7	Cassia County
Access to Care									
Have Health Insurance, Age <65 (2015–2021)	83.1%	82.8%	85.1%	77.2%	85.8%	78.9%	85.4%	85.4%	78.7%
Not See Doctor Due to Cost in Past Year (2015–2021)	12.6%	11.4%	11.8%	14.5%	12.4%	12.3%	11.8%	12.9%	13.6%
Cancer Screening									
Mammogram Past 2 Years, Age 50–74 (2014, 2016, 2018, 2020)	69.1%	67.0%	73.8%	68.2%	73.2%	64.8%	64.5%	67.1%	50.6%
Pap Test Past 3 Years, Cervix Intact Age 21–65 (2018, 2020)	71.2%	73.6%	73.6%	70.8%	72.9%	69.1%	69.5%	65.9%	.
Colorectal Cancer Screening, Age 50–75 (2018, 2020)	67.9%	66.9%	73.6%	71.4%	70.6%	61.7%	61.5%	64.7%	55.0%
Tobacco Use									
Current Tobacco User (2016–2021)	22.3%	26.7%	23.1%	23.6%	21.8%	21.4%	22.7%	16.9%	18.7%
Other Cancer-Related									
Healthy Weight by Body Mass Index, Age 20+ (2015–2021)	32.1%	32.8%	31.7%	27.9%	36.1%	29.8%	27.9%	31.9%	32.1%
Any Physical Activity Besides Job Past 30 Days (2015-2021)	78.7%	79.2%	78.1%	74.5%	83.2%	73.4%	76.3%	79.7%	69.7%
Meet Physical Activity Guidelines (2011, 2013, 2015, 2017, 2019)	21.9%	22.8%	19.4%	20.0%	25.2%	19.5%	20.4%	20.2%	14.2%
Home Ever Tested for Radon (2016, 2018, 2020)	23.0%	30.9%	18.2%	16.9%	25.1%	19.9%	23.0%	21.8%	8.5%

Access to Care

Have Health Insurance – 2015–2021
Statewide, 83.1% of adults aged 18–64 reported having health care coverage. Health care coverage differed significantly by race/ethnicity, with 86.0% of white non-Hispanics, compared to 64.8% of Hispanics and 83.3% of Native Americans, having health insurance. Spanish-speaking respondents were significantly less likely to be insured (33.3%) than English-speaking respondents (84.2%). Health care coverage differed significantly by age of respondent, with 79.8% of persons aged 18–29, and 87.8% of persons aged 50–64, having health insurance. Health care coverage differed significantly by county, with a range of 62.1% in Adams County to 91.6% in Oneida County having health insurance.

Not See Doctor Due to Cost in Past Year – 2015–2021
Statewide, 12.6% 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 (11.5% of white non-Hispanics, 19.2% of Hispanics, and 21.0% of Native Americans). Inability to see a doctor due to cost differed significantly by annual household income (24.9% for less than $15,000, 6.1% for greater than $50,000). Inability to see a doctor due to cost differed significantly by county, with a range of 7.4% in Franklin County to 17.5% in Power County.

Cancer Screening

Mammogram – 2014, 2016, 2018, 2020
Statewide, 69.1% of women aged 50–74 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 (72.1% versus 36.7%). Mammography rates differed significantly by county, with a range in screening of 45.9% in Benewah County to 77.0% in Nez Perce County. In 2020, Idaho ranked 48th among states and the District of Columbia for mammography screening rates among women aged 50–74 and also 48th among ages 40+.

Pap Test – 2018, 2020
Statewide, 71.2% 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 (75.1% versus 52.6% screened in the past 3 years). Pap screening differed significantly by county, with a range of 50.7% 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 – 2018, 2020
Statewide, 67.9% of adults aged 50–75 reported being current for colorectal cancer screening.** Persons with health insurance were over twice as likely to be current for colorectal cancer screening. In 2020, Idaho ranked 47th among states and the District of Columbia in the percentage of adults aged 50–75 and older who reported being up-to-date for colorectal cancer screening.

** 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, or a colonoscopy in the past 10 years.

Cancer Screening and Risk Factors

Tobacco Use

Current Tobacco Use – 2016–2021
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, 22.3% of adults aged 18 and older were current tobacco users. Tobacco use differed significantly by age of respondent, with 29.9% of persons aged 18-29, and 11.1% of persons aged 65 and older reporting current tobacco use. Tobacco use was lower among white non-Hispanics (22.4%) than among Native Americans (40.0%). Tobacco use differed significantly by county, with a range of 5.4% in Madison County to 41.6% 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 – 2015–2021
Statewide, 32.1% 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 32.5% of white non-Hispanics, compared to 28.2% of Hispanics and 24.6% of Native Americans, being in the healthy weight range. Males (25.5%) were significantly less likely to be in the healthy weight range than females (38.6%). BMI differed significantly by age of respondent, with 43.3% of persons aged 18–29, and 26.0% of persons aged 50–64, being in the healthy weight range. BMI differed significantly by county, with a range of 19.8% in Power County to 47.4% in Blaine County of adults being in the healthy weight range.

Any Physical Activity – 2015-2021
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, 78.7% 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 83.3% of persons aged 18–29, and 72.3% 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 64.3% in Clark County to 84.6% in Teton County.

Physical Activity Guidelines – 2011, 2013, 2015, 2017, 2019
Statewide, 21.9% 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 26.3% 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 9.6% in Franklin County to 30.6% in Blaine County.

Home Radon Testing – 2016, 2018, 2020
Statewide, 23.0% of adults have ever tested their house for radon. Radon test usage varied significantly by race/ethnicity, with 25.1% of white non-Hispanics, 7.4% 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 8.5% in Cassia County to 54.4% in Blaine County.

This project has been funded in whole or in part with Federal funds from the National Cancer Institute, National Institutes of Health, Department of Health and Human Services, under Contract No. HHSN261201800006I and the Centers for Disease Control and Prevention, Department of Health and Human Services, under Cooperative Agreement NU58DP007160. The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention or the National Cancer Institute.

CLARK COUNTY CANCER PROFILE

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

Cancer Incidence 2016–2020
Cancer Mortality 2017–2021
BRFSS 2011–2021

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.2016.3332). 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 2016–2020

Nearly one in two Idahoans are estimated to develop cancer during their lifetime. During 2016–2020, 45,610 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, 2016–2020

Cancer Incidence 2016–2020	Clark County	State of Idaho
All Sites/Types	**16**	**45,610**
Female Breast	**1**	**6,687**
Prostate	**1**	**6,417**
Lung & Bronchus	**1**	**4,887**
Colorectal	**1**	**3,451**

Table 3 (*Cancer Incidence 2016–2020, 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 373.8 cases per 100,000 person-years per year during 2016–2020. Comparing this crude rate with the crude rate for the remainder of Idaho (520.0) 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 345.8 cases per 100,000 persons per year during 2016–2020. 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 2017–2021

During 2017–2021, cancer was the second leading cause of death in Idaho; 15,121 Idaho residents and 7 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, 2017–2021

Mortality 2017–2021	Clark County	State of Idaho
All Deaths	**32**	**77,431**
Cancer Deaths	**7**	**15,121**
% of All Deaths	*21.9%*	*19.5%*
Lung & Bronchus	**1**	**2,961**
Colorectal	**0**	**1,319**
Pancreas	**1**	**1,190**
Female Breast	**0**	**1,086**
Prostate	**0**	**949**

Table 4 (*Cancer Mortality 2017–2021, 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 142.6 deaths per 100,000 persons per year during 2017–2021, compared with 168.2 for the remainder of the state. There were fewer cancer deaths in Clark County (7) than expected (8.3) 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 2016–2020
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	4,280	373.8	345.8	24.1	0.110	45,594	8,767,548	520.0
All Sites Combined	Male	7	2,218	315.6	268.2	14.4	0.050	24,282	4,394,692	552.5
All Sites Combined	Female	9	2,062	436.5	435.3	10.1	0.897	21,312	4,372,856	487.4
Bladder	Total	-	4,280	-	-	1.2	0.601	2,184	8,767,548	24.9
Bladder	Male	-	2,218	-	-	1.1	0.665	1,751	4,394,692	39.8
Bladder	Female	-	2,062	-	-	0.2	1.000	433	4,372,856	9.9
Brain - malignant	Total	-	4,280	-	-	0.3	1.000	625	8,767,548	7.1
Brain - malignant	Male	-	2,218	-	-	0.2	1.000	375	4,394,692	8.5
Brain - malignant	Female	-	2,062	-	-	0.1	1.000	250	4,372,856	5.7
Brain and other CNS - non-malignant	Total	1	4,280	23.4	21.7	0.7	1.000	1,423	8,767,548	16.2
Brain and other CNS - non-malignant	Male	-	2,218	-	-	0.3	1.000	480	4,394,692	10.9
Brain and other CNS - non-malignant	Female	1	2,062	48.5	47.9	0.5	0.725	943	4,372,856	21.6
Breast	Total	1	4,280	23.4	22.1	3.5	0.274	6,745	8,767,548	76.9
Breast	Male	-	2,218	-	-	0.0	1.000	59	4,394,692	1.3
Breast	Female	1	2,062	48.5	48.9	3.1	0.363	6,686	4,372,856	152.9
Breast - in situ	Total	-	4,280	-	-	0.6	1.000	1,239	8,767,548	14.1
Breast - in situ	Male	-	2,218	-	-	0.0	1.000	5	4,394,692	0.1
Breast - in situ	Female	-	2,062	-	-	0.6	1.000	1,234	4,372,856	28.2
Cervix	Female	-	2,062	-	-	0.1	1.000	304	4,372,856	7.0
Colorectal	Total	1	4,280	23.4	21.3	1.8	0.899	3,450	8,767,548	39.3
Colorectal	Male	1	2,218	45.1	38.1	1.1	1.000	1,902	4,394,692	43.3
Colorectal	Female	-	2,062	-	-	0.7	0.952	1,548	4,372,856	35.4
Corpus Uteri	Female	2	2,062	97.0	99.8	0.6	0.250	1,328	4,372,856	30.4
Esophagus	Total	-	4,280	-	-	0.3	1.000	506	8,767,548	5.8
Esophagus	Male	-	2,218	-	-	0.3	1.000	424	4,394,692	9.6
Esophagus	Female	-	2,062	-	-	0.0	1.000	82	4,372,856	1.9
Hodgkin Lymphoma	Total	-	4,280	-	-	0.1	1.000	210	8,767,548	2.4
Hodgkin Lymphoma	Male	-	2,218	-	-	0.1	1.000	118	4,394,692	2.7
Hodgkin Lymphoma	Female	-	2,062	-	-	0.0	1.000	92	4,372,856	2.1
Kidney and Renal Pelvis	Total	-	4,280	-	-	1.0	0.772	1,815	8,767,548	20.7
Kidney and Renal Pelvis	Male	-	2,218	-	-	0.7	1.000	1,182	4,394,692	26.9
Kidney and Renal Pelvis	Female	-	2,062	-	-	0.3	1.000	633	4,372,856	14.5
Larynx	Total	-	4,280	-	-	0.1	1.000	215	8,767,548	2.5
Larynx	Male	-	2,218	-	-	0.1	1.000	160	4,394,692	3.6
Larynx	Female	-	2,062	-	-	0.0	1.000	55	4,372,856	1.3
Leukemia	Total	1	4,280	23.4	21.3	0.9	1.000	1,630	8,767,548	18.6
Leukemia	Male	-	2,218	-	-	0.6	1.000	989	4,394,692	22.5
Leukemia	Female	1	2,062	48.5	47.0	0.3	0.535	641	4,372,856	14.7
Liver and Bile Duct	Total	-	4,280	-	-	0.4	1.000	829	8,767,548	9.5
Liver and Bile Duct	Male	-	2,218	-	-	0.3	1.000	590	4,394,692	13.4
Liver and Bile Duct	Female	-	2,062	-	-	0.1	1.000	239	4,372,856	5.5
Lung and Bronchus	Total	1	4,280	23.4	21.0	2.7	0.514	4,886	8,767,548	55.7
Lung and Bronchus	Male	1	2,218	45.1	37.1	1.5	1.000	2,451	4,394,692	55.8
Lung and Bronchus	Female	-	2,062	-	-	1.2	0.617	2,435	4,372,856	55.7
Melanoma of the Skin	Total	2	4,280	46.7	43.4	1.5	0.914	2,940	8,767,548	33.5
Melanoma of the Skin	Male	2	2,218	90.2	76.4	1.1	0.566	1,763	4,394,692	40.1
Melanoma of the Skin	Female	-	2,062	-	-	0.6	1.000	1,177	4,372,856	26.9
Myeloma	Total	-	4,280	-	-	0.4	1.000	708	8,767,548	8.1
Myeloma	Male	-	2,218	-	-	0.3	1.000	441	4,394,692	10.0
Myeloma	Female	-	2,062	-	-	0.1	1.000	267	4,372,856	6.1
Non-Hodgkin Lymphoma	Total	2	4,280	46.7	43.0	1.0	0.549	1,938	8,767,548	22.1
Non-Hodgkin Lymphoma	Male	1	2,218	45.1	38.8	0.7	0.967	1,128	4,394,692	25.7
Non-Hodgkin Lymphoma	Female	1	2,062	48.5	48.0	0.4	0.641	810	4,372,856	18.5
Oral Cavity and Pharynx	Total	-	4,280	-	-	0.7	1.000	1,295	8,767,548	14.8
Oral Cavity and Pharynx	Male	-	2,218	-	-	0.5	1.000	936	4,394,692	21.3
Oral Cavity and Pharynx	Female	-	2,062	-	-	0.2	1.000	359	4,372,856	8.2
Ovary	Female	1	2,062	48.5	48.9	0.2	0.441	532	4,372,856	12.2
Pancreas	Total	1	4,280	23.4	21.0	0.8	1.000	1,422	8,767,548	16.2
Pancreas	Male	-	2,218	-	-	0.5	1.000	784	4,394,692	17.8
Pancreas	Female	1	2,062	48.5	47.2	0.3	0.531	638	4,372,856	14.6
Prostate	Male	1	2,218	45.1	39.4	3.7	0.231	6,416	4,394,692	146.0
Stomach	Total	1	4,280	23.4	21.1	0.3	0.445	466	8,767,548	5.3
Stomach	Male	-	2,218	-	-	0.2	1.000	309	4,394,692	7.0
Stomach	Female	1	2,062	48.5	47.2	0.1	0.147	157	4,372,856	3.6
Testis	Male	-	2,218	-	-	0.1	1.000	265	4,394,692	6.0
Thyroid	Total	1	4,280	23.4	23.0	0.6	0.909	1,219	8,767,548	13.9
Thyroid	Male	-	2,218	-	-	0.2	1.000	355	4,394,692	8.1
Thyroid	Female	1	2,062	48.5	49.3	0.4	0.660	864	4,372,856	19.8
Pediatric Age 0 to 19	Total	-	1,168	-	-	0.2	1.000	421	2,459,355	17.1
Pediatric Age 0 to 19	Male	-	566	-	-	0.1	1.000	223	1,255,944	17.8
Pediatric Age 0 to 19	Female	-	602	-	-	0.1	1.000	198	1,203,411	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 2017–2021
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	32	4,205	761.0	625.3	44.1	0.071	77,398	8,984,510	861.5
All Causes of Death	Male	15	2,166	692.5	512.5	26.6	0.021 <<	41,041	4,509,702	910.1
All Causes of Death	Female	17	2,039	833.7	762.6	18.1	0.916	36,357	4,474,808	812.5
All Malignant Cancers	Total	7	4,205	166.5	142.6	8.3	0.835	15,114	8,984,510	168.2
All Malignant Cancers	Male	2	2,166	92.3	70.1	5.2	0.222	8,174	4,509,702	181.3
All Malignant Cancers	Female	5	2,039	245.2	234.3	3.3	0.478	6,940	4,474,808	155.1
Bladder	Total	-	4,205	-	-	0.3	1.000	489	8,984,510	5.4
Bladder	Male	-	2,166	-	-	0.3	1.000	378	4,509,702	8.4
Bladder	Female	-	2,039	-	-	0.1	1.000	111	4,474,808	2.5
Brain and Other Nervous System	Total	-	4,205	-	-	0.3	1.000	504	8,984,510	5.6
Brain and Other Nervous System	Male	-	2,166	-	-	0.2	1.000	298	4,509,702	6.6
Brain and Other Nervous System	Female	-	2,039	-	-	0.1	1.000	206	4,474,808	4.6
Breast	Total	-	4,205	-	-	0.6	1.000	1,102	8,984,510	12.3
Breast	Male	-	2,166	-	-	0.0	1.000	16	4,509,702	0.4
Breast	Female	-	2,039	-	-	0.5	1.000	1,086	4,474,808	24.3
Cervix	Female	-	2,039	-	-	0.0	1.000	83	4,474,808	1.9
Colorectal	Total	-	4,205	-	-	0.7	0.974	1,319	8,984,510	14.7
Colorectal	Male	-	2,166	-	-	0.4	1.000	719	4,509,702	15.9
Colorectal	Female	-	2,039	-	-	0.3	1.000	600	4,474,808	13.4
Corpus Uteri	Female	-	2,039	-	-	0.1	1.000	173	4,474,808	3.9
Esophagus	Total	-	4,205	-	-	0.3	1.000	477	8,984,510	5.3
Esophagus	Male	-	2,166	-	-	0.2	1.000	401	4,509,702	8.9
Esophagus	Female	-	2,039	-	-	0.0	1.000	76	4,474,808	1.7
Hodgkin Lymphoma	Total	-	4,205	-	-	0.0	1.000	29	8,984,510	0.3
Hodgkin Lymphoma	Male	-	2,166	-	-	0.0	1.000	14	4,509,702	0.3
Hodgkin Lymphoma	Female	-	2,039	-	-	0.0	1.000	15	4,474,808	0.3
Kidney	Total	1	4,205	23.8	20.3	0.2	0.379	384	8,984,510	4.3
Kidney	Male	1	2,166	46.2	36.0	0.1	0.276	241	4,509,702	5.3
Kidney	Female	-	2,039	-	-	0.1	1.000	143	4,474,808	3.2
Larynx	Total	-	4,205	-	-	0.0	1.000	71	8,984,510	0.8
Larynx	Male	-	2,166	-	-	0.0	1.000	58	4,509,702	1.3
Larynx	Female	-	2,039	-	-	0.0	1.000	13	4,474,808	0.3
Leukemia	Total	-	4,205	-	-	0.4	1.000	660	8,984,510	7.3
Leukemia	Male	-	2,166	-	-	0.2	1.000	386	4,509,702	8.6
Leukemia	Female	-	2,039	-	-	0.1	1.000	274	4,474,808	6.1
Liver and Bile Duct	Total	-	4,205	-	-	0.3	1.000	603	8,984,510	6.7
Liver and Bile Duct	Male	-	2,166	-	-	0.2	1.000	408	4,509,702	9.0
Liver and Bile Duct	Female	-	2,039	-	-	0.1	1.000	195	4,474,808	4.4
Lung and Bronchus	Total	1	4,205	23.8	20.5	1.6	1.000	2,960	8,984,510	32.9
Lung and Bronchus	Male	1	2,166	46.2	36.0	1.0	1.000	1,555	4,509,702	34.5
Lung and Bronchus	Female	-	2,039	-	-	0.7	1.000	1,405	4,474,808	31.4
Melanoma of the Skin	Total	-	4,205	-	-	0.2	1.000	289	8,984,510	3.2
Melanoma of the Skin	Male	-	2,166	-	-	0.1	1.000	192	4,509,702	4.3
Melanoma of the Skin	Female	-	2,039	-	-	0.0	1.000	97	4,474,808	2.2
Myeloma	Total	-	4,205	-	-	0.2	1.000	331	8,984,510	3.7
Myeloma	Male	-	2,166	-	-	0.1	1.000	196	4,509,702	4.3
Myeloma	Female	-	2,039	-	-	0.1	1.000	135	4,474,808	3.0
Non-Hodgkin Lymphoma	Total	-	4,205	-	-	0.3	1.000	569	8,984,510	6.3
Non-Hodgkin Lymphoma	Male	-	2,166	-	-	0.2	1.000	307	4,509,702	6.8
Non-Hodgkin Lymphoma	Female	-	2,039	-	-	0.1	1.000	262	4,474,808	5.9
Oral Cavity and Pharynx	Total	-	4,205	-	-	0.1	1.000	266	8,984,510	3.0
Oral Cavity and Pharynx	Male	-	2,166	-	-	0.1	1.000	187	4,509,702	4.1
Oral Cavity and Pharynx	Female	-	2,039	-	-	0.0	1.000	79	4,474,808	1.8
Ovary	Female	-	2,039	-	-	0.2	1.000	350	4,474,808	7.8
Pancreas	Total	1	4,205	23.8	20.9	0.6	0.940	1,189	8,984,510	13.2
Pancreas	Male	-	2,166	-	-	0.4	1.000	642	4,509,702	14.2
Pancreas	Female	1	2,039	49.0	47.3	0.3	0.456	547	4,474,808	12.2
Prostate	Male	-	2,166	-	-	0.7	1.000	949	4,509,702	21.0
Stomach	Total	1	4,205	23.8	20.4	0.1	0.204	197	8,984,510	2.2
Stomach	Male	-	2,166	-	-	0.1	1.000	121	4,509,702	2.7
Stomach	Female	1	2,039	49.0	46.0	0.0	0.073	76	4,474,808	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, 2020.

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 (BRFS) since 1984. These surveys are conducted with randomly selected adult Idahoans to measure population prevalences of risk factors for the major causes of death, including cancer. DPH provided data sets containing Behavioral Risk Factor Surveillance System (BRFSS) data from 2011 through 2021 to CDRI staff, who performed the analyses reported in these *County Profiles*. Analysis weights were poststratified to 2020 population estimates by age group, sex, and county, beginning with the BRFSS raked weights. Not all questions were asked in all years. 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* 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, 2011–2021

Measure	State of Idaho	HD 1	HD 2	HD 3	HD 4	HD 5	HD 6	HD 7	Clark County
Access to Care									
Have Health Insurance, Age <65 (2015–2021)	83.1%	82.8%	85.1%	77.2%	85.8%	78.9%	85.4%	85.4%	.
Not See Doctor Due to Cost in Past Year (2015–2021)	12.6%	11.4%	11.8%	14.5%	12.4%	12.3%	11.8%	12.9%	4.4%
Cancer Screening									
Mammogram Past 2 Years, Age 50–74 (2014, 2016, 2018, 2020)	69.1%	67.0%	73.8%	68.2%	73.2%	64.8%	64.5%	67.1%	.
Pap Test Past 3 Years, Cervix Intact Age 21–65 (2018, 2020)	71.2%	73.6%	73.6%	70.8%	72.9%	69.1%	69.5%	65.9%	.
Colorectal Cancer Screening, Age 50–75 (2018, 2020)	67.9%	66.9%	73.6%	71.4%	70.6%	61.7%	61.5%	64.7%	.
Tobacco Use									
Current Tobacco User (2016–2021)	22.3%	26.7%	23.1%	23.6%	21.8%	21.4%	22.7%	16.9%	.
Other Cancer-Related									
Healthy Weight by Body Mass Index, Age 20+ (2015–2021)	32.1%	32.8%	31.7%	27.9%	36.1%	29.8%	27.9%	31.9%	.
Any Physical Activity Besides Job Past 30 Days (2015-2021)	78.7%	79.2%	78.1%	74.5%	83.2%	73.4%	76.3%	79.7%	64.3%
Meet Physical Activity Guidelines (2011, 2013, 2015, 2017, 2019)	21.9%	22.8%	19.4%	20.0%	25.2%	19.5%	20.4%	20.2%	.
Home Ever Tested for Radon (2016, 2018, 2020)	23.0%	30.9%	18.2%	16.9%	25.1%	19.9%	23.0%	21.8%	.

Access to Care

Have Health Insurance – 2015–2021
Statewide, 83.1% of adults aged 18–64 reported having health care coverage. Health care coverage differed significantly by race/ethnicity, with 86.0% of white non-Hispanics, compared to 64.8% of Hispanics and 83.3% of Native Americans, having health insurance. Spanish-speaking respondents were significantly less likely to be insured (33.3%) than English-speaking respondents (84.2%). Health care coverage differed significantly by age of respondent, with 79.8% of persons aged 18–29, and 87.8% of persons aged 50–64, having health insurance. Health care coverage differed significantly by county, with a range of 62.1% in Adams County to 91.6% in Oneida County having health insurance.

Not See Doctor Due to Cost in Past Year – 2015–2021
Statewide, 12.6% 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 (11.5% of white non-Hispanics, 19.2% of Hispanics, and 21.0% of Native Americans). Inability to see a doctor due to cost differed significantly by annual household income (24.9% for less than $15,000, 6.1% for greater than $50,000). Inability to see a doctor due to cost differed significantly by county, with a range of 7.4% in Franklin County to 17.5% in Power County.

Cancer Screening

Mammogram – 2014, 2016, 2018, 2020
Statewide, 69.1% of women aged 50–74 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 (72.1% versus 36.7%). Mammography rates differed significantly by county, with a range in screening of 45.9% in Benewah County to 77.0% in Nez Perce County. In 2020, Idaho ranked 48th among states and the District of Columbia for mammography screening rates among women aged 50–74 and also 48th among ages 40+.

Pap Test – 2018, 2020
Statewide, 71.2% 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 (75.1% versus 52.6% screened in the past 3 years). Pap screening differed significantly by county, with a range of 50.7% 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 – 2018, 2020
Statewide, 67.9% of adults aged 50–75 reported being current for colorectal cancer screening.** Persons with health insurance were over twice as likely to be current for colorectal cancer screening. In 2020, Idaho ranked 47th among states and the District of Columbia in the percentage of adults aged 50–75 and older who reported being up-to-date for colorectal cancer screening.

** 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, or a colonoscopy in the past 10 years.

Cancer Screening and Risk Factors

Tobacco Use

Current Tobacco Use – 2016–2021
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, 22.3% of adults aged 18 and older were current tobacco users. Tobacco use differed significantly by age of respondent, with 29.9% of persons aged 18-29, and 11.1% of persons aged 65 and older reporting current tobacco use. Tobacco use was lower among white non-Hispanics (22.4%) than among Native Americans (40.0%). Tobacco use differed significantly by county, with a range of 5.4% in Madison County to 41.6% 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 – 2015–2021
Statewide, 32.1% 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 32.5% of white non-Hispanics, compared to 28.2% of Hispanics and 24.6% of Native Americans, being in the healthy weight range. Males (25.5%) were significantly less likely to be in the healthy weight range than females (38.6%). BMI differed significantly by age of respondent, with 43.3% of persons aged 18–29, and 26.0% of persons aged 50–64, being in the healthy weight range. BMI differed significantly by county, with a range of 19.8% in Power County to 47.4% in Blaine County of adults being in the healthy weight range.

Any Physical Activity – 2015-2021
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, 78.7% 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 83.3% of persons aged 18–29, and 72.3% 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 64.3% in Clark County to 84.6% in Teton County.

Physical Activity Guidelines – 2011, 2013, 2015, 2017, 2019
Statewide, 21.9% 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 26.3% 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 9.6% in Franklin County to 30.6% in Blaine County.

Home Radon Testing – 2016, 2018, 2020
Statewide, 23.0% of adults have ever tested their house for radon. Radon test usage varied significantly by race/ethnicity, with 25.1% of white non-Hispanics, 7.4% 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 8.5% in Cassia County to 54.4% in Blaine County.

This project has been funded in whole or in part with Federal funds from the National Cancer Institute, National Institutes of Health, Department of Health and Human Services, under Contract No. HHSN261201800006I and the Centers for Disease Control and Prevention, Department of Health and Human Services, under Cooperative Agreement NU58DP007160. The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention or the National Cancer Institute.

CLEARWATER COUNTY CANCER PROFILE

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

Cancer Incidence 2016–2020
Cancer Mortality 2017–2021
BRFSS 2011–2021

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.2016.3332). 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 2016–2020

Nearly one in two Idahoans are estimated to develop cancer during their lifetime. During 2016–2020, 45,610 cases of invasive cancer were diagnosed among Idaho residents, and 362 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, 2016–2020

Cancer Incidence 2016–2020	Clearwater County	State of Idaho
All Sites/Types	**362**	**45,610**
Female Breast	**37**	**6,687**
Prostate	**57**	**6,417**
Lung & Bronchus	**58**	**4,887**
Colorectal	**34**	**3,451**

Table 3 (*Cancer Incidence 2016–2020, 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 828.8 cases per 100,000 person-years per year during 2016–2020. Comparing this crude rate with the crude rate for the remainder of Idaho (518.4) 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 540.4 cases per 100,000 persons per year during 2016–2020. There were more cases of cancer in Clearwater County (362) than expected (347.3) 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 2017–2021

During 2017–2021, cancer was the second leading cause of death in Idaho; 15,121 Idaho residents and 139 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, 2017–2021

Mortality 2017–2021	Clearwater County	State of Idaho
All Deaths	**569**	**77,431**
Cancer Deaths	**139**	**15,121**
% of All Deaths	*24.4%*	*19.5%*
Lung & Bronchus	**42**	**2,961**
Colorectal	**15**	**1,319**
Pancreas	**6**	**1,190**
Female Breast	**4**	**1,086**
Prostate	**6**	**949**

Table 4 (*Cancer Mortality 2017–2021, 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 191.5 deaths per 100,000 persons per year during 2017–2021, compared with 167.5 for the remainder of the state. There were more cancer deaths in Clearwater County (139) than expected (121.6) 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 2016–2020
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	362	43,677	828.8	540.4	347.3	0.443	45,248	8,728,151	518.4
All Sites Combined	Male	217	24,114	899.9	580.9	205.6	0.446	24,072	4,372,796	550.5
All Sites Combined	Female	145	19,563	741.2	485.2	145.3	1.000	21,176	4,355,355	486.2
Bladder	Total	20	43,677	45.8	27.4	18.1	0.712	2,164	8,728,151	24.8
Bladder	Male	18	24,114	74.6	45.1	15.8	0.649	1,733	4,372,796	39.6
Bladder	Female	2	19,563	10.2	6.1	3.3	0.730	431	4,355,355	9.9
Brain - malignant	Total	3	43,677	6.9	5.0	4.2	0.773	622	8,728,151	7.1
Brain - malignant	Male	3	24,114	12.4	9.2	2.8	1.000	372	4,372,796	8.5
Brain - malignant	Female	-	19,563	-	-	1.6	0.412	250	4,355,355	5.7
Brain and other CNS - non-malignant	Total	11	43,677	25.2	17.4	10.2	0.887	1,413	8,728,151	16.2
Brain and other CNS - non-malignant	Male	4	24,114	16.6	11.9	3.6	0.988	476	4,372,796	10.9
Brain and other CNS - non-malignant	Female	7	19,563	35.8	24.0	6.3	0.876	937	4,355,355	21.5
Breast	Total	37	43,677	84.7	57.6	49.4	0.082	6,709	8,728,151	76.9
Breast	Male	-	24,114	-	-	0.5	1.000	59	4,372,796	1.3
Breast	Female	37	19,563	189.1	126.3	44.7	0.278	6,650	4,355,355	152.7
Breast - in situ	Total	6	43,677	13.7	9.6	8.9	0.439	1,233	8,728,151	14.1
Breast - in situ	Male	-	24,114	-	-	0.0	1.000	5	4,372,796	0.1
Breast - in situ	Female	6	19,563	30.7	21.0	8.1	0.611	1,228	4,355,355	28.2
Cervix	Female	-	19,563	-	-	1.5	0.431	304	4,355,355	7.0
Colorectal	Total	34	43,677	77.8	50.9	26.1	0.159	3,417	8,728,151	39.1
Colorectal	Male	22	24,114	91.2	60.8	15.6	0.143	1,881	4,372,796	43.0
Colorectal	Female	12	19,563	61.3	39.0	10.9	0.808	1,536	4,355,355	35.3
Corpus Uteri	Female	5	19,563	25.6	16.9	9.0	0.230	1,325	4,355,355	30.4
Esophagus	Total	10	43,677	22.9	14.3	4.0	0.016 >>	496	8,728,151	5.7
Esophagus	Male	10	24,114	41.5	26.3	3.6	0.008 >>	414	4,372,796	9.5
Esophagus	Female	-	19,563	-	-	0.6	1.000	82	4,355,355	1.9
Hodgkin Lymphoma	Total	-	43,677	-	-	1.2	0.616	210	8,728,151	2.4
Hodgkin Lymphoma	Male	-	24,114	-	-	0.8	0.943	118	4,372,796	2.7
Hodgkin Lymphoma	Female	-	19,563	-	-	0.4	1.000	92	4,355,355	2.1
Kidney and Renal Pelvis	Total	17	43,677	38.9	25.8	13.6	0.415	1,798	8,728,151	20.6
Kidney and Renal Pelvis	Male	13	24,114	53.9	36.3	9.6	0.340	1,169	4,372,796	26.7
Kidney and Renal Pelvis	Female	4	19,563	20.4	13.3	4.4	1.000	629	4,355,355	14.4
Larynx	Total	4	43,677	9.2	5.8	1.7	0.176	211	8,728,151	2.4
Larynx	Male	2	24,114	8.3	5.3	1.4	0.791	158	4,372,796	3.6
Larynx	Female	2	19,563	10.2	6.5	0.4	0.110	53	4,355,355	1.2
Leukemia	Total	16	43,677	36.6	24.1	12.3	0.355	1,615	8,728,151	18.5
Leukemia	Male	10	24,114	41.5	27.7	8.1	0.585	979	4,372,796	22.4
Leukemia	Female	6	19,563	30.7	19.6	4.5	0.585	636	4,355,355	14.6
Liver and Bile Duct	Total	8	43,677	18.3	11.7	6.4	0.633	821	8,728,151	9.4
Liver and Bile Duct	Male	8	24,114	33.2	21.6	4.9	0.252	582	4,372,796	13.3
Liver and Bile Duct	Female	-	19,563	-	-	1.7	0.355	239	4,355,355	5.5
Lung and Bronchus	Total	58	43,677	132.8	80.1	40.1	0.009 >>	4,829	8,728,151	55.3
Lung and Bronchus	Male	24	24,114	99.5	60.3	22.1	0.741	2,428	4,372,796	55.5
Lung and Bronchus	Female	34	19,563	173.8	102.8	18.2	0.001 >>	2,401	4,355,355	55.1
Melanoma of the Skin	Total	14	43,677	32.1	21.8	21.6	0.114	2,928	8,728,151	33.5
Melanoma of the Skin	Male	8	24,114	33.2	21.9	14.7	0.089	1,757	4,372,796	40.2
Melanoma of the Skin	Female	6	19,563	30.7	21.8	7.4	0.787	1,171	4,355,355	26.9
Myeloma	Total	-	43,677	-	-	5.8	0.006 <<	708	8,728,151	8.1
Myeloma	Male	-	24,114	-	-	3.9	0.039 <<	441	4,372,796	10.1
Myeloma	Female	-	19,563	-	-	2.0	0.274	267	4,355,355	6.1
Non-Hodgkin Lymphoma	Total	14	43,677	32.1	21.0	14.7	0.984	1,926	8,728,151	22.1
Non-Hodgkin Lymphoma	Male	6	24,114	24.9	16.6	9.3	0.363	1,123	4,372,796	25.7
Non-Hodgkin Lymphoma	Female	8	19,563	40.9	25.8	5.7	0.438	803	4,355,355	18.4
Oral Cavity and Pharynx	Total	16	43,677	36.6	24.0	9.8	0.081	1,279	8,728,151	14.7
Oral Cavity and Pharynx	Male	10	24,114	41.5	27.7	7.7	0.483	926	4,372,796	21.2
Oral Cavity and Pharynx	Female	6	19,563	30.7	19.7	2.5	0.080	353	4,355,355	8.1
Ovary	Female	2	19,563	10.2	6.8	3.6	0.613	531	4,355,355	12.2
Pancreas	Total	12	43,677	27.5	16.9	11.5	0.954	1,411	8,728,151	16.2
Pancreas	Male	7	24,114	29.0	18.2	6.8	1.000	777	4,372,796	17.8
Pancreas	Female	5	19,563	25.6	15.3	4.8	1.000	634	4,355,355	14.6
Prostate	Male	57	24,114	236.4	148.9	55.7	0.893	6,360	4,372,796	145.4
Stomach	Total	2	43,677	4.6	2.9	3.7	0.581	465	8,728,151	5.3
Stomach	Male	1	24,114	4.1	2.6	2.7	0.508	308	4,372,796	7.0
Stomach	Female	1	19,563	5.1	3.2	1.1	1.000	157	4,355,355	3.6
Testis	Male	-	24,114	-	-	1.4	0.500	265	4,372,796	6.1
Thyroid	Total	5	43,677	11.4	9.7	7.2	0.552	1,215	8,728,151	13.9
Thyroid	Male	2	24,114	8.3	6.5	2.5	1.000	353	4,372,796	8.1
Thyroid	Female	3	19,563	15.3	13.5	4.4	0.722	862	4,355,355	19.8
Pediatric Age 0 to 19	Total	1	7,688	13.0	12.9	1.3	1.000	420	2,452,835	17.1
Pediatric Age 0 to 19	Male	-	4,343	-	-	0.8	0.920	223	1,252,167	17.8
Pediatric Age 0 to 19	Female	1	3,345	29.9	29.8	0.6	0.846	197	1,200,668	16.4

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 2017–2021
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	569	43,912	1,295.8	784.9	622.9	0.030 <<	76,861	8,944,803	859.3
All Causes of Death	Male	317	24,311	1,303.9	819.0	351.4	0.068	40,739	4,487,557	907.8
All Causes of Death	Female	252	19,601	1,285.6	730.9	279.4	0.104	36,122	4,457,246	810.4
All Malignant Cancers	Total	139	43,912	316.5	191.5	121.6	0.129	14,982	8,944,803	167.5
All Malignant Cancers	Male	76	24,311	312.6	190.6	72.0	0.665	8,100	4,487,557	180.5
All Malignant Cancers	Female	63	19,601	321.4	190.2	51.1	0.119	6,882	4,457,246	154.4
Bladder	Total	3	43,912	6.8	3.9	4.2	0.787	486	8,944,803	5.4
Bladder	Male	3	24,311	12.3	7.1	3.5	1.000	375	4,487,557	8.4
Bladder	Female	-	19,601	-	-	0.9	0.824	111	4,457,246	2.5
Brain and Other Nervous System	Total	2	43,912	4.6	3.1	3.6	0.591	502	8,944,803	5.6
Brain and Other Nervous System	Male	2	24,311	8.2	5.6	2.3	1.000	296	4,487,557	6.6
Brain and Other Nervous System	Female	-	19,601	-	-	1.4	0.508	206	4,457,246	4.6
Breast	Total	5	43,912	11.4	7.2	8.6	0.289	1,097	8,944,803	12.3
Breast	Male	1	24,311	4.1	2.6	0.1	0.244	15	4,487,557	0.3
Breast	Female	4	19,601	20.4	12.5	7.8	0.224	1,082	4,457,246	24.3
Cervix	Female	-	19,601	-	-	0.5	1.000	83	4,457,246	1.9
Colorectal	Total	15	43,912	34.2	21.2	10.3	0.201	1,304	8,944,803	14.6
Colorectal	Male	6	24,311	24.7	15.9	6.0	1.000	713	4,487,557	15.9
Colorectal	Female	9	19,601	45.9	27.0	4.4	0.073	591	4,457,246	13.3
Corpus Uteri	Female	3	19,601	15.3	9.2	1.2	0.260	170	4,457,246	3.8
Esophagus	Total	7	43,912	15.9	9.8	3.8	0.175	470	8,944,803	5.3
Esophagus	Male	7	24,311	28.8	18.0	3.4	0.119	394	4,487,557	8.8
Esophagus	Female	-	19,601	-	-	0.6	1.000	76	4,457,246	1.7
Hodgkin Lymphoma	Total	1	43,912	2.3	1.5	0.2	0.380	28	8,944,803	0.3
Hodgkin Lymphoma	Male	-	24,311	-	-	0.1	1.000	14	4,487,557	0.3
Hodgkin Lymphoma	Female	1	19,601	5.1	3.1	0.1	0.193	14	4,457,246	0.3
Kidney	Total	5	43,912	11.4	6.8	3.1	0.415	380	8,944,803	4.2
Kidney	Male	3	24,311	12.3	7.6	2.1	0.708	239	4,487,557	5.3
Kidney	Female	2	19,601	10.2	5.7	1.1	0.602	141	4,457,246	3.2
Larynx	Total	-	43,912	-	-	0.6	1.000	71	8,944,803	0.8
Larynx	Male	-	24,311	-	-	0.5	1.000	58	4,487,557	1.3
Larynx	Female	-	19,601	-	-	0.1	1.000	13	4,457,246	0.3
Leukemia	Total	2	43,912	4.6	2.7	5.4	0.187	658	8,944,803	7.4
Leukemia	Male	1	24,311	4.1	2.5	3.4	0.287	385	4,487,557	8.6
Leukemia	Female	1	19,601	5.1	2.9	2.1	0.760	273	4,457,246	6.1
Liver and Bile Duct	Total	4	43,912	9.1	5.6	4.8	0.962	599	8,944,803	6.7
Liver and Bile Duct	Male	3	24,311	12.3	7.7	3.5	1.000	405	4,487,557	9.0
Liver and Bile Duct	Female	1	19,601	5.1	3.0	1.4	1.000	194	4,457,246	4.4
Lung and Bronchus	Total	42	43,912	95.6	56.8	24.1	0.001 >>	2,919	8,944,803	32.6
Lung and Bronchus	Male	18	24,311	74.0	44.4	13.9	0.330	1,538	4,487,557	34.3
Lung and Bronchus	Female	24	19,601	122.4	70.9	10.5	0.000 >>	1,381	4,457,246	31.0
Melanoma of the Skin	Total	1	43,912	2.3	1.4	2.3	0.678	288	8,944,803	3.2
Melanoma of the Skin	Male	1	24,311	4.1	2.6	1.7	1.000	191	4,487,557	4.3
Melanoma of the Skin	Female	-	19,601	-	-	0.7	1.000	97	4,457,246	2.2
Myeloma	Total	1	43,912	2.3	1.3	2.8	0.459	330	8,944,803	3.7
Myeloma	Male	-	24,311	-	-	1.8	0.320	196	4,487,557	4.4
Myeloma	Female	1	19,601	5.1	2.9	1.0	1.000	134	4,457,246	3.0
Non-Hodgkin Lymphoma	Total	6	43,912	13.7	8.1	4.7	0.655	563	8,944,803	6.3
Non-Hodgkin Lymphoma	Male	4	24,311	16.5	10.0	2.7	0.568	303	4,487,557	6.8
Non-Hodgkin Lymphoma	Female	2	19,601	10.2	5.7	2.0	1.000	260	4,457,246	5.8
Oral Cavity and Pharynx	Total	7	43,912	15.9	9.8	2.1	0.011 >>	259	8,944,803	2.9
Oral Cavity and Pharynx	Male	6	24,311	24.7	15.5	1.6	0.011 >>	181	4,487,557	4.0
Oral Cavity and Pharynx	Female	1	19,601	5.1	3.0	0.6	0.874	78	4,457,246	1.7
Ovary	Female	4	19,601	20.4	12.3	2.5	0.498	346	4,457,246	7.8
Pancreas	Total	6	43,912	13.7	8.2	9.6	0.310	1,184	8,944,803	13.2
Pancreas	Male	3	24,311	12.3	7.5	5.7	0.368	639	4,487,557	14.2
Pancreas	Female	3	19,601	15.3	9.0	4.1	0.837	545	4,457,246	12.2
Prostate	Male	6	24,311	24.7	14.1	8.9	0.430	943	4,487,557	21.0
Stomach	Total	2	43,912	4.6	2.9	1.5	0.903	196	8,944,803	2.2
Stomach	Male	1	24,311	4.1	2.6	1.0	1.000	120	4,487,557	2.7
Stomach	Female	1	19,601	5.1	3.2	0.5	0.830	76	4,457,246	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, 2020.

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 (BRFS) since 1984. These surveys are conducted with randomly selected adult Idahoans to measure population prevalences of risk factors for the major causes of death, including cancer. DPH provided data sets containing Behavioral Risk Factor Surveillance System (BRFSS) data from 2011 through 2021 to CDRI staff, who performed the analyses reported in these *County Profiles*. Analysis weights were poststratified to 2020 population estimates by age group, sex, and county, beginning with the BRFSS raked weights. Not all questions were asked in all years. 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* 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, 2011–2021

Measure	State of Idaho	HD 1	HD 2	HD 3	HD 4	HD 5	HD 6	HD 7	Clearwater County
Access to Care									
Have Health Insurance, Age <65 (2015–2021)	83.1%	82.8%	85.1%	77.2%	85.8%	78.9%	85.4%	85.4%	82.3%
Not See Doctor Due to Cost in Past Year (2015–2021)	12.6%	11.4%	11.8%	14.5%	12.4%	12.3%	11.8%	12.9%	14.4%
Cancer Screening									
Mammogram Past 2 Years, Age 50–74 (2014, 2016, 2018, 2020)	69.1%	67.0%	73.8%	68.2%	73.2%	64.8%	64.5%	67.1%	59.8%
Pap Test Past 3 Years, Cervix Intact Age 21–65 (2018, 2020)	71.2%	73.6%	73.6%	70.8%	72.9%	69.1%	69.5%	65.9%	.
Colorectal Cancer Screening, Age 50–75 (2018, 2020)	67.9%	66.9%	73.6%	71.4%	70.6%	61.7%	61.5%	64.7%	75.2%
Tobacco Use									
Current Tobacco User (2016–2021)	22.3%	26.7%	23.1%	23.6%	21.8%	21.4%	22.7%	16.9%	27.1%
Other Cancer-Related									
Healthy Weight by Body Mass Index, Age 20+ (2015–2021)	32.1%	32.8%	31.7%	27.9%	36.1%	29.8%	27.9%	31.9%	29.3%
Any Physical Activity Besides Job Past 30 Days (2015-2021)	78.7%	79.2%	78.1%	74.5%	83.2%	73.4%	76.3%	79.7%	74.6%
Meet Physical Activity Guidelines (2011, 2013, 2015, 2017, 2019)	21.9%	22.8%	19.4%	20.0%	25.2%	19.5%	20.4%	20.2%	16.4%
Home Ever Tested for Radon (2016, 2018, 2020)	23.0%	30.9%	18.2%	16.9%	25.1%	19.9%	23.0%	21.8%	19.9%

Access to Care

Have Health Insurance – 2015–2021
Statewide, 83.1% of adults aged 18–64 reported having health care coverage. Health care coverage differed significantly by race/ethnicity, with 86.0% of white non-Hispanics, compared to 64.8% of Hispanics and 83.3% of Native Americans, having health insurance. Spanish-speaking respondents were significantly less likely to be insured (33.3%) than English-speaking respondents (84.2%). Health care coverage differed significantly by age of respondent, with 79.8% of persons aged 18–29, and 87.8% of persons aged 50–64, having health insurance. Health care coverage differed significantly by county, with a range of 62.1% in Adams County to 91.6% in Oneida County having health insurance.

Not See Doctor Due to Cost in Past Year – 2015–2021
Statewide, 12.6% 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 (11.5% of white non-Hispanics, 19.2% of Hispanics, and 21.0% of Native Americans). Inability to see a doctor due to cost differed significantly by annual household income (24.9% for less than $15,000, 6.1% for greater than $50,000). Inability to see a doctor due to cost differed significantly by county, with a range of 7.4% in Franklin County to 17.5% in Power County.

Cancer Screening

Mammogram – 2014, 2016, 2018, 2020
Statewide, 69.1% of women aged 50–74 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 (72.1% versus 36.7%). Mammography rates differed significantly by county, with a range in screening of 45.9% in Benewah County to 77.0% in Nez Perce County. In 2020, Idaho ranked 48th among states and the District of Columbia for mammography screening rates among women aged 50–74 and also 48th among ages 40+.

Pap Test – 2018, 2020
Statewide, 71.2% 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 (75.1% versus 52.6% screened in the past 3 years). Pap screening differed significantly by county, with a range of 50.7% 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 – 2018, 2020
Statewide, 67.9% of adults aged 50–75 reported being current for colorectal cancer screening.** Persons with health insurance were over twice as likely to be current for colorectal cancer screening. In 2020, Idaho ranked 47th among states and the District of Columbia in the percentage of adults aged 50–75 and older who reported being up-to-date for colorectal cancer screening.

** 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, or a colonoscopy in the past 10 years.

Cancer Screening and Risk Factors

Tobacco Use

Current Tobacco Use – 2016–2021
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, 22.3% of adults aged 18 and older were current tobacco users. Tobacco use differed significantly by age of respondent, with 29.9% of persons aged 18-29, and 11.1% of persons aged 65 and older reporting current tobacco use. Tobacco use was lower among white non-Hispanics (22.4%) than among Native Americans (40.0%). Tobacco use differed significantly by county, with a range of 5.4% in Madison County to 41.6% 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 – 2015–2021
Statewide, 32.1% 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 32.5% of white non-Hispanics, compared to 28.2% of Hispanics and 24.6% of Native Americans, being in the healthy weight range. Males (25.5%) were significantly less likely to be in the healthy weight range than females (38.6%). BMI differed significantly by age of respondent, with 43.3% of persons aged 18–29, and 26.0% of persons aged 50–64, being in the healthy weight range. BMI differed significantly by county, with a range of 19.8% in Power County to 47.4% in Blaine County of adults being in the healthy weight range.

Any Physical Activity – 2015-2021
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, 78.7% 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 83.3% of persons aged 18–29, and 72.3% 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 64.3% in Clark County to 84.6% in Teton County.

Physical Activity Guidelines – 2011, 2013, 2015, 2017, 2019
Statewide, 21.9% 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 26.3% 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 9.6% in Franklin County to 30.6% in Blaine County.

Home Radon Testing – 2016, 2018, 2020
Statewide, 23.0% of adults have ever tested their house for radon. Radon test usage varied significantly by race/ethnicity, with 25.1% of white non-Hispanics, 7.4% 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 8.5% in Cassia County to 54.4% in Blaine County.

This project has been funded in whole or in part with Federal funds from the National Cancer Institute, National Institutes of Health, Department of Health and Human Services, under Contract No. HHSN261201800006I and the Centers for Disease Control and Prevention, Department of Health and Human Services, under Cooperative Agreement NU58DP007160. The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention or the National Cancer Institute.

CUSTER COUNTY CANCER PROFILE

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

Cancer Incidence 2016–2020
Cancer Mortality 2017–2021
BRFSS 2011–2021

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.2016.3332). 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 2016–2020

Nearly one in two Idahoans are estimated to develop cancer during their lifetime. During 2016–2020, 45,610 cases of invasive cancer were diagnosed among Idaho residents, and 154 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, 2016–2020

Cancer Incidence 2016–2020	Custer County	State of Idaho
All Sites/Types	**154**	**45,610**
Female Breast	**16**	**6,687**
Prostate	**28**	**6,417**
Lung & Bronchus	**19**	**4,887**
Colorectal	**14**	**3,451**

Table 3 (*Cancer Incidence 2016–2020, 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 734.6 cases per 100,000 person-years per year during 2016–2020. Comparing this crude rate with the crude rate for the remainder of Idaho (519.4) 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 460.4 cases per 100,000 persons per year during 2016–2020. There were fewer cases of cancer in Custer County (154) than expected (173.7) 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 2017–2021

During 2017–2021, cancer was the second leading cause of death in Idaho; 15,121 Idaho residents and 73 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, 2017–2021

Mortality 2017–2021	Custer County	State of Idaho
All Deaths	**270**	**77,431**
Cancer Deaths	**73**	**15,121**
% of All Deaths	*27.0%*	*19.5%*
Lung & Bronchus	**18**	**2,961**
Colorectal	**9**	**1,319**
Pancreas	**5**	**1,190**
Female Breast	**8**	**1,086**
Prostate	**4**	**949**

Table 4 (*Cancer Mortality 2017–2021, 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 203.6 deaths per 100,000 persons per year during 2017–2021, compared with 167.8 for the remainder of the state. There were more cancer deaths in Custer County (73) than expected (60.2) 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 2016–2020
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	154	20,965	734.6	460.4	173.7	0.140	45,456	8,750,863	519.4
All Sites Combined	Male	99	10,868	910.9	524.1	104.2	0.655	24,190	4,386,042	551.5
All Sites Combined	Female	55	10,097	544.7	370.7	72.3	0.041 <<	21,266	4,364,821	487.2
Bladder	Total	10	20,965	47.7	27.8	8.9	0.809	2,174	8,750,863	24.8
Bladder	Male	7	10,868	64.4	35.1	7.9	0.928	1,744	4,386,042	39.8
Bladder	Female	3	10,097	29.7	18.6	1.6	0.429	430	4,364,821	9.9
Brain - malignant	Total	1	20,965	4.8	3.4	2.1	0.754	624	8,750,863	7.1
Brain - malignant	Male	1	10,868	9.2	6.2	1.4	1.000	374	4,386,042	8.5
Brain - malignant	Female	-	10,097	-	-	0.8	0.912	250	4,364,821	5.7
Brain and other CNS - non-malignant	Total	5	20,965	23.8	16.2	5.0	1.000	1,419	8,750,863	16.2
Brain and other CNS - non-malignant	Male	3	10,868	27.6	18.5	1.8	0.520	477	4,386,042	10.9
Brain and other CNS - non-malignant	Female	2	10,097	19.8	13.9	3.1	0.797	942	4,364,821	21.6
Breast	Total	16	20,965	76.3	49.7	24.7	0.084	6,730	8,750,863	76.9
Breast	Male	-	10,868	-	-	0.3	1.000	59	4,386,042	1.3
Breast	Female	16	10,097	158.5	108.9	22.5	0.199	6,671	4,364,821	152.8
Breast - in situ	Total	3	20,965	14.3	9.4	4.5	0.682	1,236	8,750,863	14.1
Breast - in situ	Male	-	10,868	-	-	0.0	1.000	5	4,386,042	0.1
Breast - in situ	Female	3	10,097	29.7	20.6	4.1	0.824	1,231	4,364,821	28.2
Cervix	Female	-	10,097	-	-	0.8	0.918	304	4,364,821	7.0
Colorectal	Total	14	20,965	66.8	42.8	12.9	0.823	3,437	8,750,863	39.3
Colorectal	Male	12	10,868	110.4	67.4	7.7	0.180	1,891	4,386,042	43.1
Colorectal	Female	2	10,097	19.8	13.3	5.3	0.199	1,546	4,364,821	35.4
Corpus Uteri	Female	3	10,097	29.7	20.0	4.6	0.662	1,327	4,364,821	30.4
Esophagus	Total	2	20,965	9.5	5.7	2.0	1.000	504	8,750,863	5.8
Esophagus	Male	2	10,868	18.4	10.4	1.8	1.000	422	4,386,042	9.6
Esophagus	Female	-	10,097	-	-	0.3	1.000	82	4,364,821	1.9
Hodgkin Lymphoma	Total	-	20,965	-	-	0.6	1.000	210	8,750,863	2.4
Hodgkin Lymphoma	Male	-	10,868	-	-	0.4	1.000	118	4,386,042	2.7
Hodgkin Lymphoma	Female	-	10,097	-	-	0.2	1.000	92	4,364,821	2.1
Kidney and Renal Pelvis	Total	6	20,965	28.6	18.3	6.8	0.965	1,809	8,750,863	20.7
Kidney and Renal Pelvis	Male	4	10,868	36.8	22.4	4.8	0.950	1,178	4,386,042	26.9
Kidney and Renal Pelvis	Female	2	10,097	19.8	13.3	2.2	1.000	631	4,364,821	14.5
Larynx	Total	-	20,965	-	-	0.9	0.853	215	8,750,863	2.5
Larynx	Male	-	10,868	-	-	0.7	0.991	160	4,386,042	3.6
Larynx	Female	-	10,097	-	-	0.2	1.000	55	4,364,821	1.3
Leukemia	Total	7	20,965	33.4	21.5	6.0	0.802	1,624	8,750,863	18.6
Leukemia	Male	6	10,868	55.2	33.8	4.0	0.421	983	4,386,042	22.4
Leukemia	Female	1	10,097	9.9	6.7	2.2	0.710	641	4,364,821	14.7
Liver and Bile Duct	Total	2	20,965	9.5	5.7	3.3	0.717	827	8,750,863	9.5
Liver and Bile Duct	Male	2	10,868	18.4	10.3	2.6	1.000	588	4,386,042	13.4
Liver and Bile Duct	Female	-	10,097	-	-	0.9	0.846	239	4,364,821	5.5
Lung and Bronchus	Total	19	20,965	90.6	52.6	20.1	0.923	4,868	8,750,863	55.6
Lung and Bronchus	Male	9	10,868	82.8	44.7	11.2	0.634	2,443	4,386,042	55.7
Lung and Bronchus	Female	10	10,097	99.0	61.6	9.0	0.829	2,425	4,364,821	55.6
Melanoma of the Skin	Total	8	20,965	38.2	25.2	10.6	0.532	2,934	8,750,863	33.5
Melanoma of the Skin	Male	7	10,868	64.4	38.8	7.2	1.000	1,758	4,386,042	40.1
Melanoma of the Skin	Female	1	10,097	9.9	7.3	3.7	0.233	1,176	4,364,821	26.9
Myeloma	Total	3	20,965	14.3	8.5	2.8	1.000	705	8,750,863	8.1
Myeloma	Male	2	10,868	18.4	10.3	1.9	1.000	439	4,386,042	10.0
Myeloma	Female	1	10,097	9.9	6.3	1.0	1.000	266	4,364,821	6.1
Non-Hodgkin Lymphoma	Total	1	20,965	4.8	3.0	7.4	0.011 <<	1,939	8,750,863	22.2
Non-Hodgkin Lymphoma	Male	1	10,868	9.2	5.5	4.7	0.106	1,128	4,386,042	25.7
Non-Hodgkin Lymphoma	Female	-	10,097	-	-	2.8	0.117	811	4,364,821	18.6
Oral Cavity and Pharynx	Total	5	20,965	23.8	14.8	5.0	1.000	1,290	8,750,863	14.7
Oral Cavity and Pharynx	Male	4	10,868	36.8	21.5	4.0	1.000	932	4,386,042	21.2
Oral Cavity and Pharynx	Female	1	10,097	9.9	6.6	1.3	1.000	358	4,364,821	8.2
Ovary	Female	2	10,097	19.8	13.6	1.8	1.000	531	4,364,821	12.2
Pancreas	Total	5	20,965	23.8	14.2	5.7	0.994	1,418	8,750,863	16.2
Pancreas	Male	4	10,868	36.8	20.7	3.4	0.901	780	4,386,042	17.8
Pancreas	Female	1	10,097	9.9	6.3	2.3	0.649	638	4,364,821	14.6
Prostate	Male	28	10,868	257.6	139.0	29.4	0.899	6,389	4,386,042	145.7
Stomach	Total	1	20,965	4.8	3.0	1.8	0.929	466	8,750,863	5.3
Stomach	Male	1	10,868	9.2	5.3	1.3	1.000	308	4,386,042	7.0
Stomach	Female	-	10,097	-	-	0.5	1.000	158	4,364,821	3.6
Testis	Male	-	10,868	-	-	0.5	1.000	265	4,386,042	6.0
Thyroid	Total	4	20,965	19.1	16.0	3.5	0.917	1,216	8,750,863	13.9
Thyroid	Male	1	10,868	9.2	6.8	1.2	1.000	354	4,386,042	8.1
Thyroid	Female	3	10,097	29.7	26.5	2.2	0.772	862	4,364,821	19.7
Pediatric Age 0 to 19	Total	1	3,910	25.6	25.3	0.7	0.983	420	2,456,613	17.1
Pediatric Age 0 to 19	Male	-	2,007	-	-	0.4	1.000	223	1,254,503	17.8
Pediatric Age 0 to 19	Female	1	1,903	52.5	52.3	0.3	0.538	197	1,202,110	16.4

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 2017–2021
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	270	21,304	1,267.4	780.8	297.5	0.113	77,160	8,967,411	860.4
All Causes of Death	Male	152	11,087	1,371.0	821.0	168.3	0.222	40,904	4,500,781	908.8
All Causes of Death	Female	118	10,217	1,154.9	721.5	132.8	0.213	36,256	4,466,630	811.7
All Malignant Cancers	Total	73	21,304	342.7	203.6	60.2	0.118	15,048	8,967,411	167.8
All Malignant Cancers	Male	42	11,087	378.8	212.3	35.8	0.335	8,134	4,500,781	180.7
All Malignant Cancers	Female	31	10,217	303.4	190.5	25.2	0.290	6,914	4,466,630	154.8
Bladder	Total	3	21,304	14.1	8.1	2.0	0.646	486	8,967,411	5.4
Bladder	Male	2	11,087	18.0	10.0	1.7	0.991	376	4,500,781	8.4
Bladder	Female	1	10,217	9.8	5.9	0.4	0.686	110	4,466,630	2.5
Brain and Other Nervous System	Total	2	21,304	9.4	6.1	1.8	1.000	502	8,967,411	5.6
Brain and Other Nervous System	Male	1	11,087	9.0	5.5	1.2	1.000	297	4,500,781	6.6
Brain and Other Nervous System	Female	1	10,217	9.8	6.6	0.7	0.999	205	4,466,630	4.6
Breast	Total	8	21,304	37.6	23.2	4.2	0.129	1,094	8,967,411	12.2
Breast	Male	-	11,087	-	-	0.1	1.000	16	4,500,781	0.4
Breast	Female	8	10,217	78.3	50.6	3.8	0.082	1,078	4,466,630	24.1
Cervix	Female	-	10,217	-	-	0.2	1.000	83	4,466,630	1.9
Colorectal	Total	9	21,304	42.2	25.9	5.1	0.146	1,310	8,967,411	14.6
Colorectal	Male	8	11,087	72.2	42.6	3.0	0.022 >>	711	4,500,781	15.8
Colorectal	Female	1	10,217	9.8	6.2	2.2	0.724	599	4,466,630	13.4
Corpus Uteri	Female	-	10,217	-	-	0.6	1.000	173	4,466,630	3.9
Esophagus	Total	1	21,304	4.7	2.8	1.9	0.864	476	8,967,411	5.3
Esophagus	Male	1	11,087	9.0	5.1	1.8	0.950	400	4,500,781	8.9
Esophagus	Female	-	10,217	-	-	0.3	1.000	76	4,466,630	1.7
Hodgkin Lymphoma	Total	-	21,304	-	-	0.1	1.000	29	8,967,411	0.3
Hodgkin Lymphoma	Male	-	11,087	-	-	0.1	1.000	14	4,500,781	0.3
Hodgkin Lymphoma	Female	-	10,217	-	-	0.1	1.000	15	4,466,630	0.3
Kidney	Total	1	21,304	4.7	2.7	1.6	1.000	384	8,967,411	4.3
Kidney	Male	1	11,087	9.0	5.0	1.1	1.000	241	4,500,781	5.4
Kidney	Female	-	10,217	-	-	0.5	1.000	143	4,466,630	3.2
Larynx	Total	-	21,304	-	-	0.3	1.000	71	8,967,411	0.8
Larynx	Male	-	11,087	-	-	0.2	1.000	58	4,500,781	1.3
Larynx	Female	-	10,217	-	-	0.0	1.000	13	4,466,630	0.3
Leukemia	Total	1	21,304	4.7	2.8	2.6	0.534	659	8,967,411	7.3
Leukemia	Male	-	11,087	-	-	1.6	0.385	386	4,500,781	8.6
Leukemia	Female	1	10,217	9.8	6.1	1.0	1.000	273	4,466,630	6.1
Liver and Bile Duct	Total	3	21,304	14.1	8.2	2.4	0.882	600	8,967,411	6.7
Liver and Bile Duct	Male	2	11,087	18.0	9.9	1.8	1.000	406	4,500,781	9.0
Liver and Bile Duct	Female	1	10,217	9.8	6.1	0.7	1.000	194	4,466,630	4.3
Lung and Bronchus	Total	18	21,304	84.5	48.7	12.1	0.137	2,943	8,967,411	32.8
Lung and Bronchus	Male	9	11,087	81.2	43.7	7.1	0.563	1,547	4,500,781	34.4
Lung and Bronchus	Female	9	10,217	88.1	54.0	5.2	0.166	1,396	4,466,630	31.3
Melanoma of the Skin	Total	2	21,304	9.4	5.8	1.1	0.608	287	8,967,411	3.2
Melanoma of the Skin	Male	2	11,087	18.0	10.4	0.8	0.390	190	4,500,781	4.2
Melanoma of the Skin	Female	-	10,217	-	-	0.3	1.000	97	4,466,630	2.2
Myeloma	Total	1	21,304	4.7	2.7	1.4	1.000	330	8,967,411	3.7
Myeloma	Male	-	11,087	-	-	0.9	0.817	196	4,500,781	4.4
Myeloma	Female	1	10,217	9.8	6.0	0.5	0.791	134	4,466,630	3.0
Non-Hodgkin Lymphoma	Total	1	21,304	4.7	2.8	2.3	0.672	568	8,967,411	6.3
Non-Hodgkin Lymphoma	Male	1	11,087	9.0	5.1	1.3	1.000	306	4,500,781	6.8
Non-Hodgkin Lymphoma	Female	-	10,217	-	-	1.0	0.746	262	4,466,630	5.9
Oral Cavity and Pharynx	Total	2	21,304	9.4	5.6	1.1	0.568	264	8,967,411	2.9
Oral Cavity and Pharynx	Male	2	11,087	18.0	10.0	0.8	0.397	185	4,500,781	4.1
Oral Cavity and Pharynx	Female	-	10,217	-	-	0.3	1.000	79	4,466,630	1.8
Ovary	Female	1	10,217	9.8	6.2	1.3	1.000	349	4,466,630	7.8
Pancreas	Total	5	21,304	23.5	13.7	4.8	1.000	1,185	8,967,411	13.2
Pancreas	Male	3	11,087	27.1	14.9	2.9	1.000	639	4,500,781	14.2
Pancreas	Female	2	10,217	19.6	12.1	2.0	1.000	546	4,466,630	12.2
Prostate	Male	4	11,087	36.1	19.9	4.2	1.000	945	4,500,781	21.0
Stomach	Total	-	21,304	-	-	0.7	0.951	198	8,967,411	2.2
Stomach	Male	-	11,087	-	-	0.5	1.000	121	4,500,781	2.7
Stomach	Female	-	10,217	-	-	0.3	1.000	77	4,466,630	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, 2020.

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 (BRFS) since 1984. These surveys are conducted with randomly selected adult Idahoans to measure population prevalences of risk factors for the major causes of death, including cancer. DPH provided data sets containing Behavioral Risk Factor Surveillance System (BRFSS) data from 2011 through 2021 to CDRI staff, who performed the analyses reported in these *County Profiles*. Analysis weights were poststratified to 2020 population estimates by age group, sex, and county, beginning with the BRFSS raked weights. Not all questions were asked in all years. 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* 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, 2011–2021

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 (2015–2021)	83.1%	82.8%	85.1%	77.2%	85.8%	78.9%	85.4%	85.4%	82.1%
Not See Doctor Due to Cost in Past Year (2015–2021)	12.6%	11.4%	11.8%	14.5%	12.4%	12.3%	11.8%	12.9%	12.0%
Cancer Screening									
Mammogram Past 2 Years, Age 50–74 (2014, 2016, 2018, 2020)	69.1%	67.0%	73.8%	68.2%	73.2%	64.8%	64.5%	67.1%	.
Pap Test Past 3 Years, Cervix Intact Age 21–65 (2018, 2020)	71.2%	73.6%	73.6%	70.8%	72.9%	69.1%	69.5%	65.9%	.
Colorectal Cancer Screening, Age 50–75 (2018, 2020)	67.9%	66.9%	73.6%	71.4%	70.6%	61.7%	61.5%	64.7%	.
Tobacco Use									
Current Tobacco User (2016–2021)	22.3%	26.7%	23.1%	23.6%	21.8%	21.4%	22.7%	16.9%	28.1%
Other Cancer-Related									
Healthy Weight by Body Mass Index, Age 20+ (2015–2021)	32.1%	32.8%	31.7%	27.9%	36.1%	29.8%	27.9%	31.9%	34.1%
Any Physical Activity Besides Job Past 30 Days (2015-2021)	78.7%	79.2%	78.1%	74.5%	83.2%	73.4%	76.3%	79.7%	75.1%
Meet Physical Activity Guidelines (2011, 2013, 2015, 2017, 2019)	21.9%	22.8%	19.4%	20.0%	25.2%	19.5%	20.4%	20.2%	27.5%
Home Ever Tested for Radon (2016, 2018, 2020)	23.0%	30.9%	18.2%	16.9%	25.1%	19.9%	23.0%	21.8%	43.2%

Access to Care

Have Health Insurance – 2015–2021
Statewide, 83.1% of adults aged 18–64 reported having health care coverage. Health care coverage differed significantly by race/ethnicity, with 86.0% of white non-Hispanics, compared to 64.8% of Hispanics and 83.3% of Native Americans, having health insurance. Spanish-speaking respondents were significantly less likely to be insured (33.3%) than English-speaking respondents (84.2%). Health care coverage differed significantly by age of respondent, with 79.8% of persons aged 18–29, and 87.8% of persons aged 50–64, having health insurance. Health care coverage differed significantly by county, with a range of 62.1% in Adams County to 91.6% in Oneida County having health insurance.

Not See Doctor Due to Cost in Past Year – 2015–2021
Statewide, 12.6% 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 (11.5% of white non-Hispanics, 19.2% of Hispanics, and 21.0% of Native Americans). Inability to see a doctor due to cost differed significantly by annual household income (24.9% for less than $15,000, 6.1% for greater than $50,000). Inability to see a doctor due to cost differed significantly by county, with a range of 7.4% in Franklin County to 17.5% in Power County.

Cancer Screening

Mammogram – 2014, 2016, 2018, 2020
Statewide, 69.1% of women aged 50–74 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 (72.1% versus 36.7%). Mammography rates differed significantly by county, with a range in screening of 45.9% in Benewah County to 77.0% in Nez Perce County. In 2020, Idaho ranked 48th among states and the District of Columbia for mammography screening rates among women aged 50–74 and also 48th among ages 40+.

Pap Test – 2018, 2020
Statewide, 71.2% 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 (75.1% versus 52.6% screened in the past 3 years). Pap screening differed significantly by county, with a range of 50.7% 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 – 2018, 2020
Statewide, 67.9% of adults aged 50–75 reported being current for colorectal cancer screening.** Persons with health insurance were over twice as likely to be current for colorectal cancer screening. In 2020, Idaho ranked 47th among states and the District of Columbia in the percentage of adults aged 50–75 and older who reported being up-to-date for colorectal cancer screening.

** 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, or a colonoscopy in the past 10 years.

Cancer Screening and Risk Factors

Tobacco Use

Current Tobacco Use – 2016–2021
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, 22.3% of adults aged 18 and older were current tobacco users. Tobacco use differed significantly by age of respondent, with 29.9% of persons aged 18-29, and 11.1% of persons aged 65 and older reporting current tobacco use. Tobacco use was lower among white non-Hispanics (22.4%) than among Native Americans (40.0%). Tobacco use differed significantly by county, with a range of 5.4% in Madison County to 41.6% 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 – 2015–2021
Statewide, 32.1% 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 32.5% of white non-Hispanics, compared to 28.2% of Hispanics and 24.6% of Native Americans, being in the healthy weight range. Males (25.5%) were significantly less likely to be in the healthy weight range than females (38.6%). BMI differed significantly by age of respondent, with 43.3% of persons aged 18–29, and 26.0% of persons aged 50–64, being in the healthy weight range. BMI differed significantly by county, with a range of 19.8% in Power County to 47.4% in Blaine County of adults being in the healthy weight range.

Any Physical Activity – 2015-2021
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, 78.7% 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 83.3% of persons aged 18–29, and 72.3% 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 64.3% in Clark County to 84.6% in Teton County.

Physical Activity Guidelines – 2011, 2013, 2015, 2017, 2019
Statewide, 21.9% 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 26.3% 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 9.6% in Franklin County to 30.6% in Blaine County.

Home Radon Testing – 2016, 2018, 2020
Statewide, 23.0% of adults have ever tested their house for radon. Radon test usage varied significantly by race/ethnicity, with 25.1% of white non-Hispanics, 7.4% 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 8.5% in Cassia County to 54.4% in Blaine County.

This project has been funded in whole or in part with Federal funds from the National Cancer Institute, National Institutes of Health, Department of Health and Human Services, under Contract No. HHSN261201800006I and the Centers for Disease Control and Prevention, Department of Health and Human Services, under Cooperative Agreement NU58DP007160. The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention or the National Cancer Institute.

ELMORE COUNTY CANCER PROFILE

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

Cancer Incidence 2016–2020
Cancer Mortality 2017–2021
BRFSS 2011–2021

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.2016.3332). 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 2016–2020

Nearly one in two Idahoans are estimated to develop cancer during their lifetime. During 2016–2020, 45,610 cases of invasive cancer were diagnosed among Idaho residents, and 713 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, 2016–2020

Cancer Incidence 2016–2020	Elmore County	State of Idaho
All Sites/Types	**713**	**45,610**
Female Breast	**78**	**6,687**
Prostate	**88**	**6,417**
Lung & Bronchus	**111**	**4,887**
Colorectal	**63**	**3,451**

Table 3 (*Cancer Incidence 2016–2020, 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 527.3 cases per 100,000 person-years per year during 2016–2020. Comparing this crude rate with the crude rate for the remainder of Idaho (519.8) 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 601.5 cases per 100,000 persons per year during 2016–2020. There were statistically significantly more cases of cancer in Elmore County (713) than expected (616.2) 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 2017–2021

During 2017–2021, cancer was the second leading cause of death in Idaho; 15,121 Idaho residents and 245 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, 2017–2021

Mortality 2017–2021	Elmore County	State of Idaho
All Deaths	**1,094**	**77,431**
Cancer Deaths	**245**	**15,121**
% of All Deaths	*22.4%*	*19.5%*
Lung & Bronchus	**69**	**2,961**
Colorectal	**25**	**1,319**
Pancreas	**21**	**1,190**
Female Breast	**5**	**1,086**
Prostate	**10**	**949**

Table 4 (*Cancer Mortality 2017–2021, 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 205.9 deaths per 100,000 persons per year during 2017–2021, compared with 168.1 for the remainder of the state. There were statistically significantly more cancer deaths in Elmore County (245) than expected (200.0) based upon rates in the remainder of the state (p=.002).

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 2016–2020
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	713	135,215	527.3	601.5	616.2	0.000 >>	44,897	8,636,613	519.8
All Sites Combined	Male	381	70,728	538.7	639.8	329.1	0.006 >>	23,908	4,326,182	552.6
All Sites Combined	Female	332	64,487	514.8	565.3	286.0	0.008 >>	20,989	4,310,431	486.9
Bladder	Total	43	135,215	31.8	37.1	28.7	0.015 >>	2,141	8,636,613	24.8
Bladder	Male	35	70,728	49.5	60.6	22.9	0.022 >>	1,716	4,326,182	39.7
Bladder	Female	8	64,487	12.4	13.9	5.7	0.430	425	4,310,431	9.9
Brain - malignant	Total	8	135,215	5.9	6.5	8.8	0.952	617	8,636,613	7.1
Brain - malignant	Male	6	70,728	8.5	9.5	5.4	0.909	369	4,326,182	8.5
Brain - malignant	Female	2	64,487	3.1	3.3	3.5	0.645	248	4,310,431	5.8
Brain and other CNS - non-malignant	Total	24	135,215	17.7	20.0	19.4	0.352	1,400	8,636,613	16.2
Brain and other CNS - non-malignant	Male	8	70,728	11.3	13.0	6.7	0.713	472	4,326,182	10.9
Brain and other CNS - non-malignant	Female	16	64,487	24.8	27.2	12.7	0.413	928	4,310,431	21.5
Breast	Total	79	135,215	58.4	66.9	91.2	0.217	6,667	8,636,613	77.2
Breast	Male	1	70,728	1.4	1.7	0.8	1.000	58	4,326,182	1.3
Breast	Female	78	64,487	121.0	133.7	89.4	0.245	6,609	4,310,431	153.3
Breast - in situ	Total	20	135,215	14.8	17.0	16.6	0.469	1,219	8,636,613	14.1
Breast - in situ	Male	-	70,728	-	-	0.1	1.000	5	4,326,182	0.1
Breast - in situ	Female	20	64,487	31.0	34.5	16.3	0.425	1,214	4,310,431	28.2
Cervix	Female	5	64,487	7.8	8.3	4.2	0.815	299	4,310,431	6.9
Colorectal	Total	63	135,215	46.6	53.2	46.4	0.024 >>	3,388	8,636,613	39.2
Colorectal	Male	38	70,728	53.7	63.6	25.8	0.028 >>	1,865	4,326,182	43.1
Colorectal	Female	25	64,487	38.8	42.7	20.7	0.393	1,523	4,310,431	35.3
Corpus Uteri	Female	18	64,487	27.9	30.8	17.8	1.000	1,312	4,310,431	30.4
Esophagus	Total	10	135,215	7.4	8.5	6.7	0.286	496	8,636,613	5.7
Esophagus	Male	9	70,728	12.7	15.3	5.6	0.236	415	4,326,182	9.6
Esophagus	Female	1	64,487	1.6	1.7	1.1	1.000	81	4,310,431	1.9
Hodgkin Lymphoma	Total	3	135,215	2.2	2.2	3.2	1.000	207	8,636,613	2.4
Hodgkin Lymphoma	Male	-	70,728	-	-	1.9	0.301	118	4,326,182	2.7
Hodgkin Lymphoma	Female	3	64,487	4.7	4.6	1.3	0.307	89	4,310,431	2.1
Kidney and Renal Pelvis	Total	32	135,215	23.7	26.9	24.5	0.168	1,783	8,636,613	20.6
Kidney and Renal Pelvis	Male	22	70,728	31.1	36.8	16.0	0.182	1,160	4,326,182	26.8
Kidney and Renal Pelvis	Female	10	64,487	15.5	17.0	8.5	0.700	623	4,310,431	14.5
Larynx	Total	3	135,215	2.2	2.5	2.9	1.000	212	8,636,613	2.5
Larynx	Male	2	70,728	2.8	3.4	2.2	1.000	158	4,326,182	3.7
Larynx	Female	1	64,487	1.6	1.7	0.7	1.000	54	4,310,431	1.3
Leukemia	Total	26	135,215	19.2	21.7	22.3	0.486	1,605	8,636,613	18.6
Leukemia	Male	19	70,728	26.9	31.4	13.6	0.189	970	4,326,182	22.4
Leukemia	Female	7	64,487	10.9	11.8	8.7	0.708	635	4,310,431	14.7
Liver and Bile Duct	Total	14	135,215	10.4	11.9	11.1	0.456	815	8,636,613	9.4
Liver and Bile Duct	Male	10	70,728	14.1	16.9	7.9	0.554	580	4,326,182	13.4
Liver and Bile Duct	Female	4	64,487	6.2	6.8	3.2	0.789	235	4,310,431	5.5
Lung and Bronchus	Total	111	135,215	82.1	95.2	64.5	0.000 >>	4,776	8,636,613	55.3
Lung and Bronchus	Male	53	70,728	74.9	91.1	32.2	0.001 >>	2,399	4,326,182	55.5
Lung and Bronchus	Female	58	64,487	89.9	99.4	32.2	0.000 >>	2,377	4,310,431	55.1
Melanoma of the Skin	Total	34	135,215	25.1	28.4	40.4	0.357	2,908	8,636,613	33.7
Melanoma of the Skin	Male	15	70,728	21.2	25.1	24.2	0.064	1,750	4,326,182	40.5
Melanoma of the Skin	Female	19	64,487	29.5	31.9	16.0	0.518	1,158	4,310,431	26.9
Myeloma	Total	10	135,215	7.4	8.6	9.4	0.939	698	8,636,613	8.1
Myeloma	Male	5	70,728	7.1	8.6	5.9	0.933	436	4,326,182	10.1
Myeloma	Female	5	64,487	7.8	8.6	3.5	0.559	262	4,310,431	6.1
Non-Hodgkin Lymphoma	Total	29	135,215	21.4	24.4	26.3	0.655	1,911	8,636,613	22.1
Non-Hodgkin Lymphoma	Male	17	70,728	24.0	28.2	15.5	0.770	1,112	4,326,182	25.7
Non-Hodgkin Lymphoma	Female	12	64,487	18.6	20.4	10.9	0.817	799	4,310,431	18.5
Oral Cavity and Pharynx	Total	17	135,215	12.6	14.4	17.5	1.000	1,278	8,636,613	14.8
Oral Cavity and Pharynx	Male	9	70,728	12.7	15.1	12.8	0.361	927	4,326,182	21.4
Oral Cavity and Pharynx	Female	8	64,487	12.4	13.7	4.7	0.216	351	4,310,431	8.1
Ovary	Female	8	64,487	12.4	13.6	7.2	0.847	525	4,310,431	12.2
Pancreas	Total	25	135,215	18.5	21.5	18.8	0.200	1,398	8,636,613	16.2
Pancreas	Male	13	70,728	18.4	22.3	10.4	0.495	771	4,326,182	17.8
Pancreas	Female	12	64,487	18.6	20.7	8.4	0.291	627	4,310,431	14.5
Prostate	Male	88	70,728	124.4	149.4	86.2	0.873	6,329	4,326,182	146.3
Stomach	Total	8	135,215	5.9	6.8	6.3	0.585	459	8,636,613	5.3
Stomach	Male	6	70,728	8.5	10.1	4.2	0.481	303	4,326,182	7.0
Stomach	Female	2	64,487	3.1	3.4	2.1	1.000	156	4,310,431	3.6
Testis	Male	5	70,728	7.1	6.3	4.8	1.000	260	4,326,182	6.0
Thyroid	Total	22	135,215	16.3	17.0	17.9	0.389	1,198	8,636,613	13.9
Thyroid	Male	5	70,728	7.1	7.8	5.2	1.000	350	4,326,182	8.1
Thyroid	Female	17	64,487	26.4	27.3	12.3	0.234	848	4,310,431	19.7
Pediatric Age 0 to 19	Total	7	37,552	18.6	18.4	6.5	0.950	414	2,422,971	17.1
Pediatric Age 0 to 19	Male	4	19,397	20.6	20.2	3.5	0.928	219	1,237,113	17.7
Pediatric Age 0 to 19	Female	3	18,155	16.5	16.4	3.0	1.000	195	1,185,858	16.4

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 2017–2021
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	1,094	137,864	793.5	918.5	1,027.3	0.040 >>	76,336	8,850,851	862.5
All Causes of Death	Male	601	72,204	832.4	990.7	552.8	0.045 >>	40,455	4,439,664	911.2
All Causes of Death	Female	493	65,660	750.8	841.1	476.8	0.470	35,881	4,411,187	813.4
All Malignant Cancers	Total	245	137,864	177.7	205.9	200.0	0.002 >>	14,876	8,850,851	168.1
All Malignant Cancers	Male	147	72,204	203.6	246.4	107.9	0.000 >>	8,029	4,439,664	180.8
All Malignant Cancers	Female	98	65,660	149.3	165.6	91.8	0.547	6,847	4,411,187	155.2
Bladder	Total	4	137,864	2.9	3.4	6.4	0.474	485	8,850,851	5.5
Bladder	Male	4	72,204	5.5	6.9	4.9	0.925	374	4,439,664	8.4
Bladder	Female	-	65,660	-	-	1.5	0.463	111	4,411,187	2.5
Brain and Other Nervous System	Total	6	137,864	4.4	4.9	6.9	0.926	498	8,850,851	5.6
Brain and Other Nervous System	Male	4	72,204	5.5	6.4	4.1	1.000	294	4,439,664	6.6
Brain and Other Nervous System	Female	2	65,660	3.0	3.3	2.8	0.943	204	4,411,187	4.6
Breast	Total	5	137,864	3.6	4.2	14.8	0.007 <<	1,097	8,850,851	12.4
Breast	Male	-	72,204	-	-	0.2	1.000	16	4,439,664	0.4
Breast	Female	5	65,660	7.6	8.5	14.5	0.008 <<	1,081	4,411,187	24.5
Cervix	Female	2	65,660	3.0	3.3	1.1	0.602	81	4,411,187	1.8
Colorectal	Total	25	137,864	18.1	21.0	17.4	0.101	1,294	8,850,851	14.6
Colorectal	Male	16	72,204	22.2	26.6	9.5	0.069	703	4,439,664	15.8
Colorectal	Female	9	65,660	13.7	15.3	7.9	0.786	591	4,411,187	13.4
Corpus Uteri	Female	1	65,660	1.5	1.7	2.3	0.667	172	4,411,187	3.9
Esophagus	Total	11	137,864	8.0	9.2	6.3	0.112	466	8,850,851	5.3
Esophagus	Male	9	72,204	12.5	14.9	5.3	0.181	392	4,439,664	8.8
Esophagus	Female	2	65,660	3.0	3.4	1.0	0.526	74	4,411,187	1.7
Hodgkin Lymphoma	Total	2	137,864	1.5	1.7	0.4	0.106	27	8,850,851	0.3
Hodgkin Lymphoma	Male	2	72,204	2.8	3.2	0.2	0.025 >>	12	4,439,664	0.3
Hodgkin Lymphoma	Female	-	65,660	-	-	0.2	1.000	15	4,411,187	0.3
Kidney	Total	4	137,864	2.9	3.4	5.1	0.850	381	8,850,851	4.3
Kidney	Male	2	72,204	2.8	3.3	3.2	0.747	240	4,439,664	5.4
Kidney	Female	2	65,660	3.0	3.4	1.9	1.000	141	4,411,187	3.2
Larynx	Total	1	137,864	0.7	0.8	1.0	1.000	70	8,850,851	0.8
Larynx	Male	1	72,204	1.4	1.6	0.8	1.000	57	4,439,664	1.3
Larynx	Female	-	65,660	-	-	0.2	1.000	13	4,411,187	0.3
Leukemia	Total	11	137,864	8.0	9.2	8.7	0.529	649	8,850,851	7.3
Leukemia	Male	7	72,204	9.7	11.6	5.1	0.518	379	4,439,664	8.5
Leukemia	Female	4	65,660	6.1	6.8	3.6	0.974	270	4,411,187	6.1
Liver and Bile Duct	Total	11	137,864	8.0	9.2	8.0	0.365	592	8,850,851	6.7
Liver and Bile Duct	Male	6	72,204	8.3	9.9	5.5	0.931	402	4,439,664	9.1
Liver and Bile Duct	Female	5	65,660	7.6	8.4	2.6	0.231	190	4,411,187	4.3
Lung and Bronchus	Total	69	137,864	50.0	58.0	38.8	0.000 >>	2,892	8,850,851	32.7
Lung and Bronchus	Male	37	72,204	51.2	62.2	20.4	0.001 >>	1,519	4,439,664	34.2
Lung and Bronchus	Female	32	65,660	48.7	53.9	18.5	0.005 >>	1,373	4,411,187	31.1
Melanoma of the Skin	Total	1	137,864	0.7	0.8	3.9	0.196	288	8,850,851	3.3
Melanoma of the Skin	Male	1	72,204	1.4	1.7	2.6	0.536	191	4,439,664	4.3
Melanoma of the Skin	Female	-	65,660	-	-	1.3	0.535	97	4,411,187	2.2
Myeloma	Total	6	137,864	4.4	5.1	4.4	0.544	325	8,850,851	3.7
Myeloma	Male	3	72,204	4.2	5.1	2.6	0.943	193	4,439,664	4.3
Myeloma	Female	3	65,660	4.6	5.0	1.8	0.530	132	4,411,187	3.0
Non-Hodgkin Lymphoma	Total	13	137,864	9.4	10.9	7.5	0.085	556	8,850,851	6.3
Non-Hodgkin Lymphoma	Male	11	72,204	15.2	18.3	4.0	0.006 >>	296	4,439,664	6.7
Non-Hodgkin Lymphoma	Female	2	65,660	3.0	3.4	3.5	0.640	260	4,411,187	5.9
Oral Cavity and Pharynx	Total	1	137,864	0.7	0.8	3.6	0.254	265	8,850,851	3.0
Oral Cavity and Pharynx	Male	-	72,204	-	-	2.5	0.158	187	4,439,664	4.2
Oral Cavity and Pharynx	Female	1	65,660	1.5	1.7	1.0	1.000	78	4,411,187	1.8
Ovary	Female	8	65,660	12.2	13.5	4.6	0.190	342	4,411,187	7.8
Pancreas	Total	21	137,864	15.2	17.7	15.7	0.232	1,169	8,850,851	13.2
Pancreas	Male	15	72,204	20.8	25.1	8.4	0.052	627	4,439,664	14.1
Pancreas	Female	6	65,660	9.1	10.2	7.2	0.827	542	4,411,187	12.3
Prostate	Male	10	72,204	13.8	17.3	12.2	0.646	939	4,439,664	21.2
Stomach	Total	4	137,864	2.9	3.3	2.6	0.547	194	8,850,851	2.2
Stomach	Male	4	72,204	5.5	6.6	1.6	0.159	117	4,439,664	2.6
Stomach	Female	-	65,660	-	-	1.0	0.713	77	4,411,187	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, 2020.

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 (BRFS) since 1984. These surveys are conducted with randomly selected adult Idahoans to measure population prevalences of risk factors for the major causes of death, including cancer. DPH provided data sets containing Behavioral Risk Factor Surveillance System (BRFSS) data from 2011 through 2021 to CDRI staff, who performed the analyses reported in these *County Profiles*. Analysis weights were poststratified to 2020 population estimates by age group, sex, and county, beginning with the BRFSS raked weights. Not all questions were asked in all years. 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* 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, 2011–2021

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 (2015–2021)	83.1%	82.8%	85.1%	77.2%	85.8%	78.9%	85.4%	85.4%	84.1%
Not See Doctor Due to Cost in Past Year (2015–2021)	12.6%	11.4%	11.8%	14.5%	12.4%	12.3%	11.8%	12.9%	13.8%
Cancer Screening									
Mammogram Past 2 Years, Age 50–74 (2014, 2016, 2018, 2020)	69.1%	67.0%	73.8%	68.2%	73.2%	64.8%	64.5%	67.1%	.
Pap Test Past 3 Years, Cervix Intact Age 21–65 (2018, 2020)	71.2%	73.6%	73.6%	70.8%	72.9%	69.1%	69.5%	65.9%	.
Colorectal Cancer Screening, Age 50–75 (2018, 2020)	67.9%	66.9%	73.6%	71.4%	70.6%	61.7%	61.5%	64.7%	.
Tobacco Use									
Current Tobacco User (2016–2021)	22.3%	26.7%	23.1%	23.6%	21.8%	21.4%	22.7%	16.9%	41.6%
Other Cancer-Related									
Healthy Weight by Body Mass Index, Age 20+ (2015–2021)	32.1%	32.8%	31.7%	27.9%	36.1%	29.8%	27.9%	31.9%	28.5%
Any Physical Activity Besides Job Past 30 Days (2015-2021)	78.7%	79.2%	78.1%	74.5%	83.2%	73.4%	76.3%	79.7%	74.0%
Meet Physical Activity Guidelines (2011, 2013, 2015, 2017, 2019)	21.9%	22.8%	19.4%	20.0%	25.2%	19.5%	20.4%	20.2%	21.0%
Home Ever Tested for Radon (2016, 2018, 2020)	23.0%	30.9%	18.2%	16.9%	25.1%	19.9%	23.0%	21.8%	12.3%

Access to Care

Have Health Insurance – 2015–2021
Statewide, 83.1% of adults aged 18–64 reported having health care coverage. Health care coverage differed significantly by race/ethnicity, with 86.0% of white non-Hispanics, compared to 64.8% of Hispanics and 83.3% of Native Americans, having health insurance. Spanish-speaking respondents were significantly less likely to be insured (33.3%) than English-speaking respondents (84.2%). Health care coverage differed significantly by age of respondent, with 79.8% of persons aged 18–29, and 87.8% of persons aged 50–64, having health insurance. Health care coverage differed significantly by county, with a range of 62.1% in Adams County to 91.6% in Oneida County having health insurance.

Not See Doctor Due to Cost in Past Year – 2015–2021
Statewide, 12.6% 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 (11.5% of white non-Hispanics, 19.2% of Hispanics, and 21.0% of Native Americans). Inability to see a doctor due to cost differed significantly by annual household income (24.9% for less than $15,000, 6.1% for greater than $50,000). Inability to see a doctor due to cost differed significantly by county, with a range of 7.4% in Franklin County to 17.5% in Power County.

Cancer Screening

Mammogram – 2014, 2016, 2018, 2020
Statewide, 69.1% of women aged 50–74 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 (72.1% versus 36.7%). Mammography rates differed significantly by county, with a range in screening of 45.9% in Benewah County to 77.0% in Nez Perce County. In 2020, Idaho ranked 48th among states and the District of Columbia for mammography screening rates among women aged 50–74 and also 48th among ages 40+.

Pap Test – 2018, 2020
Statewide, 71.2% 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 (75.1% versus 52.6% screened in the past 3 years). Pap screening differed significantly by county, with a range of 50.7% 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 – 2018, 2020
Statewide, 67.9% of adults aged 50–75 reported being current for colorectal cancer screening.** Persons with health insurance were over twice as likely to be current for colorectal cancer screening. In 2020, Idaho ranked 47th among states and the District of Columbia in the percentage of adults aged 50–75 and older who reported being up-to-date for colorectal cancer screening.

** 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, or a colonoscopy in the past 10 years.

Cancer Screening and Risk Factors

Tobacco Use

Current Tobacco Use – 2016–2021
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, 22.3% of adults aged 18 and older were current tobacco users. Tobacco use differed significantly by age of respondent, with 29.9% of persons aged 18-29, and 11.1% of persons aged 65 and older reporting current tobacco use. Tobacco use was lower among white non-Hispanics (22.4%) than among Native Americans (40.0%). Tobacco use differed significantly by county, with a range of 5.4% in Madison County to 41.6% 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 – 2015–2021
Statewide, 32.1% 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 32.5% of white non-Hispanics, compared to 28.2% of Hispanics and 24.6% of Native Americans, being in the healthy weight range. Males (25.5%) were significantly less likely to be in the healthy weight range than females (38.6%). BMI differed significantly by age of respondent, with 43.3% of persons aged 18–29, and 26.0% of persons aged 50–64, being in the healthy weight range. BMI differed significantly by county, with a range of 19.8% in Power County to 47.4% in Blaine County of adults being in the healthy weight range.

Any Physical Activity – 2015-2021
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, 78.7% 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 83.3% of persons aged 18–29, and 72.3% 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 64.3% in Clark County to 84.6% in Teton County.

Physical Activity Guidelines – 2011, 2013, 2015, 2017, 2019
Statewide, 21.9% 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 26.3% 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 9.6% in Franklin County to 30.6% in Blaine County.

Home Radon Testing – 2016, 2018, 2020
Statewide, 23.0% of adults have ever tested their house for radon. Radon test usage varied significantly by race/ethnicity, with 25.1% of white non-Hispanics, 7.4% 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 8.5% in Cassia County to 54.4% in Blaine County.

This project has been funded in whole or in part with Federal funds from the National Cancer Institute, National Institutes of Health, Department of Health and Human Services, under Contract No. HHSN261201800006I and the Centers for Disease Control and Prevention, Department of Health and Human Services, under Cooperative Agreement NU58DP007160. The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention or the National Cancer Institute.

FRANKLIN COUNTY CANCER PROFILE

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

Cancer Incidence 2016–2020
Cancer Mortality 2017–2021
BRFSS 2011–2021

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.2016.3332). 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 2016–2020

Nearly one in two Idahoans are estimated to develop cancer during their lifetime. During 2016–2020, 45,610 cases of invasive cancer were diagnosed among Idaho residents, and 300 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, 2016–2020

Cancer Incidence 2016–2020	Franklin County	State of Idaho
All Sites/Types	**300**	**45,610**
Female Breast	**48**	**6,687**
Prostate	**43**	**6,417**
Lung & Bronchus	**8**	**4,887**
Colorectal	**34**	**3,451**

Table 3 (*Cancer Incidence 2016–2020, 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 436.8 cases per 100,000 person-years per year during 2016–2020. Comparing this crude rate with the crude rate for the remainder of Idaho (520.6) 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 478.5 cases per 100,000 persons per year during 2016–2020. There were fewer cases of cancer in Franklin County (300) than expected (326.4) 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 2017–2021

During 2017–2021, cancer was the second leading cause of death in Idaho; 15,121 Idaho residents and 91 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, 2017–2021

Mortality 2017–2021	Franklin County	State of Idaho
All Deaths	**584**	**77,431**
Cancer Deaths	**91**	**15,121**
% of All Deaths	*15.6%*	*19.5%*
Lung & Bronchus	**8**	**2,961**
Colorectal	**14**	**1,319**
Pancreas	**7**	**1,190**
Female Breast	**10**	**1,086**
Prostate	**5**	**949**

Table 4 (*Cancer Mortality 2017–2021, 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 140.0 deaths per 100,000 persons per year during 2017–2021, compared with 168.5 for the remainder of the state. There were fewer cancer deaths in Franklin County (91) 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 2016–2020
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	300	68,677	436.8	478.5	326.4	0.149	45,310	8,703,151	520.6
All Sites Combined	Male	159	35,105	452.9	492.0	178.8	0.146	24,130	4,361,805	553.2
All Sites Combined	Female	141	33,572	420.0	460.7	149.3	0.527	21,180	4,341,346	487.9
Bladder	Total	21	68,677	30.6	33.2	15.7	0.233	2,163	8,703,151	24.9
Bladder	Male	19	35,105	54.1	57.8	13.1	0.144	1,732	4,361,805	39.7
Bladder	Female	2	33,572	6.0	6.5	3.0	0.827	431	4,341,346	9.9
Brain - malignant	Total	10	68,677	14.6	15.6	4.5	0.036 >>	615	8,703,151	7.1
Brain - malignant	Male	6	35,105	17.1	18.3	2.8	0.125	369	4,361,805	8.5
Brain - malignant	Female	4	33,572	11.9	12.7	1.8	0.214	246	4,341,346	5.7
Brain and other CNS - non-malignant	Total	7	68,677	10.2	11.0	10.4	0.376	1,417	8,703,151	16.3
Brain and other CNS - non-malignant	Male	3	35,105	8.5	9.1	3.6	1.000	477	4,361,805	10.9
Brain and other CNS - non-malignant	Female	4	33,572	11.9	12.9	6.7	0.402	940	4,341,346	21.7
Breast	Total	50	68,677	72.8	80.0	48.1	0.822	6,696	8,703,151	76.9
Breast	Male	2	35,105	5.7	6.1	0.4	0.138	57	4,361,805	1.3
Breast	Female	48	33,572	143.0	157.7	46.6	0.871	6,639	4,341,346	152.9
Breast - in situ	Total	2	68,677	2.9	3.2	8.8	0.015 <<	1,237	8,703,151	14.2
Breast - in situ	Male	-	35,105	-	-	0.0	1.000	5	4,361,805	0.1
Breast - in situ	Female	2	33,572	6.0	6.6	8.6	0.017 <<	1,232	4,341,346	28.4
Cervix	Female	1	33,572	3.0	3.2	2.2	0.714	303	4,341,346	7.0
Colorectal	Total	34	68,677	49.5	53.7	24.8	0.093	3,417	8,703,151	39.3
Colorectal	Male	21	35,105	59.8	64.4	14.1	0.099	1,882	4,361,805	43.1
Colorectal	Female	13	33,572	38.7	42.1	10.9	0.604	1,535	4,341,346	35.4
Corpus Uteri	Female	8	33,572	23.8	26.5	9.2	0.864	1,322	4,341,346	30.5
Esophagus	Total	-	68,677	-	-	3.6	0.052	506	8,703,151	5.8
Esophagus	Male	-	35,105	-	-	3.2	0.085	424	4,361,805	9.7
Esophagus	Female	-	33,572	-	-	0.6	1.000	82	4,341,346	1.9
Hodgkin Lymphoma	Total	1	68,677	1.5	1.5	1.6	1.000	209	8,703,151	2.4
Hodgkin Lymphoma	Male	-	35,105	-	-	0.9	0.825	118	4,361,805	2.7
Hodgkin Lymphoma	Female	1	33,572	3.0	3.1	0.7	0.974	91	4,341,346	2.1
Kidney and Renal Pelvis	Total	11	68,677	16.0	17.6	13.0	0.710	1,804	8,703,151	20.7
Kidney and Renal Pelvis	Male	6	35,105	17.1	18.6	8.7	0.470	1,176	4,361,805	27.0
Kidney and Renal Pelvis	Female	5	33,572	14.9	16.4	4.4	0.906	628	4,341,346	14.5
Larynx	Total	-	68,677	-	-	1.5	0.428	215	8,703,151	2.5
Larynx	Male	-	35,105	-	-	1.2	0.604	160	4,361,805	3.7
Larynx	Female	-	33,572	-	-	0.4	1.000	55	4,341,346	1.3
Leukemia	Total	16	68,677	23.3	24.9	11.9	0.303	1,615	8,703,151	18.6
Leukemia	Male	13	35,105	37.0	39.0	7.5	0.082	976	4,361,805	22.4
Leukemia	Female	3	33,572	8.9	9.6	4.6	0.654	639	4,341,346	14.7
Liver and Bile Duct	Total	3	68,677	4.4	4.8	5.9	0.324	826	8,703,151	9.5
Liver and Bile Duct	Male	-	35,105	-	-	4.3	0.027 <<	590	4,361,805	13.5
Liver and Bile Duct	Female	3	33,572	8.9	9.9	1.6	0.459	236	4,341,346	5.4
Lung and Bronchus	Total	8	68,677	11.6	12.8	35.1	0.000 <<	4,879	8,703,151	56.1
Lung and Bronchus	Male	4	35,105	11.4	12.3	18.2	0.000 <<	2,448	4,361,805	56.1
Lung and Bronchus	Female	4	33,572	11.9	13.2	16.9	0.000 <<	2,431	4,341,346	56.0
Melanoma of the Skin	Total	23	68,677	33.5	36.6	21.1	0.735	2,919	8,703,151	33.5
Melanoma of the Skin	Male	17	35,105	48.4	52.3	13.0	0.334	1,748	4,361,805	40.1
Melanoma of the Skin	Female	6	33,572	17.9	19.5	8.3	0.559	1,171	4,341,346	27.0
Myeloma	Total	4	68,677	5.8	6.4	5.1	0.855	704	8,703,151	8.1
Myeloma	Male	3	35,105	8.5	9.2	3.3	1.000	438	4,361,805	10.0
Myeloma	Female	1	33,572	3.0	3.3	1.8	0.898	266	4,341,346	6.1
Non-Hodgkin Lymphoma	Total	9	68,677	13.1	14.2	14.0	0.217	1,931	8,703,151	22.2
Non-Hodgkin Lymphoma	Male	4	35,105	11.4	12.3	8.4	0.159	1,125	4,361,805	25.8
Non-Hodgkin Lymphoma	Female	5	33,572	14.9	16.4	5.7	0.998	806	4,341,346	18.6
Oral Cavity and Pharynx	Total	3	68,677	4.4	4.8	9.2	0.037 <<	1,292	8,703,151	14.8
Oral Cavity and Pharynx	Male	2	35,105	5.7	6.3	6.8	0.067	934	4,361,805	21.4
Oral Cavity and Pharynx	Female	1	33,572	3.0	3.3	2.5	0.575	358	4,341,346	8.2
Ovary	Female	6	33,572	17.9	19.6	3.7	0.346	527	4,341,346	12.1
Pancreas	Total	8	68,677	11.6	12.7	10.3	0.608	1,415	8,703,151	16.3
Pancreas	Male	3	35,105	8.5	9.2	5.8	0.332	781	4,361,805	17.9
Pancreas	Female	5	33,572	14.9	16.3	4.5	0.930	634	4,341,346	14.6
Prostate	Male	43	35,105	122.5	136.4	46.1	0.723	6,374	4,361,805	146.1
Stomach	Total	3	68,677	4.4	4.7	3.4	1.000	464	8,703,151	5.3
Stomach	Male	1	35,105	2.8	3.1	2.3	0.655	308	4,361,805	7.1
Stomach	Female	2	33,572	6.0	6.4	1.1	0.615	156	4,341,346	3.6
Testis	Male	-	35,105	-	-	1.9	0.296	265	4,361,805	6.1
Thyroid	Total	13	68,677	18.9	20.7	8.7	0.211	1,207	8,703,151	13.9
Thyroid	Male	3	35,105	8.5	9.4	2.6	0.955	352	4,361,805	8.1
Thyroid	Female	10	33,572	29.8	32.1	6.1	0.186	855	4,341,346	19.7
Pediatric Age 0 to 19	Total	8	24,005	33.3	33.6	4.0	0.107	413	2,436,518	17.0
Pediatric Age 0 to 19	Male	6	12,680	47.3	47.7	2.2	0.049 >>	217	1,243,830	17.4
Pediatric Age 0 to 19	Female	2	11,325	17.7	17.8	1.8	1.000	196	1,192,688	16.4

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 2017–2021
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	584	69,998	834.3	871.0	577.7	0.805	76,846	8,918,717	861.6
All Causes of Death	Male	310	35,844	864.9	892.3	316.2	0.753	40,746	4,476,024	910.3
All Causes of Death	Female	274	34,154	802.2	842.6	264.2	0.563	36,100	4,442,693	812.6
All Malignant Cancers	Total	91	69,998	130.0	140.0	109.5	0.079	15,030	8,918,717	168.5
All Malignant Cancers	Male	50	35,844	139.5	147.3	61.6	0.150	8,126	4,476,024	181.5
All Malignant Cancers	Female	41	34,154	120.0	130.7	48.7	0.298	6,904	4,442,693	155.4
Bladder	Total	1	69,998	1.4	1.5	3.7	0.238	488	8,918,717	5.5
Bladder	Male	1	35,844	2.8	2.8	3.0	0.399	377	4,476,024	8.4
Bladder	Female	-	34,154	-	-	0.8	0.898	111	4,442,693	2.5
Brain and Other Nervous System	Total	6	69,998	8.6	9.3	3.6	0.311	498	8,918,717	5.6
Brain and Other Nervous System	Male	4	35,844	11.2	12.0	2.2	0.358	294	4,476,024	6.6
Brain and Other Nervous System	Female	2	34,154	5.9	6.4	1.4	0.845	204	4,442,693	4.6
Breast	Total	10	69,998	14.3	15.4	8.0	0.561	1,092	8,918,717	12.2
Breast	Male	-	35,844	-	-	0.1	1.000	16	4,476,024	0.4
Breast	Female	10	34,154	29.3	31.8	7.6	0.477	1,076	4,442,693	24.2
Cervix	Female	-	34,154	-	-	0.6	1.000	83	4,442,693	1.9
Colorectal	Total	14	69,998	20.0	21.4	9.6	0.211	1,305	8,918,717	14.6
Colorectal	Male	10	35,844	27.9	29.6	5.3	0.093	709	4,476,024	15.8
Colorectal	Female	4	34,154	11.7	12.6	4.3	1.000	596	4,442,693	13.4
Corpus Uteri	Female	-	34,154	-	-	1.2	0.601	173	4,442,693	3.9
Esophagus	Total	-	69,998	-	-	3.4	0.065	477	8,918,717	5.3
Esophagus	Male	-	35,844	-	-	3.0	0.102	401	4,476,024	9.0
Esophagus	Female	-	34,154	-	-	0.5	1.000	76	4,442,693	1.7
Hodgkin Lymphoma	Total	-	69,998	-	-	0.2	1.000	29	8,918,717	0.3
Hodgkin Lymphoma	Male	-	35,844	-	-	0.1	1.000	14	4,476,024	0.3
Hodgkin Lymphoma	Female	-	34,154	-	-	0.1	1.000	15	4,442,693	0.3
Kidney	Total	2	69,998	2.9	3.1	2.8	0.945	383	8,918,717	4.3
Kidney	Male	1	35,844	2.8	3.0	1.8	0.922	241	4,476,024	5.4
Kidney	Female	1	34,154	2.9	3.2	1.0	1.000	142	4,442,693	3.2
Larynx	Total	-	69,998	-	-	0.5	1.000	71	8,918,717	0.8
Larynx	Male	-	35,844	-	-	0.4	1.000	58	4,476,024	1.3
Larynx	Female	-	34,154	-	-	0.1	1.000	13	4,442,693	0.3
Leukemia	Total	5	69,998	7.1	7.5	4.9	1.000	655	8,918,717	7.3
Leukemia	Male	2	35,844	5.6	5.8	3.0	0.861	384	4,476,024	8.6
Leukemia	Female	3	34,154	8.8	9.4	2.0	0.622	271	4,442,693	6.1
Liver and Bile Duct	Total	2	69,998	2.9	3.2	4.3	0.401	601	8,918,717	6.7
Liver and Bile Duct	Male	-	35,844	-	-	3.0	0.101	408	4,476,024	9.1
Liver and Bile Duct	Female	2	34,154	5.9	6.5	1.3	0.778	193	4,442,693	4.3
Lung and Bronchus	Total	8	69,998	11.4	12.5	21.3	0.002 <<	2,953	8,918,717	33.1
Lung and Bronchus	Male	6	35,844	16.7	18.0	11.5	0.119	1,550	4,476,024	34.6
Lung and Bronchus	Female	2	34,154	5.9	6.4	9.8	0.007 <<	1,403	4,442,693	31.6
Melanoma of the Skin	Total	3	69,998	4.3	4.6	2.1	0.689	286	8,918,717	3.2
Melanoma of the Skin	Male	3	35,844	8.4	8.9	1.4	0.347	189	4,476,024	4.2
Melanoma of the Skin	Female	-	34,154	-	-	0.7	1.000	97	4,442,693	2.2
Myeloma	Total	3	69,998	4.3	4.6	2.4	0.857	328	8,918,717	3.7
Myeloma	Male	2	35,844	5.6	5.9	1.5	0.872	194	4,476,024	4.3
Myeloma	Female	1	34,154	2.9	3.2	0.9	1.000	134	4,442,693	3.0
Non-Hodgkin Lymphoma	Total	3	69,998	4.3	4.6	4.2	0.804	566	8,918,717	6.3
Non-Hodgkin Lymphoma	Male	1	35,844	2.8	2.9	2.3	0.641	306	4,476,024	6.8
Non-Hodgkin Lymphoma	Female	2	34,154	5.9	6.4	1.8	1.000	260	4,442,693	5.9
Oral Cavity and Pharynx	Total	-	69,998	-	-	1.9	0.298	266	8,918,717	3.0
Oral Cavity and Pharynx	Male	-	35,844	-	-	1.4	0.507	187	4,476,024	4.2
Oral Cavity and Pharynx	Female	-	34,154	-	-	0.5	1.000	79	4,442,693	1.8
Ovary	Female	2	34,154	5.9	6.5	2.4	1.000	348	4,442,693	7.8
Pancreas	Total	7	69,998	10.0	10.9	8.5	0.774	1,183	8,918,717	13.3
Pancreas	Male	4	35,844	11.2	12.0	4.7	0.976	638	4,476,024	14.3
Pancreas	Female	3	34,154	8.8	9.7	3.8	0.944	545	4,442,693	12.3
Prostate	Male	5	35,844	13.9	14.1	7.5	0.488	944	4,476,024	21.1
Stomach	Total	3	69,998	4.3	4.6	1.4	0.347	195	8,918,717	2.2
Stomach	Male	1	35,844	2.8	2.9	0.9	1.000	120	4,476,024	2.7
Stomach	Female	2	34,154	5.9	6.3	0.5	0.205	75	4,442,693	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, 2020.

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 (BRFS) since 1984. These surveys are conducted with randomly selected adult Idahoans to measure population prevalences of risk factors for the major causes of death, including cancer. DPH provided data sets containing Behavioral Risk Factor Surveillance System (BRFSS) data from 2011 through 2021 to CDRI staff, who performed the analyses reported in these *County Profiles*. Analysis weights were poststratified to 2020 population estimates by age group, sex, and county, beginning with the BRFSS raked weights. Not all questions were asked in all years. 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* 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, 2011–2021

Measure	State of Idaho	HD 1	HD 2	HD 3	HD 4	HD 5	HD 6	HD 7	Franklin County
Access to Care									
Have Health Insurance, Age <65 (2015–2021)	83.1%	82.8%	85.1%	77.2%	85.8%	78.9%	85.4%	85.4%	83.4%
Not See Doctor Due to Cost in Past Year (2015–2021)	12.6%	11.4%	11.8%	14.5%	12.4%	12.3%	11.8%	12.9%	7.4%
Cancer Screening									
Mammogram Past 2 Years, Age 50–74 (2014, 2016, 2018, 2020)	69.1%	67.0%	73.8%	68.2%	73.2%	64.8%	64.5%	67.1%	68.3%
Pap Test Past 3 Years, Cervix Intact Age 21–65 (2018, 2020)	71.2%	73.6%	73.6%	70.8%	72.9%	69.1%	69.5%	65.9%	.
Colorectal Cancer Screening, Age 50–75 (2018, 2020)	67.9%	66.9%	73.6%	71.4%	70.6%	61.7%	61.5%	64.7%	.
Tobacco Use									
Current Tobacco User (2016–2021)	22.3%	26.7%	23.1%	23.6%	21.8%	21.4%	22.7%	16.9%	12.0%
Other Cancer-Related									
Healthy Weight by Body Mass Index, Age 20+ (2015–2021)	32.1%	32.8%	31.7%	27.9%	36.1%	29.8%	27.9%	31.9%	30.8%
Any Physical Activity Besides Job Past 30 Days (2015-2021)	78.7%	79.2%	78.1%	74.5%	83.2%	73.4%	76.3%	79.7%	71.7%
Meet Physical Activity Guidelines (2011, 2013, 2015, 2017, 2019)	21.9%	22.8%	19.4%	20.0%	25.2%	19.5%	20.4%	20.2%	9.7%
Home Ever Tested for Radon (2016, 2018, 2020)	23.0%	30.9%	18.2%	16.9%	25.1%	19.9%	23.0%	21.8%	10.8%

Access to Care

Have Health Insurance – 2015–2021
Statewide, 83.1% of adults aged 18–64 reported having health care coverage. Health care coverage differed significantly by race/ethnicity, with 86.0% of white non-Hispanics, compared to 64.8% of Hispanics and 83.3% of Native Americans, having health insurance. Spanish-speaking respondents were significantly less likely to be insured (33.3%) than English-speaking respondents (84.2%). Health care coverage differed significantly by age of respondent, with 79.8% of persons aged 18–29, and 87.8% of persons aged 50–64, having health insurance. Health care coverage differed significantly by county, with a range of 62.1% in Adams County to 91.6% in Oneida County having health insurance.

Not See Doctor Due to Cost in Past Year – 2015–2021
Statewide, 12.6% 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 (11.5% of white non-Hispanics, 19.2% of Hispanics, and 21.0% of Native Americans). Inability to see a doctor due to cost differed significantly by annual household income (24.9% for less than $15,000, 6.1% for greater than $50,000). Inability to see a doctor due to cost differed significantly by county, with a range of 7.4% in Franklin County to 17.5% in Power County.

Cancer Screening

Mammogram – 2014, 2016, 2018, 2020
Statewide, 69.1% of women aged 50–74 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 (72.1% versus 36.7%). Mammography rates differed significantly by county, with a range in screening of 45.9% in Benewah County to 77.0% in Nez Perce County. In 2020, Idaho ranked 48th among states and the District of Columbia for mammography screening rates among women aged 50–74 and also 48th among ages 40+.

Pap Test – 2018, 2020
Statewide, 71.2% 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 (75.1% versus 52.6% screened in the past 3 years). Pap screening differed significantly by county, with a range of 50.7% 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 – 2018, 2020
Statewide, 67.9% of adults aged 50–75 reported being current for colorectal cancer screening.** Persons with health insurance were over twice as likely to be current for colorectal cancer screening. In 2020, Idaho ranked 47th among states and the District of Columbia in the percentage of adults aged 50–75 and older who reported being up-to-date for colorectal cancer screening.

** 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, or a colonoscopy in the past 10 years.

Cancer Screening and Risk Factors

Tobacco Use

Current Tobacco Use – 2016–2021
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, 22.3% of adults aged 18 and older were current tobacco users. Tobacco use differed significantly by age of respondent, with 29.9% of persons aged 18-29, and 11.1% of persons aged 65 and older reporting current tobacco use. Tobacco use was lower among white non-Hispanics (22.4%) than among Native Americans (40.0%). Tobacco use differed significantly by county, with a range of 5.4% in Madison County to 41.6% 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 – 2015–2021
Statewide, 32.1% 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 32.5% of white non-Hispanics, compared to 28.2% of Hispanics and 24.6% of Native Americans, being in the healthy weight range. Males (25.5%) were significantly less likely to be in the healthy weight range than females (38.6%). BMI differed significantly by age of respondent, with 43.3% of persons aged 18–29, and 26.0% of persons aged 50–64, being in the healthy weight range. BMI differed significantly by county, with a range of 19.8% in Power County to 47.4% in Blaine County of adults being in the healthy weight range.

Any Physical Activity – 2015-2021
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, 78.7% 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 83.3% of persons aged 18–29, and 72.3% 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 64.3% in Clark County to 84.6% in Teton County.

Physical Activity Guidelines – 2011, 2013, 2015, 2017, 2019
Statewide, 21.9% 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 26.3% 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 9.6% in Franklin County to 30.6% in Blaine County.

Home Radon Testing – 2016, 2018, 2020
Statewide, 23.0% of adults have ever tested their house for radon. Radon test usage varied significantly by race/ethnicity, with 25.1% of white non-Hispanics, 7.4% 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 8.5% in Cassia County to 54.4% in Blaine County.

This project has been funded in whole or in part with Federal funds from the National Cancer Institute, National Institutes of Health, Department of Health and Human Services, under Contract No. HHSN261201800006I and the Centers for Disease Control and Prevention, Department of Health and Human Services, under Cooperative Agreement NU58DP007160. The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention or the National Cancer Institute.

FREMONT COUNTY CANCER PROFILE

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

Cancer Incidence 2016–2020
Cancer Mortality 2017–2021
BRFSS 2011–2021

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.2016.3332). 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 2016–2020

Nearly one in two Idahoans are estimated to develop cancer during their lifetime. During 2016–2020, 45,610 cases of invasive cancer were diagnosed among Idaho residents, and 336 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, 2016–2020

Cancer Incidence 2016–2020	Fremont County	State of Idaho
All Sites/Types	**336**	**45,610**
Female Breast	**43**	**6,687**
Prostate	**60**	**6,417**
Lung & Bronchus	**31**	**4,887**
Colorectal	**28**	**3,451**

Table 3 (*Cancer Incidence 2016–2020, 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 512.5 cases per 100,000 person-years per year during 2016–2020. Comparing this crude rate with the crude rate for the remainder of Idaho (520.0) 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 481.6 cases per 100,000 persons per year during 2016–2020. There were fewer cases of cancer in Fremont County (336) than expected (362.8) 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 2017–2021

During 2017–2021, cancer was the second leading cause of death in Idaho; 15,121 Idaho residents and 102 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, 2017–2021

Mortality 2017–2021	Fremont County	State of Idaho
All Deaths	**610**	**77,431**
Cancer Deaths	**102**	**15,121**
% of All Deaths	*16.7%*	*19.5%*
Lung & Bronchus	**19**	**2,961**
Colorectal	**12**	**1,319**
Pancreas	**14**	**1,190**
Female Breast	**7**	**1,086**
Prostate	**8**	**949**

Table 4 (*Cancer Mortality 2017–2021, 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 144.1 deaths per 100,000 persons per year during 2017–2021, compared with 168.3 for the remainder of the state. There were fewer cancer deaths in Fremont County (102) than expected (119.2) 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 2016–2020
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	336	65,557	512.5	481.6	362.8	0.165	45,274	8,706,271	520.0
All Sites Combined	Male	179	34,244	522.7	475.4	208.1	0.044 <<	24,110	4,362,666	552.6
All Sites Combined	Female	157	31,313	501.4	484.4	157.9	0.984	21,164	4,343,605	487.2
Bladder	Total	15	65,557	22.9	21.2	17.6	0.633	2,169	8,706,271	24.9
Bladder	Male	12	34,244	35.0	31.2	15.4	0.479	1,739	4,362,666	39.9
Bladder	Female	3	31,313	9.6	9.2	3.2	1.000	430	4,343,605	9.9
Brain - malignant	Total	3	65,557	4.6	4.4	4.9	0.562	622	8,706,271	7.1
Brain - malignant	Male	1	34,244	2.9	2.7	3.1	0.363	374	4,362,666	8.6
Brain - malignant	Female	2	31,313	6.4	6.2	1.8	1.000	248	4,343,605	5.7
Brain and other CNS - non-malignant	Total	11	65,557	16.8	16.0	11.2	1.000	1,413	8,706,271	16.2
Brain and other CNS - non-malignant	Male	2	34,244	5.8	5.5	4.0	0.473	478	4,362,666	11.0
Brain and other CNS - non-malignant	Female	9	31,313	28.7	28.0	6.9	0.523	935	4,343,605	21.5
Breast	Total	43	65,557	65.6	62.1	53.3	0.171	6,703	8,706,271	77.0
Breast	Male	-	34,244	-	-	0.5	1.000	59	4,362,666	1.4
Breast	Female	43	31,313	137.3	132.3	49.7	0.380	6,644	4,343,605	153.0
Breast - in situ	Total	6	65,557	9.2	8.7	9.8	0.287	1,233	8,706,271	14.2
Breast - in situ	Male	-	34,244	-	-	0.0	1.000	5	4,362,666	0.1
Breast - in situ	Female	6	31,313	19.2	18.4	9.2	0.373	1,228	4,343,605	28.3
Cervix	Female	-	31,313	-	-	2.2	0.231	304	4,343,605	7.0
Colorectal	Total	28	65,557	42.7	40.2	27.4	0.959	3,423	8,706,271	39.3
Colorectal	Male	13	34,244	38.0	34.5	16.3	0.499	1,890	4,362,666	43.3
Colorectal	Female	15	31,313	47.9	46.5	11.4	0.351	1,533	4,343,605	35.3
Corpus Uteri	Female	13	31,313	41.5	39.9	9.9	0.394	1,317	4,343,605	30.3
Esophagus	Total	-	65,557	-	-	4.1	0.033 <<	506	8,706,271	5.8
Esophagus	Male	-	34,244	-	-	3.7	0.050 <<	424	4,362,666	9.7
Esophagus	Female	-	31,313	-	-	0.6	1.000	82	4,343,605	1.9
Hodgkin Lymphoma	Total	1	65,557	1.5	1.5	1.6	1.000	209	8,706,271	2.4
Hodgkin Lymphoma	Male	-	34,244	-	-	0.9	0.775	118	4,362,666	2.7
Hodgkin Lymphoma	Female	1	31,313	3.2	3.2	0.7	0.971	91	4,343,605	2.1
Kidney and Renal Pelvis	Total	11	65,557	16.8	15.8	14.4	0.451	1,804	8,706,271	20.7
Kidney and Renal Pelvis	Male	7	34,244	20.4	18.8	10.0	0.432	1,175	4,362,666	26.9
Kidney and Renal Pelvis	Female	4	31,313	12.8	12.3	4.7	0.982	629	4,343,605	14.5
Larynx	Total	3	65,557	4.6	4.2	1.7	0.496	212	8,706,271	2.4
Larynx	Male	3	34,244	8.8	7.8	1.4	0.321	157	4,362,666	3.6
Larynx	Female	-	31,313	-	-	0.4	1.000	55	4,343,605	1.3
Leukemia	Total	12	65,557	18.3	17.2	13.0	0.933	1,619	8,706,271	18.6
Leukemia	Male	7	34,244	20.4	18.7	8.4	0.787	982	4,362,666	22.5
Leukemia	Female	5	31,313	16.0	15.4	4.8	1.000	637	4,343,605	14.7
Liver and Bile Duct	Total	8	65,557	12.2	11.4	6.6	0.691	821	8,706,271	9.4
Liver and Bile Duct	Male	6	34,244	17.5	16.0	5.0	0.780	584	4,362,666	13.4
Liver and Bile Duct	Female	2	31,313	6.4	6.1	1.8	1.000	237	4,343,605	5.5
Lung and Bronchus	Total	31	65,557	47.3	43.7	39.6	0.191	4,856	8,706,271	55.8
Lung and Bronchus	Male	14	34,244	40.9	36.6	21.4	0.122	2,438	4,362,666	55.9
Lung and Bronchus	Female	17	31,313	54.3	51.4	18.4	0.864	2,418	4,343,605	55.7
Melanoma of the Skin	Total	20	65,557	30.5	29.0	23.2	0.597	2,922	8,706,271	33.6
Melanoma of the Skin	Male	14	34,244	40.9	37.3	15.0	0.922	1,751	4,362,666	40.1
Melanoma of the Skin	Female	6	31,313	19.2	18.8	8.6	0.492	1,171	4,343,605	27.0
Myeloma	Total	4	65,557	6.1	5.7	5.7	0.650	704	8,706,271	8.1
Myeloma	Male	2	34,244	5.8	5.2	3.8	0.522	439	4,362,666	10.1
Myeloma	Female	2	31,313	6.4	6.1	2.0	1.000	265	4,343,605	6.1
Non-Hodgkin Lymphoma	Total	14	65,557	21.4	20.0	15.4	0.841	1,926	8,706,271	22.1
Non-Hodgkin Lymphoma	Male	5	34,244	14.6	13.4	9.6	0.164	1,124	4,362,666	25.8
Non-Hodgkin Lymphoma	Female	9	31,313	28.7	27.7	6.0	0.306	802	4,343,605	18.5
Oral Cavity and Pharynx	Total	13	65,557	19.8	18.6	10.3	0.471	1,282	8,706,271	14.7
Oral Cavity and Pharynx	Male	12	34,244	35.0	32.0	7.9	0.214	924	4,362,666	21.2
Oral Cavity and Pharynx	Female	1	31,313	3.2	3.1	2.7	0.505	358	4,343,605	8.2
Ovary	Female	3	31,313	9.6	9.3	3.9	0.889	530	4,343,605	12.2
Pancreas	Total	10	65,557	15.3	14.2	11.4	0.821	1,413	8,706,271	16.2
Pancreas	Male	5	34,244	14.6	13.1	6.8	0.651	779	4,362,666	17.9
Pancreas	Female	5	31,313	16.0	15.4	4.8	1.000	634	4,343,605	14.6
Prostate	Male	60	34,244	175.2	159.7	54.7	0.511	6,357	4,362,666	145.7
Stomach	Total	1	65,557	1.5	1.4	3.7	0.226	466	8,706,271	5.4
Stomach	Male	-	34,244	-	-	2.7	0.135	309	4,362,666	7.1
Stomach	Female	1	31,313	3.2	3.1	1.1	1.000	157	4,343,605	3.6
Testis	Male	3	34,244	8.8	9.2	2.0	0.629	262	4,362,666	6.0
Thyroid	Total	9	65,557	13.7	13.6	9.2	1.000	1,211	8,706,271	13.9
Thyroid	Male	1	34,244	2.9	2.8	2.9	0.433	354	4,362,666	8.1
Thyroid	Female	8	31,313	25.5	25.7	6.1	0.551	857	4,343,605	19.7
Pediatric Age 0 to 19	Total	5	18,570	26.9	26.6	3.2	0.441	416	2,441,953	17.0
Pediatric Age 0 to 19	Male	4	9,666	41.4	41.1	1.7	0.189	219	1,246,844	17.6
Pediatric Age 0 to 19	Female	1	8,904	11.2	11.1	1.5	1.000	197	1,195,109	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 2017–2021
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	610	66,217	921.2	874.7	600.4	0.706	76,820	8,922,498	861.0
All Causes of Death	Male	332	34,675	957.5	852.4	354.3	0.246	40,724	4,477,193	909.6
All Causes of Death	Female	278	31,542	881.4	893.7	252.6	0.120	36,096	4,445,305	812.0
All Malignant Cancers	Total	102	66,217	154.0	144.1	119.2	0.121	15,019	8,922,498	168.3
All Malignant Cancers	Male	49	34,675	141.3	125.5	70.9	0.008 <<	8,127	4,477,193	181.5
All Malignant Cancers	Female	53	31,542	168.0	163.6	50.2	0.731	6,892	4,445,305	155.0
Bladder	Total	4	66,217	6.0	5.7	3.8	1.000	485	8,922,498	5.4
Bladder	Male	3	34,675	8.7	7.5	3.4	1.000	375	4,477,193	8.4
Bladder	Female	1	31,542	3.2	3.1	0.8	1.000	110	4,445,305	2.5
Brain and Other Nervous System	Total	4	66,217	6.0	5.7	3.9	1.000	500	8,922,498	5.6
Brain and Other Nervous System	Male	2	34,675	5.8	5.3	2.5	1.000	296	4,477,193	6.6
Brain and Other Nervous System	Female	2	31,542	6.3	6.1	1.5	0.884	204	4,445,305	4.6
Breast	Total	7	66,217	10.6	10.0	8.6	0.744	1,095	8,922,498	12.3
Breast	Male	-	34,675	-	-	0.1	1.000	16	4,477,193	0.4
Breast	Female	7	31,542	22.2	21.7	7.8	0.959	1,079	4,445,305	24.3
Cervix	Female	2	31,542	6.3	6.3	0.6	0.228	81	4,445,305	1.8
Colorectal	Total	12	66,217	18.1	17.0	10.3	0.684	1,307	8,922,498	14.6
Colorectal	Male	8	34,675	23.1	20.6	6.2	0.556	711	4,477,193	15.9
Colorectal	Female	4	31,542	12.7	12.5	4.3	1.000	596	4,445,305	13.4
Corpus Uteri	Female	1	31,542	3.2	3.0	1.3	1.000	172	4,445,305	3.9
Esophagus	Total	1	66,217	1.5	1.4	3.8	0.217	476	8,922,498	5.3
Esophagus	Male	1	34,675	2.9	2.6	3.5	0.281	400	4,477,193	8.9
Esophagus	Female	-	31,542	-	-	0.6	1.000	76	4,445,305	1.7
Hodgkin Lymphoma	Total	-	66,217	-	-	0.2	1.000	29	8,922,498	0.3
Hodgkin Lymphoma	Male	-	34,675	-	-	0.1	1.000	14	4,477,193	0.3
Hodgkin Lymphoma	Female	-	31,542	-	-	0.1	1.000	15	4,445,305	0.3
Kidney	Total	3	66,217	4.5	4.2	3.0	1.000	382	8,922,498	4.3
Kidney	Male	2	34,675	5.8	5.2	2.1	1.000	240	4,477,193	5.4
Kidney	Female	1	31,542	3.2	3.1	1.0	1.000	142	4,445,305	3.2
Larynx	Total	1	66,217	1.5	1.4	0.6	0.857	70	8,922,498	0.8
Larynx	Male	1	34,675	2.9	2.5	0.5	0.792	57	4,477,193	1.3
Larynx	Female	-	31,542	-	-	0.1	1.000	13	4,445,305	0.3
Leukemia	Total	2	66,217	3.0	2.8	5.2	0.217	658	8,922,498	7.4
Leukemia	Male	1	34,675	2.9	2.6	3.4	0.302	385	4,477,193	8.6
Leukemia	Female	1	31,542	3.2	3.1	2.0	0.831	273	4,445,305	6.1
Liver and Bile Duct	Total	5	66,217	7.6	7.0	4.8	1.000	598	8,922,498	6.7
Liver and Bile Duct	Male	3	34,675	8.7	7.8	3.5	1.000	405	4,477,193	9.0
Liver and Bile Duct	Female	2	31,542	6.3	6.1	1.4	0.834	193	4,445,305	4.3
Lung and Bronchus	Total	19	66,217	28.7	26.6	23.5	0.410	2,942	8,922,498	33.0
Lung and Bronchus	Male	7	34,675	20.2	18.0	13.5	0.085	1,549	4,477,193	34.6
Lung and Bronchus	Female	12	31,542	38.0	36.6	10.3	0.672	1,393	4,445,305	31.3
Melanoma of the Skin	Total	2	66,217	3.0	2.8	2.3	1.000	287	8,922,498	3.2
Melanoma of the Skin	Male	1	34,675	2.9	2.6	1.6	1.000	191	4,477,193	4.3
Melanoma of the Skin	Female	1	31,542	3.2	3.1	0.7	1.000	96	4,445,305	2.2
Myeloma	Total	1	66,217	1.5	1.4	2.6	0.516	330	8,922,498	3.7
Myeloma	Male	-	34,675	-	-	1.7	0.354	196	4,477,193	4.4
Myeloma	Female	1	31,542	3.2	3.1	1.0	1.000	134	4,445,305	3.0
Non-Hodgkin Lymphoma	Total	6	66,217	9.1	8.4	4.5	0.589	563	8,922,498	6.3
Non-Hodgkin Lymphoma	Male	1	34,675	2.9	2.6	2.7	0.505	306	4,477,193	6.8
Non-Hodgkin Lymphoma	Female	5	31,542	15.9	15.6	1.9	0.081	257	4,445,305	5.8
Oral Cavity and Pharynx	Total	1	66,217	1.5	1.4	2.1	0.756	265	8,922,498	3.0
Oral Cavity and Pharynx	Male	1	34,675	2.9	2.6	1.6	1.000	186	4,477,193	4.2
Oral Cavity and Pharynx	Female	-	31,542	-	-	0.6	1.000	79	4,445,305	1.8
Ovary	Female	3	31,542	9.5	9.2	2.6	0.939	347	4,445,305	7.8
Pancreas	Total	14	66,217	21.1	19.7	9.4	0.188	1,176	8,922,498	13.2
Pancreas	Male	7	34,675	20.2	18.1	5.5	0.623	635	4,477,193	14.2
Pancreas	Female	7	31,542	22.2	21.4	4.0	0.219	541	4,445,305	12.2
Prostate	Male	8	34,675	23.1	20.0	8.4	1.000	941	4,477,193	21.0
Stomach	Total	-	66,217	-	-	1.6	0.422	198	8,922,498	2.2
Stomach	Male	-	34,675	-	-	1.1	0.698	121	4,477,193	2.7
Stomach	Female	-	31,542	-	-	0.5	1.000	77	4,445,305	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, 2020.

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 (BRFS) since 1984. These surveys are conducted with randomly selected adult Idahoans to measure population prevalences of risk factors for the major causes of death, including cancer. DPH provided data sets containing Behavioral Risk Factor Surveillance System (BRFSS) data from 2011 through 2021 to CDRI staff, who performed the analyses reported in these *County Profiles*. Analysis weights were poststratified to 2020 population estimates by age group, sex, and county, beginning with the BRFSS raked weights. Not all questions were asked in all years. 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* 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, 2011–2021

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 (2015–2021)	83.1%	82.8%	85.1%	77.2%	85.8%	78.9%	85.4%	85.4%	78.4%
Not See Doctor Due to Cost in Past Year (2015–2021)	12.6%	11.4%	11.8%	14.5%	12.4%	12.3%	11.8%	12.9%	8.7%
Cancer Screening									
Mammogram Past 2 Years, Age 50–74 (2014, 2016, 2018, 2020)	69.1%	67.0%	73.8%	68.2%	73.2%	64.8%	64.5%	67.1%	49.8%
Pap Test Past 3 Years, Cervix Intact Age 21–65 (2018, 2020)	71.2%	73.6%	73.6%	70.8%	72.9%	69.1%	69.5%	65.9%	.
Colorectal Cancer Screening, Age 50–75 (2018, 2020)	67.9%	66.9%	73.6%	71.4%	70.6%	61.7%	61.5%	64.7%	.
Tobacco Use									
Current Tobacco User (2016–2021)	22.3%	26.7%	23.1%	23.6%	21.8%	21.4%	22.7%	16.9%	17.1%
Other Cancer-Related									
Healthy Weight by Body Mass Index, Age 20+ (2015–2021)	32.1%	32.8%	31.7%	27.9%	36.1%	29.8%	27.9%	31.9%	25.1%
Any Physical Activity Besides Job Past 30 Days (2015-2021)	78.7%	79.2%	78.1%	74.5%	83.2%	73.4%	76.3%	79.7%	78.9%
Meet Physical Activity Guidelines (2011, 2013, 2015, 2017, 2019)	21.9%	22.8%	19.4%	20.0%	25.2%	19.5%	20.4%	20.2%	14.2%
Home Ever Tested for Radon (2016, 2018, 2020)	23.0%	30.9%	18.2%	16.9%	25.1%	19.9%	23.0%	21.8%	14.8%

Access to Care

Have Health Insurance – 2015–2021
Statewide, 83.1% of adults aged 18–64 reported having health care coverage. Health care coverage differed significantly by race/ethnicity, with 86.0% of white non-Hispanics, compared to 64.8% of Hispanics and 83.3% of Native Americans, having health insurance. Spanish-speaking respondents were significantly less likely to be insured (33.3%) than English-speaking respondents (84.2%). Health care coverage differed significantly by age of respondent, with 79.8% of persons aged 18–29, and 87.8% of persons aged 50–64, having health insurance. Health care coverage differed significantly by county, with a range of 62.1% in Adams County to 91.6% in Oneida County having health insurance.

Not See Doctor Due to Cost in Past Year – 2015–2021
Statewide, 12.6% 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 (11.5% of white non-Hispanics, 19.2% of Hispanics, and 21.0% of Native Americans). Inability to see a doctor due to cost differed significantly by annual household income (24.9% for less than $15,000, 6.1% for greater than $50,000). Inability to see a doctor due to cost differed significantly by county, with a range of 7.4% in Franklin County to 17.5% in Power County.

Cancer Screening

Mammogram – 2014, 2016, 2018, 2020
Statewide, 69.1% of women aged 50–74 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 (72.1% versus 36.7%). Mammography rates differed significantly by county, with a range in screening of 45.9% in Benewah County to 77.0% in Nez Perce County. In 2020, Idaho ranked 48th among states and the District of Columbia for mammography screening rates among women aged 50–74 and also 48th among ages 40+.

Pap Test – 2018, 2020
Statewide, 71.2% 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 (75.1% versus 52.6% screened in the past 3 years). Pap screening differed significantly by county, with a range of 50.7% 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 – 2018, 2020
Statewide, 67.9% of adults aged 50–75 reported being current for colorectal cancer screening.** Persons with health insurance were over twice as likely to be current for colorectal cancer screening. In 2020, Idaho ranked 47th among states and the District of Columbia in the percentage of adults aged 50–75 and older who reported being up-to-date for colorectal cancer screening.

** 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, or a colonoscopy in the past 10 years.

Cancer Screening and Risk Factors

Tobacco Use

Current Tobacco Use – 2016–2021
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, 22.3% of adults aged 18 and older were current tobacco users. Tobacco use differed significantly by age of respondent, with 29.9% of persons aged 18-29, and 11.1% of persons aged 65 and older reporting current tobacco use. Tobacco use was lower among white non-Hispanics (22.4%) than among Native Americans (40.0%). Tobacco use differed significantly by county, with a range of 5.4% in Madison County to 41.6% 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 – 2015–2021
Statewide, 32.1% 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 32.5% of white non-Hispanics, compared to 28.2% of Hispanics and 24.6% of Native Americans, being in the healthy weight range. Males (25.5%) were significantly less likely to be in the healthy weight range than females (38.6%). BMI differed significantly by age of respondent, with 43.3% of persons aged 18–29, and 26.0% of persons aged 50–64, being in the healthy weight range. BMI differed significantly by county, with a range of 19.8% in Power County to 47.4% in Blaine County of adults being in the healthy weight range.

Any Physical Activity – 2015-2021
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, 78.7% 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 83.3% of persons aged 18–29, and 72.3% 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 64.3% in Clark County to 84.6% in Teton County.

Physical Activity Guidelines – 2011, 2013, 2015, 2017, 2019
Statewide, 21.9% 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 26.3% 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 9.6% in Franklin County to 30.6% in Blaine County.

Home Radon Testing – 2016, 2018, 2020
Statewide, 23.0% of adults have ever tested their house for radon. Radon test usage varied significantly by race/ethnicity, with 25.1% of white non-Hispanics, 7.4% 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 8.5% in Cassia County to 54.4% in Blaine County.

This project has been funded in whole or in part with Federal funds from the National Cancer Institute, National Institutes of Health, Department of Health and Human Services, under Contract No. HHSN261201800006I and the Centers for Disease Control and Prevention, Department of Health and Human Services, under Cooperative Agreement NU58DP007160. The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention or the National Cancer Institute.

GEM COUNTY CANCER PROFILE

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

Cancer Incidence 2016–2020
Cancer Mortality 2017–2021
BRFSS 2011–2021

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.2016.3332). 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 2016–2020

Nearly one in two Idahoans are estimated to develop cancer during their lifetime. During 2016–2020, 45,610 cases of invasive cancer were diagnosed among Idaho residents, and 640 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, 2016–2020

Cancer Incidence 2016–2020	Gem County	State of Idaho
All Sites/Types	**640**	**45,610**
Female Breast	**78**	**6,687**
Prostate	**97**	**6,417**
Lung & Bronchus	**70**	**4,887**
Colorectal	**63**	**3,451**

Table 3 (*Cancer Incidence 2016–2020, 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 720.3 cases per 100,000 person-years per year during 2016–2020. Comparing this crude rate with the crude rate for the remainder of Idaho (517.9) 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 558.6 cases per 100,000 persons per year during 2016–2020. There were more cases of cancer in Gem County (640) than expected (593.3) 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 2017–2021

During 2017–2021, cancer was the second leading cause of death in Idaho; 15,121 Idaho residents and 206 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, 2017–2021

Mortality 2017–2021	Gem County	State of Idaho
All Deaths	**1,212**	**77,431**
Cancer Deaths	**206**	**15,121**
% of All Deaths	*17.0%*	*19.5%*
Lung & Bronchus	**48**	**2,961**
Colorectal	**20**	**1,319**
Pancreas	**16**	**1,190**
Female Breast	**13**	**1,086**
Prostate	**10**	**949**

Table 4 (*Cancer Mortality 2017–2021, 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 167.7 deaths per 100,000 persons per year during 2017–2021, compared with 167.6 for the remainder of the state. There were more cancer deaths in Gem County (206) than expected (205.9) 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 2016–2020

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	640	88,855	720.3	558.6	593.3	0.060	44,970	8,682,973	517.9
All Sites Combined	Male	359	44,532	806.2	596.8	330.7	0.130	23,930	4,352,378	549.8
All Sites Combined	Female	281	44,323	634.0	511.3	267.0	0.408	21,040	4,330,595	485.8
Bladder	Total	37	88,855	41.6	30.5	30.0	0.239	2,147	8,682,973	24.7
Bladder	Male	32	44,532	71.9	50.1	25.2	0.217	1,719	4,352,378	39.5
Bladder	Female	5	44,323	11.3	8.7	5.7	0.987	428	4,330,595	9.9
Brain - malignant	Total	8	88,855	9.0	7.5	7.6	0.969	617	8,682,973	7.1
Brain - malignant	Male	5	44,532	11.2	9.3	4.6	0.968	370	4,352,378	8.5
Brain - malignant	Female	3	44,323	6.8	5.7	3.0	1.000	247	4,330,595	5.7
Brain and other CNS - non-malignant	Total	18	88,855	20.3	16.4	17.8	1.000	1,406	8,682,973	16.2
Brain and other CNS - non-malignant	Male	6	44,532	13.5	10.8	6.0	1.000	474	4,352,378	10.9
Brain and other CNS - non-malignant	Female	12	44,323	27.1	22.2	11.6	0.988	932	4,330,595	21.5
Breast	Total	78	88,855	87.8	70.1	85.4	0.460	6,668	8,682,973	76.8
Breast	Male	-	44,532	-	-	0.8	0.861	59	4,352,378	1.4
Breast	Female	78	44,323	176.0	142.6	83.5	0.595	6,609	4,330,595	152.6
Breast - in situ	Total	11	88,855	12.4	10.0	15.5	0.307	1,228	8,682,973	14.1
Breast - in situ	Male	-	44,532	-	-	0.1	1.000	5	4,352,378	0.1
Breast - in situ	Female	11	44,323	24.8	20.2	15.4	0.324	1,223	4,330,595	28.2
Cervix	Female	5	44,323	11.3	10.7	3.2	0.450	299	4,330,595	6.9
Colorectal	Total	63	88,855	70.9	55.2	44.6	0.011 >>	3,388	8,682,973	39.0
Colorectal	Male	33	44,532	74.1	56.0	25.3	0.161	1,870	4,352,378	43.0
Colorectal	Female	30	44,323	67.7	54.1	19.4	0.031 >>	1,518	4,330,595	35.1
Corpus Uteri	Female	17	44,323	38.4	30.8	16.7	1.000	1,313	4,330,595	30.3
Esophagus	Total	10	88,855	11.3	8.5	6.7	0.290	496	8,682,973	5.7
Esophagus	Male	7	44,532	15.7	11.4	5.9	0.746	417	4,352,378	9.6
Esophagus	Female	3	44,323	6.8	5.2	1.0	0.178	79	4,330,595	1.8
Hodgkin Lymphoma	Total	1	88,855	1.1	1.1	2.2	0.693	209	8,682,973	2.4
Hodgkin Lymphoma	Male	-	44,532	-	-	1.3	0.557	118	4,352,378	2.7
Hodgkin Lymphoma	Female	1	44,323	2.3	2.2	0.9	1.000	91	4,330,595	2.1
Kidney and Renal Pelvis	Total	34	88,855	38.3	30.0	23.2	0.043 >>	1,781	8,682,973	20.5
Kidney and Renal Pelvis	Male	22	44,532	49.4	37.8	15.5	0.139	1,160	4,352,378	26.7
Kidney and Renal Pelvis	Female	12	44,323	27.1	21.7	7.9	0.214	621	4,330,595	14.3
Larynx	Total	-	88,855	-	-	2.9	0.109	215	8,682,973	2.5
Larynx	Male	-	44,532	-	-	2.3	0.210	160	4,352,378	3.7
Larynx	Female	-	44,323	-	-	0.7	0.979	55	4,330,595	1.3
Leukemia	Total	17	88,855	19.1	14.8	21.3	0.419	1,614	8,682,973	18.6
Leukemia	Male	9	44,532	20.2	15.2	13.4	0.286	980	4,352,378	22.5
Leukemia	Female	8	44,323	18.0	14.4	8.1	1.000	634	4,330,595	14.6
Liver and Bile Duct	Total	16	88,855	18.0	13.7	10.9	0.177	813	8,682,973	9.4
Liver and Bile Duct	Male	14	44,532	31.4	23.4	7.9	0.064	576	4,352,378	13.2
Liver and Bile Duct	Female	2	44,323	4.5	3.5	3.1	0.803	237	4,330,595	5.5
Lung and Bronchus	Total	70	88,855	78.8	57.8	67.2	0.764	4,817	8,682,973	55.5
Lung and Bronchus	Male	35	44,532	78.6	55.3	35.2	1.000	2,417	4,352,378	55.5
Lung and Bronchus	Female	35	44,323	79.0	60.1	32.3	0.678	2,400	4,330,595	55.4
Melanoma of the Skin	Total	44	88,855	49.5	39.7	37.0	0.288	2,898	8,682,973	33.4
Melanoma of the Skin	Male	24	44,532	53.9	40.7	23.6	0.982	1,741	4,352,378	40.0
Melanoma of the Skin	Female	20	44,323	45.1	38.2	14.0	0.153	1,157	4,330,595	26.7
Myeloma	Total	3	88,855	3.4	2.5	9.7	0.026 <<	705	8,682,973	8.1
Myeloma	Male	3	44,532	6.7	4.8	6.3	0.253	438	4,352,378	10.1
Myeloma	Female	-	44,323	-	-	3.5	0.059	267	4,330,595	6.2
Non-Hodgkin Lymphoma	Total	21	88,855	23.6	18.4	25.3	0.460	1,919	8,682,973	22.1
Non-Hodgkin Lymphoma	Male	15	44,532	33.7	25.6	15.0	1.000	1,114	4,352,378	25.6
Non-Hodgkin Lymphoma	Female	6	44,323	13.5	10.7	10.4	0.215	805	4,330,595	18.6
Oral Cavity and Pharynx	Total	17	88,855	19.1	14.8	16.9	1.000	1,278	8,682,973	14.7
Oral Cavity and Pharynx	Male	13	44,532	29.2	22.1	12.5	0.954	923	4,352,378	21.2
Oral Cavity and Pharynx	Female	4	44,323	9.0	7.2	4.6	1.000	355	4,330,595	8.2
Ovary	Female	7	44,323	15.8	12.9	6.6	0.982	526	4,330,595	12.1
Pancreas	Total	21	88,855	23.6	17.6	19.3	0.750	1,402	8,682,973	16.1
Pancreas	Male	12	44,532	26.9	19.3	11.0	0.846	772	4,352,378	17.7
Pancreas	Female	9	44,323	20.3	15.7	8.4	0.913	630	4,330,595	14.5
Prostate	Male	97	44,532	217.8	159.2	88.5	0.390	6,320	4,352,378	145.2
Stomach	Total	11	88,855	12.4	9.5	6.1	0.094	456	8,682,973	5.3
Stomach	Male	6	44,532	13.5	9.8	4.2	0.508	303	4,352,378	7.0
Stomach	Female	5	44,323	11.3	9.1	1.9	0.096	153	4,330,595	3.5
Testis	Male	1	44,532	2.2	2.6	2.4	0.639	264	4,352,378	6.1
Thyroid	Total	17	88,855	19.1	17.8	13.2	0.361	1,203	8,682,973	13.9
Thyroid	Male	7	44,532	15.7	13.8	4.0	0.232	348	4,352,378	8.0
Thyroid	Female	10	44,323	22.6	21.3	9.3	0.891	855	4,330,595	19.7
Pediatric Age 0 to 19	Total	2	22,230	9.0	9.0	3.8	0.535	419	2,438,293	17.2
Pediatric Age 0 to 19	Male	2	11,714	17.1	17.1	2.1	1.000	221	1,244,796	17.8
Pediatric Age 0 to 19	Female	-	10,516	-	-	1.7	0.352	198	1,193,497	16.6

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 2017–2021
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	1,212	91,642	1,322.5	999.3	1,039.0	0.000 >>	76,218	8,897,073	856.7
All Causes of Death	Male	647	46,053	1,404.9	1,015.6	576.4	0.004 >>	40,409	4,465,815	904.9
All Causes of Death	Female	565	45,589	1,239.3	976.7	467.5	0.000 >>	35,809	4,431,258	808.1
All Malignant Cancers	Total	206	91,642	224.8	167.7	205.9	1.000	14,915	8,897,073	167.6
All Malignant Cancers	Male	116	46,053	251.9	178.4	117.4	0.949	8,060	4,465,815	180.5
All Malignant Cancers	Female	90	45,589	197.4	153.8	90.5	1.000	6,855	4,431,258	154.7
Bladder	Total	11	91,642	12.0	8.7	6.8	0.171	478	8,897,073	5.4
Bladder	Male	9	46,053	19.5	13.2	5.7	0.238	369	4,465,815	8.3
Bladder	Female	2	45,589	4.4	3.3	1.5	0.868	109	4,431,258	2.5
Brain and Other Nervous System	Total	7	91,642	7.6	6.1	6.4	0.925	497	8,897,073	5.6
Brain and Other Nervous System	Male	4	46,053	8.7	6.8	3.9	1.000	294	4,465,815	6.6
Brain and Other Nervous System	Female	3	45,589	6.6	5.3	2.6	0.951	203	4,431,258	4.6
Breast	Total	13	91,642	14.2	10.9	14.6	0.795	1,089	8,897,073	12.2
Breast	Male	-	46,053	-	-	0.2	1.000	16	4,465,815	0.4
Breast	Female	13	45,589	28.5	22.6	13.9	0.940	1,073	4,431,258	24.2
Cervix	Female	2	45,589	4.4	3.9	0.9	0.487	81	4,431,258	1.8
Colorectal	Total	20	91,642	21.8	16.6	17.6	0.630	1,299	8,897,073	14.6
Colorectal	Male	10	46,053	21.7	16.0	9.9	1.000	709	4,465,815	15.9
Colorectal	Female	10	45,589	21.9	17.2	7.7	0.501	590	4,431,258	13.3
Corpus Uteri	Female	2	45,589	4.4	3.4	2.3	1.000	171	4,431,258	3.9
Esophagus	Total	9	91,642	9.8	7.4	6.4	0.402	468	8,897,073	5.3
Esophagus	Male	7	46,053	15.2	11.0	5.6	0.669	394	4,465,815	8.8
Esophagus	Female	2	45,589	4.4	3.4	1.0	0.514	74	4,431,258	1.7
Hodgkin Lymphoma	Total	-	91,642	-	-	0.4	1.000	29	8,897,073	0.3
Hodgkin Lymphoma	Male	-	46,053	-	-	0.2	1.000	14	4,465,815	0.3
Hodgkin Lymphoma	Female	-	45,589	-	-	0.2	1.000	15	4,431,258	0.3
Kidney	Total	1	91,642	1.1	0.8	5.4	0.060	384	8,897,073	4.3
Kidney	Male	1	46,053	2.2	1.5	3.5	0.274	241	4,465,815	5.4
Kidney	Female	-	45,589	-	-	1.9	0.293	143	4,431,258	3.2
Larynx	Total	-	91,642	-	-	1.0	0.751	71	8,897,073	0.8
Larynx	Male	-	46,053	-	-	0.8	0.856	58	4,465,815	1.3
Larynx	Female	-	45,589	-	-	0.2	1.000	13	4,431,258	0.3
Leukemia	Total	6	91,642	6.5	4.9	9.1	0.402	654	8,897,073	7.4
Leukemia	Male	5	46,053	10.9	7.7	5.6	1.000	381	4,465,815	8.5
Leukemia	Female	1	45,589	2.2	1.7	3.6	0.249	273	4,431,258	6.2
Liver and Bile Duct	Total	9	91,642	9.8	7.4	8.2	0.858	594	8,897,073	6.7
Liver and Bile Duct	Male	7	46,053	15.2	11.1	5.7	0.686	401	4,465,815	9.0
Liver and Bile Duct	Female	2	45,589	4.4	3.4	2.6	1.000	193	4,431,258	4.4
Lung and Bronchus	Total	48	91,642	52.4	38.4	40.9	0.302	2,913	8,897,073	32.7
Lung and Bronchus	Male	26	46,053	56.5	39.7	22.5	0.508	1,530	4,465,815	34.3
Lung and Bronchus	Female	22	45,589	48.3	36.9	18.6	0.492	1,383	4,431,258	31.2
Melanoma of the Skin	Total	4	91,642	4.4	3.3	3.8	1.000	285	8,897,073	3.2
Melanoma of the Skin	Male	1	46,053	2.2	1.6	2.7	0.487	191	4,465,815	4.3
Melanoma of the Skin	Female	3	45,589	6.6	5.3	1.2	0.242	94	4,431,258	2.1
Myeloma	Total	1	91,642	1.1	0.8	4.7	0.104	330	8,897,073	3.7
Myeloma	Male	-	46,053	-	-	3.0	0.103	196	4,465,815	4.4
Myeloma	Female	1	45,589	2.2	1.7	1.8	0.920	134	4,431,258	3.0
Non-Hodgkin Lymphoma	Total	9	91,642	9.8	7.2	7.8	0.764	560	8,897,073	6.3
Non-Hodgkin Lymphoma	Male	6	46,053	13.0	9.2	4.4	0.552	301	4,465,815	6.7
Non-Hodgkin Lymphoma	Female	3	45,589	6.6	5.1	3.5	1.000	259	4,431,258	5.8
Oral Cavity and Pharynx	Total	4	91,642	4.4	3.3	3.6	0.967	262	8,897,073	2.9
Oral Cavity and Pharynx	Male	3	46,053	6.5	4.7	2.6	0.975	184	4,465,815	4.1
Oral Cavity and Pharynx	Female	1	45,589	2.2	1.7	1.0	1.000	78	4,431,258	1.8
Ovary	Female	4	45,589	8.8	6.8	4.6	1.000	346	4,431,258	7.8
Pancreas	Total	16	91,642	17.5	12.9	16.3	1.000	1,174	8,897,073	13.2
Pancreas	Male	9	46,053	19.5	13.9	9.2	1.000	633	4,465,815	14.2
Pancreas	Female	7	45,589	15.4	11.8	7.2	1.000	541	4,431,258	12.2
Prostate	Male	10	46,053	21.7	14.5	14.5	0.295	939	4,465,815	21.0
Stomach	Total	3	91,642	3.3	2.5	2.6	0.970	195	8,897,073	2.2
Stomach	Male	3	46,053	6.5	4.7	1.7	0.474	118	4,465,815	2.6
Stomach	Female	-	45,589	-	-	1.0	0.758	77	4,431,258	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, 2020.

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 (BRFS) since 1984. These surveys are conducted with randomly selected adult Idahoans to measure population prevalences of risk factors for the major causes of death, including cancer. DPH provided data sets containing Behavioral Risk Factor Surveillance System (BRFSS) data from 2011 through 2021 to CDRI staff, who performed the analyses reported in these *County Profiles*. Analysis weights were poststratified to 2020 population estimates by age group, sex, and county, beginning with the BRFSS raked weights. Not all questions were asked in all years. 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* 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, 2011–2021

Measure	State of Idaho	HD 1	HD 2	HD 3	HD 4	HD 5	HD 6	HD 7	Gem County
Access to Care									
Have Health Insurance, Age <65 (2015–2021)	83.1%	82.8%	85.1%	77.2%	85.8%	78.9%	85.4%	85.4%	82.6%
Not See Doctor Due to Cost in Past Year (2015–2021)	12.6%	11.4%	11.8%	14.5%	12.4%	12.3%	11.8%	12.9%	16.4%
Cancer Screening									
Mammogram Past 2 Years, Age 50–74 (2014, 2016, 2018, 2020)	69.1%	67.0%	73.8%	68.2%	73.2%	64.8%	64.5%	67.1%	61.0%
Pap Test Past 3 Years, Cervix Intact Age 21–65 (2018, 2020)	71.2%	73.6%	73.6%	70.8%	72.9%	69.1%	69.5%	65.9%	.
Colorectal Cancer Screening, Age 50–75 (2018, 2020)	67.9%	66.9%	73.6%	71.4%	70.6%	61.7%	61.5%	64.7%	73.1%
Tobacco Use									
Current Tobacco User (2016–2021)	22.3%	26.7%	23.1%	23.6%	21.8%	21.4%	22.7%	16.9%	26.4%
Other Cancer-Related									
Healthy Weight by Body Mass Index, Age 20+ (2015–2021)	32.1%	32.8%	31.7%	27.9%	36.1%	29.8%	27.9%	31.9%	27.2%
Any Physical Activity Besides Job Past 30 Days (2015-2021)	78.7%	79.2%	78.1%	74.5%	83.2%	73.4%	76.3%	79.7%	74.1%
Meet Physical Activity Guidelines (2011, 2013, 2015, 2017, 2019)	21.9%	22.8%	19.4%	20.0%	25.2%	19.5%	20.4%	20.2%	16.5%
Home Ever Tested for Radon (2016, 2018, 2020)	23.0%	30.9%	18.2%	16.9%	25.1%	19.9%	23.0%	21.8%	18.5%

Access to Care

Have Health Insurance – 2015–2021
Statewide, 83.1% of adults aged 18–64 reported having health care coverage. Health care coverage differed significantly by race/ethnicity, with 86.0% of white non-Hispanics, compared to 64.8% of Hispanics and 83.3% of Native Americans, having health insurance. Spanish-speaking respondents were significantly less likely to be insured (33.3%) than English-speaking respondents (84.2%). Health care coverage differed significantly by age of respondent, with 79.8% of persons aged 18–29, and 87.8% of persons aged 50–64, having health insurance. Health care coverage differed significantly by county, with a range of 62.1% in Adams County to 91.6% in Oneida County having health insurance.

Not See Doctor Due to Cost in Past Year – 2015–2021
Statewide, 12.6% 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 (11.5% of white non-Hispanics, 19.2% of Hispanics, and 21.0% of Native Americans). Inability to see a doctor due to cost differed significantly by annual household income (24.9% for less than $15,000, 6.1% for greater than $50,000). Inability to see a doctor due to cost differed significantly by county, with a range of 7.4% in Franklin County to 17.5% in Power County.

Cancer Screening

Mammogram – 2014, 2016, 2018, 2020
Statewide, 69.1% of women aged 50–74 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 (72.1% versus 36.7%). Mammography rates differed significantly by county, with a range in screening of 45.9% in Benewah County to 77.0% in Nez Perce County. In 2020, Idaho ranked 48th among states and the District of Columbia for mammography screening rates among women aged 50–74 and also 48th among ages 40+.

Pap Test – 2018, 2020
Statewide, 71.2% 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 (75.1% versus 52.6% screened in the past 3 years). Pap screening differed significantly by county, with a range of 50.7% 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 – 2018, 2020
Statewide, 67.9% of adults aged 50–75 reported being current for colorectal cancer screening.** Persons with health insurance were over twice as likely to be current for colorectal cancer screening. In 2020, Idaho ranked 47th among states and the District of Columbia in the percentage of adults aged 50–75 and older who reported being up-to-date for colorectal cancer screening.

** 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, or a colonoscopy in the past 10 years.

Cancer Screening and Risk Factors

Tobacco Use

Current Tobacco Use – 2016–2021
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, 22.3% of adults aged 18 and older were current tobacco users. Tobacco use differed significantly by age of respondent, with 29.9% of persons aged 18-29, and 11.1% of persons aged 65 and older reporting current tobacco use. Tobacco use was lower among white non-Hispanics (22.4%) than among Native Americans (40.0%). Tobacco use differed significantly by county, with a range of 5.4% in Madison County to 41.6% 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 – 2015–2021
Statewide, 32.1% 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 32.5% of white non-Hispanics, compared to 28.2% of Hispanics and 24.6% of Native Americans, being in the healthy weight range. Males (25.5%) were significantly less likely to be in the healthy weight range than females (38.6%). BMI differed significantly by age of respondent, with 43.3% of persons aged 18–29, and 26.0% of persons aged 50–64, being in the healthy weight range. BMI differed significantly by county, with a range of 19.8% in Power County to 47.4% in Blaine County of adults being in the healthy weight range.

Any Physical Activity – 2015-2021
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, 78.7% 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 83.3% of persons aged 18–29, and 72.3% 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 64.3% in Clark County to 84.6% in Teton County.

Physical Activity Guidelines – 2011, 2013, 2015, 2017, 2019
Statewide, 21.9% 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 26.3% 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 9.6% in Franklin County to 30.6% in Blaine County.

Home Radon Testing – 2016, 2018, 2020
Statewide, 23.0% of adults have ever tested their house for radon. Radon test usage varied significantly by race/ethnicity, with 25.1% of white non-Hispanics, 7.4% 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 8.5% in Cassia County to 54.4% in Blaine County.

This project has been funded in whole or in part with Federal funds from the National Cancer Institute, National Institutes of Health, Department of Health and Human Services, under Contract No. HHSN261201800006I and the Centers for Disease Control and Prevention, Department of Health and Human Services, under Cooperative Agreement NU58DP007160. The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention or the National Cancer Institute.

GOODING COUNTY CANCER PROFILE

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

Cancer Incidence 2016–2020
Cancer Mortality 2017–2021
BRFSS 2011–2021

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.2016.3332). 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 2016–2020

Nearly one in two Idahoans are estimated to develop cancer during their lifetime. During 2016–2020, 45,610 cases of invasive cancer were diagnosed among Idaho residents, and 402 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, 2016–2020

Cancer Incidence 2016–2020	Gooding County	State of Idaho
All Sites/Types	**402**	**45,610**
Female Breast	**56**	**6,687**
Prostate	**43**	**6,417**
Lung & Bronchus	**49**	**4,887**
Colorectal	**34**	**3,451**

Table 3 (*Cancer Incidence 2016–2020, 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 526.2 cases per 100,000 person-years per year during 2016–2020. Comparing this crude rate with the crude rate for the remainder of Idaho (519.9) 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 491.1 cases per 100,000 persons per year during 2016–2020. There were fewer cases of cancer in Gooding County (402) than expected (425.6) 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 2017–2021

During 2017–2021, cancer was the second leading cause of death in Idaho; 15,121 Idaho residents and 146 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, 2017–2021

Mortality 2017–2021	Gooding County	State of Idaho
All Deaths	**783**	**77,431**
Cancer Deaths	**146**	**15,121**
% of All Deaths	*18.6%*	*19.5%*
Lung & Bronchus	**36**	**2,961**
Colorectal	**7**	**1,319**
Pancreas	**9**	**1,190**
Female Breast	**10**	**1,086**
Prostate	**13**	**949**

Table 4 (*Cancer Mortality 2017–2021, 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 168.4 deaths per 100,000 persons per year during 2017–2021, compared with 168.0 for the remainder of the state. There were more cancer deaths in Gooding County (146) than expected (145.7) 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 2016–2020
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	402	76,400	526.2	491.1	425.6	0.262	45,208	8,695,428	519.9
All Sites Combined	Male	208	38,981	533.6	486.2	236.4	0.066	24,081	4,357,929	552.6
All Sites Combined	Female	194	37,419	518.5	494.2	191.2	0.858	21,127	4,337,499	487.1
Bladder	Total	19	76,400	24.9	22.2	21.3	0.717	2,165	8,695,428	24.9
Bladder	Male	18	38,981	46.2	40.0	17.9	1.000	1,733	4,357,929	39.8
Bladder	Female	1	37,419	2.7	2.4	4.1	0.174	432	4,337,499	10.0
Brain - malignant	Total	6	76,400	7.9	7.5	5.7	1.000	619	8,695,428	7.1
Brain - malignant	Male	4	38,981	10.3	9.8	3.5	0.910	371	4,357,929	8.5
Brain - malignant	Female	2	37,419	5.3	5.1	2.2	1.000	248	4,337,499	5.7
Brain and other CNS - non-malignant	Total	19	76,400	24.9	23.4	13.1	0.149	1,405	8,695,428	16.2
Brain and other CNS - non-malignant	Male	8	38,981	20.5	19.1	4.5	0.179	472	4,357,929	10.8
Brain and other CNS - non-malignant	Female	11	37,419	29.4	28.0	8.4	0.460	933	4,337,499	21.5
Breast	Total	57	76,400	74.6	71.2	61.6	0.614	6,689	8,695,428	76.9
Breast	Male	1	38,981	2.6	2.3	0.6	0.889	58	4,357,929	1.3
Breast	Female	56	37,419	149.7	145.0	59.1	0.754	6,631	4,337,499	152.9
Breast - in situ	Total	11	76,400	14.4	14.0	11.1	1.000	1,228	8,695,428	14.1
Breast - in situ	Male	-	38,981	-	-	0.0	1.000	5	4,357,929	0.1
Breast - in situ	Female	11	37,419	29.4	29.0	10.7	1.000	1,223	4,337,499	28.2
Cervix	Female	2	37,419	5.3	5.6	2.5	1.000	302	4,337,499	7.0
Colorectal	Total	34	76,400	44.5	41.2	32.4	0.825	3,417	8,695,428	39.3
Colorectal	Male	16	38,981	41.0	37.5	18.5	0.669	1,887	4,357,929	43.3
Colorectal	Female	18	37,419	48.1	45.1	14.1	0.359	1,530	4,337,499	35.3
Corpus Uteri	Female	8	37,419	21.4	20.9	11.7	0.354	1,322	4,337,499	30.5
Esophagus	Total	11	76,400	14.4	13.2	4.7	0.019 >>	495	8,695,428	5.7
Esophagus	Male	10	38,981	25.7	23.0	4.1	0.020 >>	414	4,357,929	9.5
Esophagus	Female	1	37,419	2.7	2.5	0.7	1.000	81	4,337,499	1.9
Hodgkin Lymphoma	Total	1	76,400	1.3	1.3	1.8	0.918	209	8,695,428	2.4
Hodgkin Lymphoma	Male	-	38,981	-	-	1.0	0.702	118	4,357,929	2.7
Hodgkin Lymphoma	Female	1	37,419	2.7	2.7	0.8	1.000	91	4,337,499	2.1
Kidney and Renal Pelvis	Total	19	76,400	24.9	23.4	16.8	0.649	1,796	8,695,428	20.7
Kidney and Renal Pelvis	Male	11	38,981	28.2	26.2	11.3	1.000	1,171	4,357,929	26.9
Kidney and Renal Pelvis	Female	8	37,419	21.4	20.3	5.7	0.430	625	4,337,499	14.4
Larynx	Total	4	76,400	5.2	4.9	2.0	0.282	211	8,695,428	2.4
Larynx	Male	3	38,981	7.7	7.0	1.5	0.399	157	4,357,929	3.6
Larynx	Female	1	37,419	2.7	2.6	0.5	0.772	54	4,337,499	1.2
Leukemia	Total	11	76,400	14.4	13.2	15.6	0.301	1,620	8,695,428	18.6
Leukemia	Male	5	38,981	12.8	11.6	9.8	0.153	984	4,357,929	22.6
Leukemia	Female	6	37,419	16.0	14.8	5.9	1.000	636	4,337,499	14.7
Liver and Bile Duct	Total	6	76,400	7.9	7.4	7.7	0.697	823	8,695,428	9.5
Liver and Bile Duct	Male	5	38,981	12.8	11.9	5.7	1.000	585	4,357,929	13.4
Liver and Bile Duct	Female	1	37,419	2.7	2.5	2.2	0.717	238	4,337,499	5.5
Lung and Bronchus	Total	49	76,400	64.1	58.0	47.0	0.806	4,838	8,695,428	55.6
Lung and Bronchus	Male	23	38,981	59.0	52.5	24.4	0.875	2,429	4,357,929	55.7
Lung and Bronchus	Female	26	37,419	69.5	63.7	22.7	0.539	2,409	4,337,499	55.5
Melanoma of the Skin	Total	16	76,400	20.9	19.8	27.2	0.029 <<	2,926	8,695,428	33.6
Melanoma of the Skin	Male	10	38,981	25.7	23.4	17.2	0.089	1,755	4,357,929	40.3
Melanoma of the Skin	Female	6	37,419	16.0	15.7	10.3	0.223	1,171	4,337,499	27.0
Myeloma	Total	8	76,400	10.5	9.5	6.8	0.735	700	8,695,428	8.1
Myeloma	Male	5	38,981	12.8	11.4	4.4	0.892	436	4,357,929	10.0
Myeloma	Female	3	37,419	8.0	7.4	2.5	0.895	264	4,337,499	6.1
Non-Hodgkin Lymphoma	Total	20	76,400	26.2	24.3	18.2	0.729	1,920	8,695,428	22.1
Non-Hodgkin Lymphoma	Male	10	38,981	25.7	23.5	10.9	0.941	1,119	4,357,929	25.7
Non-Hodgkin Lymphoma	Female	10	37,419	26.7	25.0	7.4	0.422	801	4,337,499	18.5
Oral Cavity and Pharynx	Total	18	76,400	23.6	22.3	11.9	0.116	1,277	8,695,428	14.7
Oral Cavity and Pharynx	Male	13	38,981	33.3	31.0	8.9	0.231	923	4,357,929	21.2
Oral Cavity and Pharynx	Female	5	37,419	13.4	12.8	3.2	0.436	354	4,337,499	8.2
Ovary	Female	4	37,419	10.7	10.3	4.8	0.970	529	4,337,499	12.2
Pancreas	Total	13	76,400	17.0	15.4	13.7	0.990	1,410	8,695,428	16.2
Pancreas	Male	8	38,981	20.5	18.2	7.8	1.000	776	4,357,929	17.8
Pancreas	Female	5	37,419	13.4	12.2	6.0	0.902	634	4,337,499	14.6
Prostate	Male	43	38,981	110.3	102.0	61.6	0.016 <<	6,374	4,357,929	146.3
Stomach	Total	5	76,400	6.5	6.0	4.4	0.911	462	8,695,428	5.3
Stomach	Male	3	38,981	7.7	6.9	3.0	1.000	306	4,357,929	7.0
Stomach	Female	2	37,419	5.3	5.0	1.4	0.849	156	4,337,499	3.6
Testis	Male	2	38,981	5.1	5.5	2.2	1.000	263	4,357,929	6.0
Thyroid	Total	7	76,400	9.2	9.3	10.5	0.359	1,213	8,695,428	13.9
Thyroid	Male	2	38,981	5.1	5.0	3.2	0.755	353	4,357,929	8.1
Thyroid	Female	5	37,419	13.4	13.8	7.2	0.561	860	4,337,499	19.8
Pediatric Age 0 to 19	Total	1	22,749	4.4	4.4	3.9	0.201	420	2,437,774	17.2
Pediatric Age 0 to 19	Male	1	11,567	8.6	8.7	2.1	0.781	222	1,244,943	17.8
Pediatric Age 0 to 19	Female	-	11,182	-	-	1.8	0.325	198	1,192,831	16.6

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 2017–2021
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	783	77,022	1,016.6	876.7	768.1	0.601	76,647	8,911,693	860.1
All Causes of Death	Male	440	39,280	1,120.2	939.8	425.2	0.484	40,616	4,472,588	908.1
All Causes of Death	Female	343	37,742	908.8	803.6	346.4	0.882	36,031	4,439,105	811.7
All Malignant Cancers	Total	146	77,022	189.6	168.4	145.7	1.000	14,975	8,911,693	168.0
All Malignant Cancers	Male	87	39,280	221.5	189.7	83.0	0.686	8,089	4,472,588	180.9
All Malignant Cancers	Female	59	37,742	156.3	142.8	64.1	0.575	6,886	4,439,105	155.1
Bladder	Total	4	77,022	5.2	4.4	5.0	0.881	485	8,911,693	5.4
Bladder	Male	3	39,280	7.6	6.0	4.2	0.795	375	4,472,588	8.4
Bladder	Female	1	37,742	2.6	2.3	1.1	1.000	110	4,439,105	2.5
Brain and Other Nervous System	Total	2	77,022	2.6	2.4	4.6	0.323	502	8,911,693	5.6
Brain and Other Nervous System	Male	1	39,280	2.5	2.4	2.8	0.457	297	4,472,588	6.6
Brain and Other Nervous System	Female	1	37,742	2.6	2.5	1.8	0.908	205	4,439,105	4.6
Breast	Total	10	77,022	13.0	11.7	10.5	1.000	1,092	8,911,693	12.3
Breast	Male	-	39,280	-	-	0.2	1.000	16	4,472,588	0.4
Breast	Female	10	37,742	26.5	24.6	9.9	1.000	1,076	4,439,105	24.2
Cervix	Female	2	37,742	5.3	5.3	0.7	0.300	81	4,439,105	1.8
Colorectal	Total	7	77,022	9.1	8.1	12.7	0.127	1,312	8,911,693	14.7
Colorectal	Male	5	39,280	12.7	11.2	7.1	0.570	714	4,472,588	16.0
Colorectal	Female	2	37,742	5.3	4.8	5.6	0.163	598	4,439,105	13.5
Corpus Uteri	Female	-	37,742	-	-	1.6	0.411	173	4,439,105	3.9
Esophagus	Total	11	77,022	14.3	12.9	4.4	0.012 >>	466	8,911,693	5.2
Esophagus	Male	9	39,280	22.9	20.3	3.9	0.037 >>	392	4,472,588	8.8
Esophagus	Female	2	37,742	5.3	4.8	0.7	0.303	74	4,439,105	1.7
Hodgkin Lymphoma	Total	-	77,022	-	-	0.3	1.000	29	8,911,693	0.3
Hodgkin Lymphoma	Male	-	39,280	-	-	0.1	1.000	14	4,472,588	0.3
Hodgkin Lymphoma	Female	-	37,742	-	-	0.1	1.000	15	4,439,105	0.3
Kidney	Total	4	77,022	5.2	4.6	3.7	1.000	381	8,911,693	4.3
Kidney	Male	1	39,280	2.5	2.2	2.4	0.600	241	4,472,588	5.4
Kidney	Female	3	37,742	7.9	7.1	1.3	0.303	140	4,439,105	3.2
Larynx	Total	2	77,022	2.6	2.4	0.7	0.282	69	8,911,693	0.8
Larynx	Male	2	39,280	5.1	4.4	0.6	0.220	56	4,472,588	1.3
Larynx	Female	-	37,742	-	-	0.1	1.000	13	4,439,105	0.3
Leukemia	Total	7	77,022	9.1	7.9	6.5	0.945	653	8,911,693	7.3
Leukemia	Male	3	39,280	7.6	6.4	4.0	0.873	383	4,472,588	8.6
Leukemia	Female	4	37,742	10.6	9.4	2.6	0.524	270	4,439,105	6.1
Liver and Bile Duct	Total	1	77,022	1.3	1.2	5.7	0.045 <<	602	8,911,693	6.8
Liver and Bile Duct	Male	1	39,280	2.5	2.3	4.0	0.186	407	4,472,588	9.1
Liver and Bile Duct	Female	-	37,742	-	-	1.8	0.332	195	4,439,105	4.4
Lung and Bronchus	Total	36	77,022	46.7	41.7	28.4	0.186	2,925	8,911,693	32.8
Lung and Bronchus	Male	18	39,280	45.8	39.9	15.5	0.592	1,538	4,472,588	34.4
Lung and Bronchus	Female	18	37,742	47.7	43.2	13.0	0.219	1,387	4,439,105	31.2
Melanoma of the Skin	Total	3	77,022	3.9	3.5	2.7	1.000	286	8,911,693	3.2
Melanoma of the Skin	Male	3	39,280	7.6	6.6	1.9	0.604	189	4,472,588	4.2
Melanoma of the Skin	Female	-	37,742	-	-	0.9	0.828	97	4,439,105	2.2
Myeloma	Total	1	77,022	1.3	1.1	3.3	0.323	330	8,911,693	3.7
Myeloma	Male	1	39,280	2.5	2.1	2.0	0.791	195	4,472,588	4.4
Myeloma	Female	-	37,742	-	-	1.3	0.551	135	4,439,105	3.0
Non-Hodgkin Lymphoma	Total	5	77,022	6.5	5.7	5.6	1.000	564	8,911,693	6.3
Non-Hodgkin Lymphoma	Male	3	39,280	7.6	6.5	3.1	1.000	304	4,472,588	6.8
Non-Hodgkin Lymphoma	Female	2	37,742	5.3	4.7	2.5	1.000	260	4,439,105	5.9
Oral Cavity and Pharynx	Total	4	77,022	5.2	4.7	2.5	0.478	262	8,911,693	2.9
Oral Cavity and Pharynx	Male	4	39,280	10.2	9.1	1.8	0.217	183	4,472,588	4.1
Oral Cavity and Pharynx	Female	-	37,742	-	-	0.7	0.969	79	4,439,105	1.8
Ovary	Female	1	37,742	2.6	2.5	3.2	0.344	349	4,439,105	7.9
Pancreas	Total	9	77,022	11.7	10.5	11.3	0.610	1,181	8,911,693	13.3
Pancreas	Male	6	39,280	15.3	13.4	6.3	1.000	636	4,472,588	14.2
Pancreas	Female	3	37,742	7.9	7.3	5.1	0.515	545	4,439,105	12.3
Prostate	Male	13	39,280	33.1	26.1	10.4	0.500	936	4,472,588	20.9
Stomach	Total	1	77,022	1.3	1.2	1.9	0.874	197	8,911,693	2.2
Stomach	Male	-	39,280	-	-	1.2	0.595	121	4,472,588	2.7
Stomach	Female	1	37,742	2.6	2.5	0.7	1.000	76	4,439,105	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, 2020.

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 (BRFS) since 1984. These surveys are conducted with randomly selected adult Idahoans to measure population prevalences of risk factors for the major causes of death, including cancer. DPH provided data sets containing Behavioral Risk Factor Surveillance System (BRFSS) data from 2011 through 2021 to CDRI staff, who performed the analyses reported in these *County Profiles*. Analysis weights were poststratified to 2020 population estimates by age group, sex, and county, beginning with the BRFSS raked weights. Not all questions were asked in all years. 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* 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, 2011–2021

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 (2015–2021)	83.1%	82.8%	85.1%	77.2%	85.8%	78.9%	85.4%	85.4%	72.2%
Not See Doctor Due to Cost in Past Year (2015–2021)	12.6%	11.4%	11.8%	14.5%	12.4%	12.3%	11.8%	12.9%	13.2%
Cancer Screening									
Mammogram Past 2 Years, Age 50–74 (2014, 2016, 2018, 2020)	69.1%	67.0%	73.8%	68.2%	73.2%	64.8%	64.5%	67.1%	52.4%
Pap Test Past 3 Years, Cervix Intact Age 21–65 (2018, 2020)	71.2%	73.6%	73.6%	70.8%	72.9%	69.1%	69.5%	65.9%	.
Colorectal Cancer Screening, Age 50–75 (2018, 2020)	67.9%	66.9%	73.6%	71.4%	70.6%	61.7%	61.5%	64.7%	.
Tobacco Use									
Current Tobacco User (2016–2021)	22.3%	26.7%	23.1%	23.6%	21.8%	21.4%	22.7%	16.9%	21.1%
Other Cancer-Related									
Healthy Weight by Body Mass Index, Age 20+ (2015–2021)	32.1%	32.8%	31.7%	27.9%	36.1%	29.8%	27.9%	31.9%	28.8%
Any Physical Activity Besides Job Past 30 Days (2015-2021)	78.7%	79.2%	78.1%	74.5%	83.2%	73.4%	76.3%	79.7%	66.4%
Meet Physical Activity Guidelines (2011, 2013, 2015, 2017, 2019)	21.9%	22.8%	19.4%	20.0%	25.2%	19.5%	20.4%	20.2%	16.8%
Home Ever Tested for Radon (2016, 2018, 2020)	23.0%	30.9%	18.2%	16.9%	25.1%	19.9%	23.0%	21.8%	12.5%

Access to Care

Have Health Insurance – 2015–2021
Statewide, 83.1% of adults aged 18–64 reported having health care coverage. Health care coverage differed significantly by race/ethnicity, with 86.0% of white non-Hispanics, compared to 64.8% of Hispanics and 83.3% of Native Americans, having health insurance. Spanish-speaking respondents were significantly less likely to be insured (33.3%) than English-speaking respondents (84.2%). Health care coverage differed significantly by age of respondent, with 79.8% of persons aged 18–29, and 87.8% of persons aged 50–64, having health insurance. Health care coverage differed significantly by county, with a range of 62.1% in Adams County to 91.6% in Oneida County having health insurance.

Not See Doctor Due to Cost in Past Year – 2015–2021
Statewide, 12.6% 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 (11.5% of white non-Hispanics, 19.2% of Hispanics, and 21.0% of Native Americans). Inability to see a doctor due to cost differed significantly by annual household income (24.9% for less than $15,000, 6.1% for greater than $50,000). Inability to see a doctor due to cost differed significantly by county, with a range of 7.4% in Franklin County to 17.5% in Power County.

Cancer Screening

Mammogram – 2014, 2016, 2018, 2020
Statewide, 69.1% of women aged 50–74 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 (72.1% versus 36.7%). Mammography rates differed significantly by county, with a range in screening of 45.9% in Benewah County to 77.0% in Nez Perce County. In 2020, Idaho ranked 48th among states and the District of Columbia for mammography screening rates among women aged 50–74 and also 48th among ages 40+.

Pap Test – 2018, 2020
Statewide, 71.2% 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 (75.1% versus 52.6% screened in the past 3 years). Pap screening differed significantly by county, with a range of 50.7% 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 – 2018, 2020
Statewide, 67.9% of adults aged 50–75 reported being current for colorectal cancer screening.** Persons with health insurance were over twice as likely to be current for colorectal cancer screening. In 2020, Idaho ranked 47th among states and the District of Columbia in the percentage of adults aged 50–75 and older who reported being up-to-date for colorectal cancer screening.

** 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, or a colonoscopy in the past 10 years.

Cancer Screening and Risk Factors

Tobacco Use

Current Tobacco Use – 2016–2021
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, 22.3% of adults aged 18 and older were current tobacco users. Tobacco use differed significantly by age of respondent, with 29.9% of persons aged 18-29, and 11.1% of persons aged 65 and older reporting current tobacco use. Tobacco use was lower among white non-Hispanics (22.4%) than among Native Americans (40.0%). Tobacco use differed significantly by county, with a range of 5.4% in Madison County to 41.6% 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 – 2015–2021
Statewide, 32.1% 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 32.5% of white non-Hispanics, compared to 28.2% of Hispanics and 24.6% of Native Americans, being in the healthy weight range. Males (25.5%) were significantly less likely to be in the healthy weight range than females (38.6%). BMI differed significantly by age of respondent, with 43.3% of persons aged 18–29, and 26.0% of persons aged 50–64, being in the healthy weight range. BMI differed significantly by county, with a range of 19.8% in Power County to 47.4% in Blaine County of adults being in the healthy weight range.

Any Physical Activity – 2015-2021
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, 78.7% 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 83.3% of persons aged 18–29, and 72.3% 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 64.3% in Clark County to 84.6% in Teton County.

Physical Activity Guidelines – 2011, 2013, 2015, 2017, 2019
Statewide, 21.9% 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 26.3% 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 9.6% in Franklin County to 30.6% in Blaine County.

Home Radon Testing – 2016, 2018, 2020
Statewide, 23.0% of adults have ever tested their house for radon. Radon test usage varied significantly by race/ethnicity, with 25.1% of white non-Hispanics, 7.4% 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 8.5% in Cassia County to 54.4% in Blaine County.

This project has been funded in whole or in part with Federal funds from the National Cancer Institute, National Institutes of Health, Department of Health and Human Services, under Contract No. HHSN261201800006I and the Centers for Disease Control and Prevention, Department of Health and Human Services, under Cooperative Agreement NU58DP007160. The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention or the National Cancer Institute.

IDAHO COUNTY CANCER PROFILE

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

Cancer Incidence 2016–2020
Cancer Mortality 2017–2021
BRFSS 2011–2021

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.2016.3332). 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 2016–2020

Nearly one in two Idahoans are estimated to develop cancer during their lifetime. During 2016–2020, 45,610 cases of invasive cancer were diagnosed among Idaho residents, and 613 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, 2016–2020

Cancer Incidence 2016–2020	Idaho County	State of Idaho
All Sites/Types	**613**	**45,610**
Female Breast	**76**	**6,687**
Prostate	**100**	**6,417**
Lung & Bronchus	**77**	**4,887**
Colorectal	**51**	**3,451**

Table 3 (*Cancer Incidence 2016–2020, 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 742.5 cases per 100,000 person-years per year during 2016–2020. Comparing this crude rate with the crude rate for the remainder of Idaho (517.8) 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 486.2 cases per 100,000 persons per year during 2016–2020. There were fewer cases of cancer in Idaho County (613) than expected (652.9) 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 2017–2021

During 2017–2021, cancer was the second leading cause of death in Idaho; 15,121 Idaho residents and 234 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, 2017–2021

Mortality 2017–2021	Idaho County	State of Idaho
All Deaths	**1,042**	**77,431**
Cancer Deaths	**234**	**15,121**
% of All Deaths	*22.5%*	*19.5%*
Lung & Bronchus	**41**	**2,961**
Colorectal	**24**	**1,319**
Pancreas	**24**	**1,190**
Female Breast	**13**	**1,086**
Prostate	**18**	**949**

Table 4 (*Cancer Mortality 2017–2021, 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 169.8 deaths per 100,000 persons per year during 2017–2021, compared with 167.2 for the remainder of the state. There were more cancer deaths in Idaho County (234) than expected (230.4) 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 2016–2020
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	613	82,554	742.5	486.2	652.9	0.121	44,997	8,689,274	517.8
All Sites Combined	Male	351	43,359	809.5	499.4	386.5	0.072	23,938	4,353,551	549.8
All Sites Combined	Female	262	39,195	668.5	461.4	275.8	0.424	21,059	4,335,723	485.7
Bladder	Total	33	82,554	40.0	23.9	34.2	0.923	2,151	8,689,274	24.8
Bladder	Male	25	43,359	57.7	32.7	30.4	0.382	1,726	4,353,551	39.6
Bladder	Female	8	39,195	20.4	12.8	6.1	0.543	425	4,335,723	9.8
Brain - malignant	Total	4	82,554	4.8	3.6	8.0	0.197	621	8,689,274	7.1
Brain - malignant	Male	4	43,359	9.2	6.7	5.1	0.842	371	4,353,551	8.5
Brain - malignant	Female	-	39,195	-	-	3.1	0.094	250	4,335,723	5.8
Brain and other CNS - non-malignant	Total	19	82,554	23.0	16.2	19.0	1.000	1,405	8,689,274	16.2
Brain and other CNS - non-malignant	Male	8	43,359	18.5	13.0	6.6	0.698	472	4,353,551	10.8
Brain and other CNS - non-malignant	Female	11	39,195	28.1	19.9	11.9	0.952	933	4,335,723	21.5
Breast	Total	78	82,554	94.5	65.2	91.9	0.158	6,668	8,689,274	76.7
Breast	Male	2	43,359	4.6	2.8	1.0	0.492	57	4,353,551	1.3
Breast	Female	76	39,195	193.9	136.0	85.2	0.347	6,611	4,335,723	152.5
Breast - in situ	Total	3	82,554	3.6	2.6	16.6	0.000 <<	1,236	8,689,274	14.2
Breast - in situ	Male	-	43,359	-	-	0.1	1.000	5	4,353,551	0.1
Breast - in situ	Female	3	39,195	7.7	5.5	15.6	0.000 <<	1,231	4,335,723	28.4
Cervix	Female	4	39,195	10.2	9.6	2.9	0.659	300	4,335,723	6.9
Colorectal	Total	51	82,554	61.8	40.9	48.8	0.788	3,400	8,689,274	39.1
Colorectal	Male	21	43,359	48.4	31.3	29.0	0.151	1,882	4,353,551	43.2
Colorectal	Female	30	39,195	76.5	51.9	20.2	0.050 >>	1,518	4,335,723	35.0
Corpus Uteri	Female	20	39,195	51.0	35.2	17.2	0.557	1,310	4,335,723	30.2
Esophagus	Total	10	82,554	12.1	7.6	7.5	0.455	496	8,689,274	5.7
Esophagus	Male	9	43,359	20.8	12.5	6.9	0.504	415	4,353,551	9.5
Esophagus	Female	1	39,195	2.6	1.6	1.1	1.000	81	4,335,723	1.9
Hodgkin Lymphoma	Total	2	82,554	2.4	2.2	2.2	1.000	208	8,689,274	2.4
Hodgkin Lymphoma	Male	2	43,359	4.6	4.0	1.3	0.763	116	4,353,551	2.7
Hodgkin Lymphoma	Female	-	39,195	-	-	0.9	0.840	92	4,335,723	2.1
Kidney and Renal Pelvis	Total	23	82,554	27.9	18.7	25.4	0.727	1,792	8,689,274	20.6
Kidney and Renal Pelvis	Male	14	43,359	32.3	21.2	17.8	0.449	1,168	4,353,551	26.8
Kidney and Renal Pelvis	Female	9	39,195	23.0	15.7	8.2	0.881	624	4,335,723	14.4
Larynx	Total	2	82,554	2.4	1.5	3.2	0.759	213	8,689,274	2.5
Larynx	Male	1	43,359	2.3	1.4	2.6	0.529	159	4,353,551	3.7
Larynx	Female	1	39,195	2.6	1.7	0.7	1.000	54	4,335,723	1.2
Leukemia	Total	19	82,554	23.0	15.1	23.3	0.440	1,612	8,689,274	18.6
Leukemia	Male	13	43,359	30.0	19.1	15.3	0.673	976	4,353,551	22.4
Leukemia	Female	6	39,195	15.3	10.3	8.5	0.510	636	4,335,723	14.7
Liver and Bile Duct	Total	14	82,554	17.0	10.8	12.2	0.681	815	8,689,274	9.4
Liver and Bile Duct	Male	10	43,359	23.1	14.3	9.3	0.909	580	4,353,551	13.3
Liver and Bile Duct	Female	4	39,195	10.2	6.6	3.3	0.822	235	4,335,723	5.4
Lung and Bronchus	Total	77	82,554	93.3	56.0	76.1	0.952	4,810	8,689,274	55.4
Lung and Bronchus	Male	46	43,359	106.1	60.7	41.9	0.562	2,406	4,353,551	55.3
Lung and Bronchus	Female	31	39,195	79.1	49.4	34.8	0.587	2,404	4,335,723	55.4
Melanoma of the Skin	Total	40	82,554	48.5	33.4	40.0	1.000	2,902	8,689,274	33.4
Melanoma of the Skin	Male	27	43,359	62.3	39.8	27.1	1.000	1,738	4,353,551	39.9
Melanoma of the Skin	Female	13	39,195	33.2	24.8	14.1	0.918	1,164	4,335,723	26.8
Myeloma	Total	5	82,554	6.1	3.7	10.9	0.080	703	8,689,274	8.1
Myeloma	Male	2	43,359	4.6	2.7	7.5	0.042 <<	439	4,353,551	10.1
Myeloma	Female	3	39,195	7.7	4.9	3.7	0.973	264	4,335,723	6.1
Non-Hodgkin Lymphoma	Total	27	82,554	32.7	21.5	27.7	0.994	1,913	8,689,274	22.0
Non-Hodgkin Lymphoma	Male	15	43,359	34.6	22.2	17.3	0.685	1,114	4,353,551	25.6
Non-Hodgkin Lymphoma	Female	12	39,195	30.6	20.4	10.8	0.802	799	4,335,723	18.4
Oral Cavity and Pharynx	Total	22	82,554	26.6	17.5	18.4	0.457	1,273	8,689,274	14.7
Oral Cavity and Pharynx	Male	16	43,359	36.9	23.7	14.2	0.709	920	4,353,551	21.1
Oral Cavity and Pharynx	Female	6	39,195	15.3	10.3	4.7	0.675	353	4,335,723	8.1
Ovary	Female	5	39,195	12.8	9.0	6.8	0.653	528	4,335,723	12.2
Pancreas	Total	28	82,554	33.9	20.9	21.5	0.205	1,395	8,689,274	16.1
Pancreas	Male	19	43,359	43.8	26.0	12.8	0.127	765	4,353,551	17.6
Pancreas	Female	9	39,195	23.0	14.6	9.0	1.000	630	4,335,723	14.5
Prostate	Male	100	43,359	230.6	138.2	105.0	0.673	6,317	4,353,551	145.1
Stomach	Total	5	82,554	6.1	3.9	6.9	0.640	462	8,689,274	5.3
Stomach	Male	4	43,359	9.2	5.6	5.0	0.887	305	4,353,551	7.0
Stomach	Female	1	39,195	2.6	1.7	2.1	0.763	157	4,335,723	3.6
Testis	Male	5	43,359	11.5	13.6	2.2	0.144	260	4,353,551	6.0
Thyroid	Total	8	82,554	9.7	8.5	13.1	0.194	1,212	8,689,274	13.9
Thyroid	Male	2	43,359	4.6	3.7	4.4	0.367	353	4,353,551	8.1
Thyroid	Female	6	39,195	15.3	14.1	8.4	0.532	859	4,335,723	19.8
Pediatric Age 0 to 19	Total	1	17,737	5.6	5.7	3.0	0.387	420	2,442,786	17.2
Pediatric Age 0 to 19	Male	1	9,392	10.6	10.6	1.7	1.000	222	1,247,118	17.8
Pediatric Age 0 to 19	Female	-	8,345	-	-	1.4	0.512	198	1,195,668	16.6

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 2017–2021
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	1,042	83,347	1,250.2	760.9	1,174.6	0.000 <<	76,388	8,905,368	857.8
All Causes of Death	Male	600	43,796	1,370.0	806.5	673.6	0.004 <<	40,456	4,468,072	905.4
All Causes of Death	Female	442	39,551	1,117.5	695.7	514.5	0.001 <<	35,932	4,437,296	809.8
All Malignant Cancers	Total	234	83,347	280.8	169.8	230.4	0.828	14,887	8,905,368	167.2
All Malignant Cancers	Male	134	43,796	306.0	175.0	137.8	0.786	8,042	4,468,072	180.0
All Malignant Cancers	Female	100	39,551	252.8	159.9	96.5	0.745	6,845	4,437,296	154.3
Bladder	Total	11	83,347	13.2	7.5	7.9	0.346	478	8,905,368	5.4
Bladder	Male	7	43,796	16.0	8.5	6.9	1.000	371	4,468,072	8.3
Bladder	Female	4	39,551	10.1	6.0	1.6	0.158	107	4,437,296	2.4
Brain and Other Nervous System	Total	3	83,347	3.6	2.4	6.9	0.169	501	8,905,368	5.6
Brain and Other Nervous System	Male	3	43,796	6.8	4.5	4.4	0.713	295	4,468,072	6.6
Brain and Other Nervous System	Female	-	39,551	-	-	2.7	0.139	206	4,437,296	4.6
Breast	Total	13	83,347	15.6	9.9	16.1	0.534	1,089	8,905,368	12.2
Breast	Male	-	43,796	-	-	0.3	1.000	16	4,468,072	0.4
Breast	Female	13	39,551	32.9	21.5	14.6	0.796	1,073	4,437,296	24.2
Cervix	Female	1	39,551	2.5	2.1	0.9	1.000	82	4,437,296	1.8
Colorectal	Total	24	83,347	28.8	18.0	19.4	0.349	1,295	8,905,368	14.5
Colorectal	Male	9	43,796	20.5	12.6	11.4	0.601	710	4,468,072	15.9
Colorectal	Female	15	39,551	37.9	24.1	8.2	0.042 >>	585	4,437,296	13.2
Corpus Uteri	Female	3	39,551	7.6	4.8	2.4	0.866	170	4,437,296	3.8
Esophagus	Total	8	83,347	9.6	5.9	7.2	0.848	469	8,905,368	5.3
Esophagus	Male	6	43,796	13.7	8.1	6.6	1.000	395	4,468,072	8.8
Esophagus	Female	2	39,551	5.1	3.2	1.0	0.561	74	4,437,296	1.7
Hodgkin Lymphoma	Total	-	83,347	-	-	0.4	1.000	29	8,905,368	0.3
Hodgkin Lymphoma	Male	-	43,796	-	-	0.2	1.000	14	4,468,072	0.3
Hodgkin Lymphoma	Female	-	39,551	-	-	0.2	1.000	15	4,437,296	0.3
Kidney	Total	3	83,347	3.6	2.1	6.0	0.296	382	8,905,368	4.3
Kidney	Male	-	43,796	-	-	4.1	0.032 <<	242	4,468,072	5.4
Kidney	Female	3	39,551	7.6	4.6	2.1	0.682	140	4,437,296	3.2
Larynx	Total	1	83,347	1.2	0.7	1.1	1.000	70	8,905,368	0.8
Larynx	Male	1	43,796	2.3	1.3	1.0	1.000	57	4,468,072	1.3
Larynx	Female	-	39,551	-	-	0.2	1.000	13	4,437,296	0.3
Leukemia	Total	9	83,347	10.8	6.5	10.2	0.868	651	8,905,368	7.3
Leukemia	Male	8	43,796	18.3	10.4	6.5	0.656	378	4,468,072	8.5
Leukemia	Female	1	39,551	2.5	1.6	3.9	0.194	273	4,437,296	6.2
Liver and Bile Duct	Total	12	83,347	14.4	8.8	9.1	0.406	591	8,905,368	6.6
Liver and Bile Duct	Male	8	43,796	18.3	10.7	6.7	0.703	400	4,468,072	9.0
Liver and Bile Duct	Female	4	39,551	10.1	6.4	2.7	0.573	191	4,437,296	4.3
Lung and Bronchus	Total	41	83,347	49.2	29.1	46.3	0.492	2,920	8,905,368	32.8
Lung and Bronchus	Male	25	43,796	57.1	32.1	26.7	0.846	1,531	4,468,072	34.3
Lung and Bronchus	Female	16	39,551	40.5	24.9	20.1	0.428	1,389	4,437,296	31.3
Melanoma of the Skin	Total	3	83,347	3.6	2.3	4.3	0.764	286	8,905,368	3.2
Melanoma of the Skin	Male	3	43,796	6.8	4.0	3.1	1.000	189	4,468,072	4.2
Melanoma of the Skin	Female	-	39,551	-	-	1.3	0.549	97	4,437,296	2.2
Myeloma	Total	7	83,347	8.4	4.8	5.3	0.556	324	8,905,368	3.6
Myeloma	Male	2	43,796	4.6	2.5	3.5	0.632	194	4,468,072	4.3
Myeloma	Female	5	39,551	12.6	7.7	1.9	0.088	130	4,437,296	2.9
Non-Hodgkin Lymphoma	Total	7	83,347	8.4	5.0	8.9	0.674	562	8,905,368	6.3
Non-Hodgkin Lymphoma	Male	2	43,796	4.6	2.6	5.2	0.214	305	4,468,072	6.8
Non-Hodgkin Lymphoma	Female	5	39,551	12.6	7.7	3.8	0.652	257	4,437,296	5.8
Oral Cavity and Pharynx	Total	4	83,347	4.8	3.0	4.0	1.000	262	8,905,368	2.9
Oral Cavity and Pharynx	Male	3	43,796	6.8	4.1	3.0	1.000	184	4,468,072	4.1
Oral Cavity and Pharynx	Female	1	39,551	2.5	1.6	1.1	1.000	78	4,437,296	1.8
Ovary	Female	3	39,551	7.6	4.8	4.9	0.573	347	4,437,296	7.8
Pancreas	Total	24	83,347	28.8	17.3	18.1	0.215	1,166	8,905,368	13.1
Pancreas	Male	17	43,796	38.8	22.5	10.6	0.084	625	4,468,072	14.0
Pancreas	Female	7	39,551	17.7	11.0	7.8	0.976	541	4,437,296	12.2
Prostate	Male	18	43,796	41.1	21.6	17.4	0.942	931	4,468,072	20.8
Stomach	Total	-	83,347	-	-	2.9	0.110	198	8,905,368	2.2
Stomach	Male	-	43,796	-	-	2.0	0.283	121	4,468,072	2.7
Stomach	Female	-	39,551	-	-	1.0	0.726	77	4,437,296	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, 2020.

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 (BRFS) since 1984. These surveys are conducted with randomly selected adult Idahoans to measure population prevalences of risk factors for the major causes of death, including cancer. DPH provided data sets containing Behavioral Risk Factor Surveillance System (BRFSS) data from 2011 through 2021 to CDRI staff, who performed the analyses reported in these *County Profiles*. Analysis weights were poststratified to 2020 population estimates by age group, sex, and county, beginning with the BRFSS raked weights. Not all questions were asked in all years. 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* 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, 2011–2021

Measure	State of Idaho	HD 1	HD 2	HD 3	HD 4	HD 5	HD 6	HD 7	Idaho County
Access to Care									
Have Health Insurance, Age <65 (2015–2021)	83.1%	82.8%	85.1%	77.2%	85.8%	78.9%	85.4%	85.4%	63.7%
Not See Doctor Due to Cost in Past Year (2015–2021)	12.6%	11.4%	11.8%	14.5%	12.4%	12.3%	11.8%	12.9%	14.7%
Cancer Screening									
Mammogram Past 2 Years, Age 50–74 (2014, 2016, 2018, 2020)	69.1%	67.0%	73.8%	68.2%	73.2%	64.8%	64.5%	67.1%	74.6%
Pap Test Past 3 Years, Cervix Intact Age 21–65 (2018, 2020)	71.2%	73.6%	73.6%	70.8%	72.9%	69.1%	69.5%	65.9%	64.2%
Colorectal Cancer Screening, Age 50–75 (2018, 2020)	67.9%	66.9%	73.6%	71.4%	70.6%	61.7%	61.5%	64.7%	61.7%
Tobacco Use									
Current Tobacco User (2016–2021)	22.3%	26.7%	23.1%	23.6%	21.8%	21.4%	22.7%	16.9%	22.4%
Other Cancer-Related									
Healthy Weight by Body Mass Index, Age 20+ (2015–2021)	32.1%	32.8%	31.7%	27.9%	36.1%	29.8%	27.9%	31.9%	32.3%
Any Physical Activity Besides Job Past 30 Days (2015-2021)	78.7%	79.2%	78.1%	74.5%	83.2%	73.4%	76.3%	79.7%	68.8%
Meet Physical Activity Guidelines (2011, 2013, 2015, 2017, 2019)	21.9%	22.8%	19.4%	20.0%	25.2%	19.5%	20.4%	20.2%	14.3%
Home Ever Tested for Radon (2016, 2018, 2020)	23.0%	30.9%	18.2%	16.9%	25.1%	19.9%	23.0%	21.8%	9.6%

Access to Care

Have Health Insurance – 2015–2021
Statewide, 83.1% of adults aged 18–64 reported having health care coverage. Health care coverage differed significantly by race/ethnicity, with 86.0% of white non-Hispanics, compared to 64.8% of Hispanics and 83.3% of Native Americans, having health insurance. Spanish-speaking respondents were significantly less likely to be insured (33.3%) than English-speaking respondents (84.2%). Health care coverage differed significantly by age of respondent, with 79.8% of persons aged 18–29, and 87.8% of persons aged 50–64, having health insurance. Health care coverage differed significantly by county, with a range of 62.1% in Adams County to 91.6% in Oneida County having health insurance.

Not See Doctor Due to Cost in Past Year – 2015–2021
Statewide, 12.6% 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 (11.5% of white non-Hispanics, 19.2% of Hispanics, and 21.0% of Native Americans). Inability to see a doctor due to cost differed significantly by annual household income (24.9% for less than $15,000, 6.1% for greater than $50,000). Inability to see a doctor due to cost differed significantly by county, with a range of 7.4% in Franklin County to 17.5% in Power County.

Cancer Screening

Mammogram – 2014, 2016, 2018, 2020
Statewide, 69.1% of women aged 50–74 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 (72.1% versus 36.7%). Mammography rates differed significantly by county, with a range in screening of 45.9% in Benewah County to 77.0% in Nez Perce County. In 2020, Idaho ranked 48th among states and the District of Columbia for mammography screening rates among women aged 50–74 and also 48th among ages 40+.

Pap Test – 2018, 2020
Statewide, 71.2% 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 (75.1% versus 52.6% screened in the past 3 years). Pap screening differed significantly by county, with a range of 50.7% 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 – 2018, 2020
Statewide, 67.9% of adults aged 50–75 reported being current for colorectal cancer screening.** Persons with health insurance were over twice as likely to be current for colorectal cancer screening. In 2020, Idaho ranked 47th among states and the District of Columbia in the percentage of adults aged 50–75 and older who reported being up-to-date for colorectal cancer screening.

** 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, or a colonoscopy in the past 10 years.

Cancer Screening and Risk Factors

Tobacco Use

Current Tobacco Use – 2016–2021
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, 22.3% of adults aged 18 and older were current tobacco users. Tobacco use differed significantly by age of respondent, with 29.9% of persons aged 18-29, and 11.1% of persons aged 65 and older reporting current tobacco use. Tobacco use was lower among white non-Hispanics (22.4%) than among Native Americans (40.0%). Tobacco use differed significantly by county, with a range of 5.4% in Madison County to 41.6% 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 – 2015–2021
Statewide, 32.1% 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 32.5% of white non-Hispanics, compared to 28.2% of Hispanics and 24.6% of Native Americans, being in the healthy weight range. Males (25.5%) were significantly less likely to be in the healthy weight range than females (38.6%). BMI differed significantly by age of respondent, with 43.3% of persons aged 18–29, and 26.0% of persons aged 50–64, being in the healthy weight range. BMI differed significantly by county, with a range of 19.8% in Power County to 47.4% in Blaine County of adults being in the healthy weight range.

Any Physical Activity – 2015-2021
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, 78.7% 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 83.3% of persons aged 18–29, and 72.3% 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 64.3% in Clark County to 84.6% in Teton County.

Physical Activity Guidelines – 2011, 2013, 2015, 2017, 2019
Statewide, 21.9% 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 26.3% 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 9.6% in Franklin County to 30.6% in Blaine County.

Home Radon Testing – 2016, 2018, 2020
Statewide, 23.0% of adults have ever tested their house for radon. Radon test usage varied significantly by race/ethnicity, with 25.1% of white non-Hispanics, 7.4% 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 8.5% in Cassia County to 54.4% in Blaine County.

This project has been funded in whole or in part with Federal funds from the National Cancer Institute, National Institutes of Health, Department of Health and Human Services, under Contract No. HHSN261201800006I and the Centers for Disease Control and Prevention, Department of Health and Human Services, under Cooperative Agreement NU58DP007160. The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention or the National Cancer Institute.

JEFFERSON COUNTY CANCER PROFILE

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

Cancer Incidence 2016–2020
Cancer Mortality 2017–2021
BRFSS 2011–2021

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.2016.3332). 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 2016–2020

Nearly one in two Idahoans are estimated to develop cancer during their lifetime. During 2016–2020, 45,610 cases of invasive cancer were diagnosed among Idaho residents, and 578 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, 2016–2020

Cancer Incidence 2016–2020	Jefferson County	State of Idaho
All Sites/Types	**578**	**45,610**
Female Breast	**79**	**6,687**
Prostate	**83**	**6,417**
Lung & Bronchus	**48**	**4,887**
Colorectal	**47**	**3,451**

Table 3 (*Cancer Incidence 2016–2020, 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 395.4 cases per 100,000 person-years per year during 2016–2020. Comparing this crude rate with the crude rate for the remainder of Idaho (522.1) 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 497.4 cases per 100,000 persons per year during 2016–2020. There were fewer cases of cancer in Jefferson County (578) than expected (606.7) 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 2017–2021

During 2017–2021, cancer was the second leading cause of death in Idaho; 15,121 Idaho residents and 172 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, 2017–2021

Mortality 2017–2021	Jefferson County	State of Idaho
All Deaths	**969**	**77,431**
Cancer Deaths	**172**	**15,121**
% of All Deaths	*17.8%*	*19.5%*
Lung & Bronchus	**26**	**2,961**
Colorectal	**15**	**1,319**
Pancreas	**17**	**1,190**
Female Breast	**17**	**1,086**
Prostate	**11**	**949**

Table 4 (*Cancer Mortality 2017–2021, 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 152.5 deaths per 100,000 persons per year during 2017–2021, compared with 169.1 for the remainder of the state. There were fewer cancer deaths in Jefferson County (172) than expected (190.7) 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 2016–2020
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	578	146,192	395.4	497.4	606.7	0.252	45,032	8,625,636	522.1
All Sites Combined	Male	314	74,341	422.4	528.7	329.4	0.413	23,975	4,322,569	554.6
All Sites Combined	Female	264	71,851	367.4	462.9	279.1	0.384	21,057	4,303,067	489.3
Bladder	Total	28	146,192	19.2	25.5	27.4	0.961	2,156	8,625,636	25.0
Bladder	Male	21	74,341	28.2	37.1	22.6	0.837	1,730	4,322,569	40.0
Bladder	Female	7	71,851	9.7	13.1	5.3	0.566	426	4,303,067	9.9
Brain - malignant	Total	10	146,192	6.8	8.0	9.0	0.813	615	8,625,636	7.1
Brain - malignant	Male	5	74,341	6.7	7.7	5.5	1.000	370	4,322,569	8.6
Brain - malignant	Female	5	71,851	7.0	8.2	3.5	0.540	245	4,303,067	5.7
Brain and other CNS - non-malignant	Total	24	146,192	16.4	19.9	19.6	0.368	1,400	8,625,636	16.2
Brain and other CNS - non-malignant	Male	10	74,341	13.5	15.8	6.9	0.314	470	4,322,569	10.9
Brain and other CNS - non-malignant	Female	14	71,851	19.5	24.2	12.5	0.748	930	4,303,067	21.6
Breast	Total	80	146,192	54.7	67.1	92.2	0.221	6,666	8,625,636	77.3
Breast	Male	1	74,341	1.3	1.7	0.8	1.000	58	4,322,569	1.3
Breast	Female	79	71,851	109.9	137.0	88.6	0.335	6,608	4,303,067	153.6
Breast - in situ	Total	17	146,192	11.6	14.0	17.1	1.000	1,222	8,625,636	14.2
Breast - in situ	Male	-	74,341	-	-	0.1	1.000	5	4,322,569	0.1
Breast - in situ	Female	17	71,851	23.7	29.1	16.5	0.969	1,217	4,303,067	28.3
Cervix	Female	4	71,851	5.6	6.1	4.6	1.000	300	4,303,067	7.0
Colorectal	Total	47	146,192	32.1	40.5	45.8	0.902	3,404	8,625,636	39.5
Colorectal	Male	30	74,341	40.4	49.7	26.2	0.504	1,873	4,322,569	43.3
Colorectal	Female	17	71,851	23.7	30.4	19.9	0.614	1,531	4,303,067	35.6
Corpus Uteri	Female	17	71,851	23.7	29.6	17.6	1.000	1,313	4,303,067	30.5
Esophagus	Total	3	146,192	2.1	2.7	6.6	0.210	503	8,625,636	5.8
Esophagus	Male	2	74,341	2.7	3.4	5.7	0.151	422	4,322,569	9.8
Esophagus	Female	1	71,851	1.4	1.8	1.0	1.000	81	4,303,067	1.9
Hodgkin Lymphoma	Total	4	146,192	2.7	3.0	3.2	0.791	206	8,625,636	2.4
Hodgkin Lymphoma	Male	2	74,341	2.7	2.9	1.8	1.000	116	4,322,569	2.7
Hodgkin Lymphoma	Female	2	71,851	2.8	3.0	1.4	0.806	90	4,303,067	2.1
Kidney and Renal Pelvis	Total	13	146,192	8.9	11.0	24.6	0.016 <<	1,802	8,625,636	20.9
Kidney and Renal Pelvis	Male	10	74,341	13.5	16.4	16.5	0.124	1,172	4,322,569	27.1
Kidney and Renal Pelvis	Female	3	71,851	4.2	5.2	8.4	0.066	630	4,303,067	14.6
Larynx	Total	1	146,192	0.7	0.9	2.8	0.447	214	8,625,636	2.5
Larynx	Male	-	74,341	-	-	2.2	0.224	160	4,322,569	3.7
Larynx	Female	1	71,851	1.4	1.8	0.7	1.000	54	4,303,067	1.3
Leukemia	Total	17	146,192	11.6	14.4	22.1	0.330	1,614	8,625,636	18.7
Leukemia	Male	16	74,341	21.5	26.2	13.8	0.613	973	4,322,569	22.5
Leukemia	Female	1	71,851	1.4	1.8	8.5	0.004 <<	641	4,303,067	14.9
Liver and Bile Duct	Total	8	146,192	5.5	6.9	11.0	0.469	821	8,625,636	9.5
Liver and Bile Duct	Male	6	74,341	8.1	10.0	8.1	0.600	584	4,322,569	13.5
Liver and Bile Duct	Female	2	71,851	2.8	3.6	3.1	0.821	237	4,303,067	5.5
Lung and Bronchus	Total	48	146,192	32.8	43.4	62.0	0.078	4,839	8,625,636	56.1
Lung and Bronchus	Male	30	74,341	40.4	52.6	32.0	0.817	2,422	4,322,569	56.0
Lung and Bronchus	Female	18	71,851	25.1	33.6	30.1	0.025 <<	2,417	4,303,067	56.2
Melanoma of the Skin	Total	46	146,192	31.5	38.8	39.8	0.362	2,896	8,625,636	33.6
Melanoma of the Skin	Male	24	74,341	32.3	40.0	24.2	1.000	1,741	4,322,569	40.3
Melanoma of the Skin	Female	22	71,851	30.6	37.1	15.9	0.170	1,155	4,303,067	26.8
Myeloma	Total	5	146,192	3.4	4.5	9.1	0.219	703	8,625,636	8.2
Myeloma	Male	3	74,341	4.0	5.2	5.8	0.332	438	4,322,569	10.1
Myeloma	Female	2	71,851	2.8	3.7	3.4	0.696	265	4,303,067	6.2
Non-Hodgkin Lymphoma	Total	30	146,192	20.5	25.7	25.8	0.461	1,910	8,625,636	22.1
Non-Hodgkin Lymphoma	Male	14	74,341	18.8	23.0	15.7	0.794	1,115	4,322,569	25.8
Non-Hodgkin Lymphoma	Female	16	71,851	22.3	28.6	10.3	0.122	795	4,303,067	18.5
Oral Cavity and Pharynx	Total	18	146,192	12.3	15.4	17.3	0.927	1,277	8,625,636	14.8
Oral Cavity and Pharynx	Male	13	74,341	17.5	21.4	13.0	1.000	923	4,322,569	21.4
Oral Cavity and Pharynx	Female	5	71,851	7.0	8.9	4.6	0.985	354	4,303,067	8.2
Ovary	Female	6	71,851	8.4	10.4	7.0	0.889	527	4,303,067	12.2
Pancreas	Total	20	146,192	13.7	17.9	18.1	0.722	1,403	8,625,636	16.3
Pancreas	Male	12	74,341	16.1	20.7	10.3	0.683	772	4,322,569	17.9
Pancreas	Female	8	71,851	11.1	14.9	7.9	1.000	631	4,303,067	14.7
Prostate	Male	83	74,341	111.6	141.0	86.2	0.781	6,334	4,322,569	146.5
Stomach	Total	10	146,192	6.8	8.8	6.0	0.174	457	8,625,636	5.3
Stomach	Male	5	74,341	6.7	8.5	4.1	0.796	304	4,322,569	7.0
Stomach	Female	5	71,851	7.0	8.9	2.0	0.103	153	4,303,067	3.6
Testis	Male	3	74,341	4.0	4.3	4.2	0.778	262	4,322,569	6.1
Thyroid	Total	29	146,192	19.8	22.3	18.0	0.021 >>	1,191	8,625,636	13.8
Thyroid	Male	12	74,341	16.1	18.5	5.2	0.014 >>	343	4,322,569	7.9
Thyroid	Female	17	71,851	23.7	26.4	12.7	0.288	848	4,303,067	19.7
Pediatric Age 0 to 19	Total	6	53,391	11.2	11.4	9.1	0.404	415	2,407,132	17.2
Pediatric Age 0 to 19	Male	4	27,191	14.7	14.8	4.8	0.951	219	1,229,319	17.8
Pediatric Age 0 to 19	Female	2	26,200	7.6	7.8	4.2	0.409	196	1,177,813	16.6

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 2017–2021
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	969	150,567	643.6	865.8	968.2	0.988	76,461	8,838,148	865.1
All Causes of Death	Male	543	76,770	707.3	921.1	538.5	0.858	40,513	4,435,098	913.5
All Causes of Death	Female	426	73,797	577.3	801.9	433.7	0.735	35,948	4,403,050	816.4
All Malignant Cancers	Total	172	150,567	114.2	152.5	190.7	0.184	14,949	8,838,148	169.1
All Malignant Cancers	Male	103	76,770	134.2	176.7	106.1	0.810	8,073	4,435,098	182.0
All Malignant Cancers	Female	69	73,797	93.5	126.2	85.4	0.079	6,876	4,403,050	156.2
Bladder	Total	8	150,567	5.3	7.5	5.8	0.451	481	8,838,148	5.4
Bladder	Male	7	76,770	9.1	12.7	4.6	0.363	371	4,435,098	8.4
Bladder	Female	1	73,797	1.4	1.9	1.3	1.000	110	4,403,050	2.5
Brain and Other Nervous System	Total	7	150,567	4.6	5.7	6.9	1.000	497	8,838,148	5.6
Brain and Other Nervous System	Male	4	76,770	5.2	6.3	4.2	1.000	294	4,435,098	6.6
Brain and Other Nervous System	Female	3	73,797	4.1	5.1	2.7	1.000	203	4,403,050	4.6
Breast	Total	17	150,567	11.3	14.7	14.2	0.522	1,085	8,838,148	12.3
Breast	Male	-	76,770	-	-	0.2	1.000	16	4,435,098	0.4
Breast	Female	17	73,797	23.0	30.5	13.5	0.412	1,069	4,403,050	24.3
Cervix	Female	-	73,797	-	-	1.2	0.611	83	4,403,050	1.9
Colorectal	Total	15	150,567	10.0	13.1	16.9	0.759	1,304	8,838,148	14.8
Colorectal	Male	9	76,770	11.7	14.9	9.7	0.993	710	4,435,098	16.0
Colorectal	Female	6	73,797	8.1	11.0	7.3	0.804	594	4,403,050	13.5
Corpus Uteri	Female	2	73,797	2.7	3.6	2.1	1.000	171	4,403,050	3.9
Esophagus	Total	3	150,567	2.0	2.6	6.1	0.281	474	8,838,148	5.4
Esophagus	Male	3	76,770	3.9	5.0	5.3	0.440	398	4,435,098	9.0
Esophagus	Female	-	73,797	-	-	0.9	0.783	76	4,403,050	1.7
Hodgkin Lymphoma	Total	1	150,567	0.7	0.9	0.4	0.616	28	8,838,148	0.3
Hodgkin Lymphoma	Male	-	76,770	-	-	0.2	1.000	14	4,435,098	0.3
Hodgkin Lymphoma	Female	1	73,797	1.4	1.8	0.2	0.323	14	4,403,050	0.3
Kidney	Total	3	150,567	2.0	2.7	4.8	0.583	382	8,838,148	4.3
Kidney	Male	1	76,770	1.3	1.7	3.2	0.345	241	4,435,098	5.4
Kidney	Female	2	73,797	2.7	3.8	1.7	1.000	141	4,403,050	3.2
Larynx	Total	-	150,567	-	-	0.9	0.795	71	8,838,148	0.8
Larynx	Male	-	76,770	-	-	0.8	0.925	58	4,435,098	1.3
Larynx	Female	-	73,797	-	-	0.2	1.000	13	4,403,050	0.3
Leukemia	Total	6	150,567	4.0	5.4	8.3	0.567	654	8,838,148	7.4
Leukemia	Male	5	76,770	6.5	8.6	5.0	1.000	381	4,435,098	8.6
Leukemia	Female	1	73,797	1.4	1.9	3.3	0.312	273	4,403,050	6.2
Liver and Bile Duct	Total	8	150,567	5.3	7.0	7.7	1.000	595	8,838,148	6.7
Liver and Bile Duct	Male	7	76,770	9.1	11.7	5.4	0.597	401	4,435,098	9.0
Liver and Bile Duct	Female	1	73,797	1.4	1.8	2.4	0.610	194	4,403,050	4.4
Lung and Bronchus	Total	26	150,567	17.3	23.3	37.0	0.073	2,935	8,838,148	33.2
Lung and Bronchus	Male	17	76,770	22.1	29.3	20.1	0.577	1,539	4,435,098	34.7
Lung and Bronchus	Female	9	73,797	12.2	16.7	17.1	0.051	1,396	4,403,050	31.7
Melanoma of the Skin	Total	5	150,567	3.3	4.3	3.7	0.631	284	8,838,148	3.2
Melanoma of the Skin	Male	5	76,770	6.5	8.4	2.5	0.218	187	4,435,098	4.2
Melanoma of the Skin	Female	-	73,797	-	-	1.3	0.571	97	4,403,050	2.2
Myeloma	Total	2	150,567	1.3	1.8	4.1	0.460	329	8,838,148	3.7
Myeloma	Male	2	76,770	2.6	3.6	2.5	1.000	194	4,435,098	4.4
Myeloma	Female	-	73,797	-	-	1.6	0.394	135	4,403,050	3.1
Non-Hodgkin Lymphoma	Total	7	150,567	4.6	6.3	7.1	1.000	562	8,838,148	6.4
Non-Hodgkin Lymphoma	Male	4	76,770	5.2	6.9	4.0	1.000	303	4,435,098	6.8
Non-Hodgkin Lymphoma	Female	3	73,797	4.1	5.7	3.1	1.000	259	4,403,050	5.9
Oral Cavity and Pharynx	Total	1	150,567	0.7	0.9	3.4	0.285	265	8,838,148	3.0
Oral Cavity and Pharynx	Male	1	76,770	1.3	1.7	2.5	0.574	186	4,435,098	4.2
Oral Cavity and Pharynx	Female	-	73,797	-	-	1.0	0.738	79	4,403,050	1.8
Ovary	Female	2	73,797	2.7	3.6	4.4	0.376	348	4,403,050	7.9
Pancreas	Total	17	150,567	11.3	15.1	15.0	0.665	1,173	8,838,148	13.3
Pancreas	Male	9	76,770	11.7	15.3	8.4	0.919	633	4,435,098	14.3
Pancreas	Female	8	73,797	10.8	14.8	6.6	0.698	540	4,403,050	12.3
Prostate	Male	11	76,770	14.3	20.1	11.6	1.000	938	4,435,098	21.1
Stomach	Total	1	150,567	0.7	0.9	2.6	0.539	197	8,838,148	2.2
Stomach	Male	1	76,770	1.3	1.7	1.6	1.000	120	4,435,098	2.7
Stomach	Female	-	73,797	-	-	1.0	0.734	77	4,403,050	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, 2020.

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 (BRFS) since 1984. These surveys are conducted with randomly selected adult Idahoans to measure population prevalences of risk factors for the major causes of death, including cancer. DPH provided data sets containing Behavioral Risk Factor Surveillance System (BRFSS) data from 2011 through 2021 to CDRI staff, who performed the analyses reported in these *County Profiles*. Analysis weights were poststratified to 2020 population estimates by age group, sex, and county, beginning with the BRFSS raked weights. Not all questions were asked in all years. 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* 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, 2011–2021

Measure	State of Idaho	HD 1	HD 2	HD 3	HD 4	HD 5	HD 6	HD 7	Jefferson County
Access to Care									
Have Health Insurance, Age <65 (2015–2021)	83.1%	82.8%	85.1%	77.2%	85.8%	78.9%	85.4%	85.4%	84.0%
Not See Doctor Due to Cost in Past Year (2015–2021)	12.6%	11.4%	11.8%	14.5%	12.4%	12.3%	11.8%	12.9%	12.3%
Cancer Screening									
Mammogram Past 2 Years, Age 50–74 (2014, 2016, 2018, 2020)	69.1%	67.0%	73.8%	68.2%	73.2%	64.8%	64.5%	67.1%	63.8%
Pap Test Past 3 Years, Cervix Intact Age 21–65 (2018, 2020)	71.2%	73.6%	73.6%	70.8%	72.9%	69.1%	69.5%	65.9%	55.3%
Colorectal Cancer Screening, Age 50–75 (2018, 2020)	67.9%	66.9%	73.6%	71.4%	70.6%	61.7%	61.5%	64.7%	59.5%
Tobacco Use									
Current Tobacco User (2016–2021)	22.3%	26.7%	23.1%	23.6%	21.8%	21.4%	22.7%	16.9%	12.2%
Other Cancer-Related									
Healthy Weight by Body Mass Index, Age 20+ (2015–2021)	32.1%	32.8%	31.7%	27.9%	36.1%	29.8%	27.9%	31.9%	26.5%
Any Physical Activity Besides Job Past 30 Days (2015-2021)	78.7%	79.2%	78.1%	74.5%	83.2%	73.4%	76.3%	79.7%	77.1%
Meet Physical Activity Guidelines (2011, 2013, 2015, 2017, 2019)	21.9%	22.8%	19.4%	20.0%	25.2%	19.5%	20.4%	20.2%	16.8%
Home Ever Tested for Radon (2016, 2018, 2020)	23.0%	30.9%	18.2%	16.9%	25.1%	19.9%	23.0%	21.8%	20.5%

Access to Care

Have Health Insurance – 2015–2021
Statewide, 83.1% of adults aged 18–64 reported having health care coverage. Health care coverage differed significantly by race/ethnicity, with 86.0% of white non-Hispanics, compared to 64.8% of Hispanics and 83.3% of Native Americans, having health insurance. Spanish-speaking respondents were significantly less likely to be insured (33.3%) than English-speaking respondents (84.2%). Health care coverage differed significantly by age of respondent, with 79.8% of persons aged 18–29, and 87.8% of persons aged 50–64, having health insurance. Health care coverage differed significantly by county, with a range of 62.1% in Adams County to 91.6% in Oneida County having health insurance.

Not See Doctor Due to Cost in Past Year – 2015–2021
Statewide, 12.6% 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 (11.5% of white non-Hispanics, 19.2% of Hispanics, and 21.0% of Native Americans). Inability to see a doctor due to cost differed significantly by annual household income (24.9% for less than $15,000, 6.1% for greater than $50,000). Inability to see a doctor due to cost differed significantly by county, with a range of 7.4% in Franklin County to 17.5% in Power County.

Cancer Screening

Mammogram – 2014, 2016, 2018, 2020
Statewide, 69.1% of women aged 50–74 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 (72.1% versus 36.7%). Mammography rates differed significantly by county, with a range in screening of 45.9% in Benewah County to 77.0% in Nez Perce County. In 2020, Idaho ranked 48th among states and the District of Columbia for mammography screening rates among women aged 50–74 and also 48th among ages 40+.

Pap Test – 2018, 2020
Statewide, 71.2% 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 (75.1% versus 52.6% screened in the past 3 years). Pap screening differed significantly by county, with a range of 50.7% 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 – 2018, 2020
Statewide, 67.9% of adults aged 50–75 reported being current for colorectal cancer screening.** Persons with health insurance were over twice as likely to be current for colorectal cancer screening. In 2020, Idaho ranked 47th among states and the District of Columbia in the percentage of adults aged 50–75 and older who reported being up-to-date for colorectal cancer screening.

** 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, or a colonoscopy in the past 10 years.

Cancer Screening and Risk Factors

Tobacco Use

Current Tobacco Use – 2016–2021
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, 22.3% of adults aged 18 and older were current tobacco users. Tobacco use differed significantly by age of respondent, with 29.9% of persons aged 18-29, and 11.1% of persons aged 65 and older reporting current tobacco use. Tobacco use was lower among white non-Hispanics (22.4%) than among Native Americans (40.0%). Tobacco use differed significantly by county, with a range of 5.4% in Madison County to 41.6% 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 – 2015–2021
Statewide, 32.1% 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 32.5% of white non-Hispanics, compared to 28.2% of Hispanics and 24.6% of Native Americans, being in the healthy weight range. Males (25.5%) were significantly less likely to be in the healthy weight range than females (38.6%). BMI differed significantly by age of respondent, with 43.3% of persons aged 18–29, and 26.0% of persons aged 50–64, being in the healthy weight range. BMI differed significantly by county, with a range of 19.8% in Power County to 47.4% in Blaine County of adults being in the healthy weight range.

Any Physical Activity – 2015-2021
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, 78.7% 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 83.3% of persons aged 18–29, and 72.3% 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 64.3% in Clark County to 84.6% in Teton County.

Physical Activity Guidelines – 2011, 2013, 2015, 2017, 2019
Statewide, 21.9% 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 26.3% 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 9.6% in Franklin County to 30.6% in Blaine County.

Home Radon Testing – 2016, 2018, 2020
Statewide, 23.0% of adults have ever tested their house for radon. Radon test usage varied significantly by race/ethnicity, with 25.1% of white non-Hispanics, 7.4% 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 8.5% in Cassia County to 54.4% in Blaine County.

This project has been funded in whole or in part with Federal funds from the National Cancer Institute, National Institutes of Health, Department of Health and Human Services, under Contract No. HHSN261201800006I and the Centers for Disease Control and Prevention, Department of Health and Human Services, under Cooperative Agreement NU58DP007160. The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention or the National Cancer Institute.

JEROME COUNTY CANCER PROFILE

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

Cancer Incidence 2016–2020
Cancer Mortality 2017–2021
BRFSS 2011–2021

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.2016.3332). 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 2016–2020

Nearly one in two Idahoans are estimated to develop cancer during their lifetime. During 2016–2020, 45,610 cases of invasive cancer were diagnosed among Idaho residents, and 489 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, 2016–2020

Cancer Incidence 2016–2020	Jerome County	State of Idaho
All Sites/Types	**489**	**45,610**
Female Breast	**61**	**6,687**
Prostate	**57**	**6,417**
Lung & Bronchus	**54**	**4,887**
Colorectal	**42**	**3,451**

Table 3 (*Cancer Incidence 2016–2020, 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 406.2 cases per 100,000 person-years per year during 2016–2020. Comparing this crude rate with the crude rate for the remainder of Idaho (521.5) 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 470.7 cases per 100,000 persons per year during 2016–2020. There were statistically significantly fewer cases of cancer in Jerome County (489) than expected (541.8) 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 2017–2021

During 2017–2021, cancer was the second leading cause of death in Idaho; 15,121 Idaho residents and 165 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, 2017–2021

Mortality 2017–2021	Jerome County	State of Idaho
All Deaths	**925**	**77,431**
Cancer Deaths	**165**	**15,121**
% of All Deaths	*17.8%*	*19.5%*
Lung & Bronchus	**29**	**2,961**
Colorectal	**21**	**1,319**
Pancreas	**11**	**1,190**
Female Breast	**10**	**1,086**
Prostate	**16**	**949**

Table 4 (*Cancer Mortality 2017–2021, 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 162.5 deaths per 100,000 persons per year during 2017–2021, compared with 168.7 for the remainder of the state. There were fewer cancer deaths in Jerome County (165) than expected (171.3) 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 2016–2020
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	489	120,371	406.2	470.7	541.8	0.023 <<	45,121	8,651,457	521.5
All Sites Combined	Male	245	61,720	397.0	463.4	293.3	0.004 <<	24,044	4,335,190	554.6
All Sites Combined	Female	244	58,651	416.0	479.3	248.6	0.803	21,077	4,316,267	488.3
Bladder	Total	20	120,371	16.6	19.9	25.1	0.357	2,164	8,651,457	25.0
Bladder	Male	14	61,720	22.7	27.4	20.5	0.174	1,737	4,335,190	40.1
Bladder	Female	6	58,651	10.2	12.2	4.9	0.728	427	4,316,267	9.9
Brain - malignant	Total	5	120,371	4.2	4.6	7.8	0.418	620	8,651,457	7.2
Brain - malignant	Male	-	61,720	-	-	4.8	0.016 <<	375	4,335,190	8.7
Brain - malignant	Female	5	58,651	8.5	9.4	3.0	0.376	245	4,316,267	5.7
Brain and other CNS - non-malignant	Total	6	120,371	5.0	5.6	17.4	0.003 <<	1,418	8,651,457	16.4
Brain and other CNS - non-malignant	Male	3	61,720	4.9	5.4	6.1	0.285	477	4,335,190	11.0
Brain and other CNS - non-malignant	Female	3	58,651	5.1	5.8	11.2	0.009 <<	941	4,316,267	21.8
Breast	Total	61	120,371	50.7	58.0	81.3	0.023 <<	6,685	8,651,457	77.3
Breast	Male	-	61,720	-	-	0.7	0.980	59	4,335,190	1.4
Breast	Female	61	58,651	104.0	119.6	78.3	0.051	6,626	4,316,267	153.5
Breast - in situ	Total	15	120,371	12.5	14.2	15.0	1.000	1,224	8,651,457	14.1
Breast - in situ	Male	-	61,720	-	-	0.1	1.000	5	4,335,190	0.1
Breast - in situ	Female	15	58,651	25.6	29.3	14.4	0.953	1,219	4,316,267	28.2
Cervix	Female	5	58,651	8.5	9.2	3.8	0.645	299	4,316,267	6.9
Colorectal	Total	42	120,371	34.9	40.2	41.1	0.932	3,409	8,651,457	39.4
Colorectal	Male	20	61,720	32.4	37.1	23.4	0.560	1,883	4,335,190	43.4
Colorectal	Female	22	58,651	37.5	43.5	17.9	0.386	1,526	4,316,267	35.4
Corpus Uteri	Female	22	58,651	37.5	43.3	15.4	0.133	1,308	4,316,267	30.3
Esophagus	Total	7	120,371	5.8	6.8	5.9	0.757	499	8,651,457	5.8
Esophagus	Male	6	61,720	9.7	11.4	5.1	0.789	418	4,335,190	9.6
Esophagus	Female	1	58,651	1.7	2.0	0.9	1.000	81	4,316,267	1.9
Hodgkin Lymphoma	Total	3	120,371	2.5	2.6	2.7	1.000	207	8,651,457	2.4
Hodgkin Lymphoma	Male	2	61,720	3.2	3.4	1.6	0.925	116	4,335,190	2.7
Hodgkin Lymphoma	Female	1	58,651	1.7	1.8	1.2	1.000	91	4,316,267	2.1
Kidney and Renal Pelvis	Total	20	120,371	16.6	19.0	21.8	0.806	1,795	8,651,457	20.7
Kidney and Renal Pelvis	Male	15	61,720	24.3	27.7	14.6	0.978	1,167	4,335,190	26.9
Kidney and Renal Pelvis	Female	5	58,651	8.5	9.8	7.4	0.497	628	4,316,267	14.5
Larynx	Total	6	120,371	5.0	5.8	2.5	0.083	209	8,651,457	2.4
Larynx	Male	5	61,720	8.1	9.5	1.9	0.086	155	4,335,190	3.6
Larynx	Female	1	58,651	1.7	2.0	0.6	0.934	54	4,316,267	1.3
Leukemia	Total	16	120,371	13.3	15.2	19.7	0.484	1,615	8,651,457	18.7
Leukemia	Male	7	61,720	11.3	12.9	12.3	0.157	982	4,335,190	22.7
Leukemia	Female	9	58,651	15.3	17.6	7.5	0.681	633	4,316,267	14.7
Liver and Bile Duct	Total	8	120,371	6.6	7.8	9.8	0.719	821	8,651,457	9.5
Liver and Bile Duct	Male	7	61,720	11.3	13.2	7.1	1.000	583	4,335,190	13.4
Liver and Bile Duct	Female	1	58,651	1.7	2.0	2.8	0.473	238	4,316,267	5.5
Lung and Bronchus	Total	54	120,371	44.9	53.5	56.4	0.815	4,833	8,651,457	55.9
Lung and Bronchus	Male	25	61,720	40.5	48.7	28.7	0.559	2,427	4,335,190	56.0
Lung and Bronchus	Female	29	58,651	49.4	58.4	27.7	0.850	2,406	4,316,267	55.7
Melanoma of the Skin	Total	42	120,371	34.9	39.9	35.3	0.295	2,900	8,651,457	33.5
Melanoma of the Skin	Male	28	61,720	45.4	52.4	21.4	0.194	1,737	4,335,190	40.1
Melanoma of the Skin	Female	14	58,651	23.9	27.0	14.0	1.000	1,163	4,316,267	26.9
Myeloma	Total	7	120,371	5.8	6.9	8.2	0.838	701	8,651,457	8.1
Myeloma	Male	5	61,720	8.1	9.6	5.2	1.000	436	4,335,190	10.1
Myeloma	Female	2	58,651	3.4	4.0	3.1	0.820	265	4,316,267	6.1
Non-Hodgkin Lymphoma	Total	21	120,371	17.4	20.2	23.1	0.762	1,919	8,651,457	22.2
Non-Hodgkin Lymphoma	Male	14	61,720	22.7	26.1	13.8	1.000	1,115	4,335,190	25.7
Non-Hodgkin Lymphoma	Female	7	58,651	11.9	13.8	9.4	0.553	804	4,316,267	18.6
Oral Cavity and Pharynx	Total	8	120,371	6.6	7.7	15.5	0.058	1,287	8,651,457	14.9
Oral Cavity and Pharynx	Male	3	61,720	4.9	5.6	11.6	0.006 <<	933	4,335,190	21.5
Oral Cavity and Pharynx	Female	5	58,651	8.5	9.9	4.1	0.795	354	4,316,267	8.2
Ovary	Female	8	58,651	13.6	15.6	6.2	0.573	525	4,316,267	12.2
Pancreas	Total	20	120,371	16.6	19.7	16.5	0.443	1,403	8,651,457	16.2
Pancreas	Male	8	61,720	13.0	15.4	9.3	0.830	776	4,335,190	17.9
Pancreas	Female	12	58,651	20.5	24.2	7.2	0.126	627	4,316,267	14.5
Prostate	Male	57	61,720	92.4	109.3	76.5	0.024 <<	6,360	4,335,190	146.7
Stomach	Total	5	120,371	4.2	4.9	5.5	1.000	462	8,651,457	5.3
Stomach	Male	4	61,720	6.5	7.6	3.7	1.000	305	4,335,190	7.0
Stomach	Female	1	58,651	1.7	2.0	1.8	0.910	157	4,316,267	3.6
Testis	Male	4	61,720	6.5	6.6	3.7	0.998	261	4,335,190	6.0
Thyroid	Total	11	120,371	9.1	9.8	15.6	0.295	1,209	8,651,457	14.0
Thyroid	Male	4	61,720	6.5	7.0	4.6	1.000	351	4,335,190	8.1
Thyroid	Female	7	58,651	11.9	12.9	10.8	0.319	858	4,316,267	19.9
Pediatric Age 0 to 19	Total	2	39,823	5.0	5.1	6.8	0.068	419	2,420,700	17.3
Pediatric Age 0 to 19	Male	-	20,169	-	-	3.6	0.053	223	1,236,341	18.0
Pediatric Age 0 to 19	Female	2	19,654	10.2	10.4	3.2	0.768	196	1,184,359	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 2017–2021
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	925	121,595	760.7	913.3	873.8	0.089	76,505	8,867,120	862.8
All Causes of Death	Male	521	62,495	833.7	989.9	479.5	0.064	40,535	4,449,373	911.0
All Causes of Death	Female	404	59,100	683.6	827.4	397.6	0.760	35,970	4,417,747	814.2
All Malignant Cancers	Total	165	121,595	135.7	162.5	171.3	0.668	14,956	8,867,120	168.7
All Malignant Cancers	Male	82	62,495	131.2	157.6	94.6	0.208	8,094	4,449,373	181.9
All Malignant Cancers	Female	83	59,100	140.4	167.5	77.0	0.522	6,862	4,417,747	155.3
Bladder	Total	5	121,595	4.1	5.1	5.4	1.000	484	8,867,120	5.5
Bladder	Male	4	62,495	6.4	8.0	4.2	1.000	374	4,449,373	8.4
Bladder	Female	1	59,100	1.7	2.1	1.2	1.000	110	4,417,747	2.5
Brain and Other Nervous System	Total	4	121,595	3.3	3.8	6.0	0.570	500	8,867,120	5.6
Brain and Other Nervous System	Male	1	62,495	1.6	1.8	3.7	0.241	297	4,449,373	6.7
Brain and Other Nervous System	Female	3	59,100	5.1	5.8	2.4	0.848	203	4,417,747	4.6
Breast	Total	10	121,595	8.2	9.7	12.7	0.559	1,092	8,867,120	12.3
Breast	Male	-	62,495	-	-	0.2	1.000	16	4,449,373	0.4
Breast	Female	10	59,100	16.9	20.0	12.2	0.660	1,076	4,417,747	24.4
Cervix	Female	1	59,100	1.7	1.9	1.0	1.000	82	4,417,747	1.9
Colorectal	Total	21	121,595	17.3	20.4	15.1	0.171	1,298	8,867,120	14.6
Colorectal	Male	10	62,495	16.0	18.7	8.5	0.703	709	4,449,373	15.9
Colorectal	Female	11	59,100	18.6	22.2	6.6	0.146	589	4,417,747	13.3
Corpus Uteri	Female	6	59,100	10.2	12.1	1.9	0.024 >>	167	4,417,747	3.8
Esophagus	Total	5	121,595	4.1	4.9	5.4	1.000	472	8,867,120	5.3
Esophagus	Male	5	62,495	8.0	9.5	4.7	1.000	396	4,449,373	8.9
Esophagus	Female	-	59,100	-	-	0.9	0.854	76	4,417,747	1.7
Hodgkin Lymphoma	Total	-	121,595	-	-	0.3	1.000	29	8,867,120	0.3
Hodgkin Lymphoma	Male	-	62,495	-	-	0.2	1.000	14	4,449,373	0.3
Hodgkin Lymphoma	Female	-	59,100	-	-	0.2	1.000	15	4,417,747	0.3
Kidney	Total	1	121,595	0.8	1.0	4.4	0.137	384	8,867,120	4.3
Kidney	Male	1	62,495	1.6	1.9	2.8	0.455	241	4,449,373	5.4
Kidney	Female	-	59,100	-	-	1.6	0.416	143	4,417,747	3.2
Larynx	Total	1	121,595	0.8	1.0	0.8	1.000	70	8,867,120	0.8
Larynx	Male	1	62,495	1.6	1.9	0.7	0.982	57	4,449,373	1.3
Larynx	Female	-	59,100	-	-	0.1	1.000	13	4,417,747	0.3
Leukemia	Total	2	121,595	1.6	2.0	7.5	0.040 <<	658	8,867,120	7.4
Leukemia	Male	2	62,495	3.2	3.8	4.5	0.350	384	4,449,373	8.6
Leukemia	Female	-	59,100	-	-	3.0	0.095	274	4,417,747	6.2
Liver and Bile Duct	Total	4	121,595	3.3	3.9	6.9	0.366	599	8,867,120	6.8
Liver and Bile Duct	Male	3	62,495	4.8	5.7	4.8	0.595	405	4,449,373	9.1
Liver and Bile Duct	Female	1	59,100	1.7	2.0	2.2	0.719	194	4,417,747	4.4
Lung and Bronchus	Total	29	121,595	23.8	28.8	33.4	0.515	2,932	8,867,120	33.1
Lung and Bronchus	Male	14	62,495	22.4	27.1	17.9	0.430	1,542	4,449,373	34.7
Lung and Bronchus	Female	15	59,100	25.4	30.4	15.5	1.000	1,390	4,417,747	31.5
Melanoma of the Skin	Total	3	121,595	2.5	2.9	3.3	1.000	286	8,867,120	3.2
Melanoma of the Skin	Male	2	62,495	3.2	3.8	2.2	1.000	190	4,449,373	4.3
Melanoma of the Skin	Female	1	59,100	1.7	2.0	1.1	1.000	96	4,417,747	2.2
Myeloma	Total	2	121,595	1.6	2.0	3.7	0.567	329	8,867,120	3.7
Myeloma	Male	1	62,495	1.6	2.0	2.2	0.693	195	4,449,373	4.4
Myeloma	Female	1	59,100	1.7	2.0	1.5	1.000	134	4,417,747	3.0
Non-Hodgkin Lymphoma	Total	7	121,595	5.8	6.9	6.4	0.917	562	8,867,120	6.3
Non-Hodgkin Lymphoma	Male	2	62,495	3.2	3.8	3.6	0.613	305	4,449,373	6.9
Non-Hodgkin Lymphoma	Female	5	59,100	8.5	10.2	2.9	0.322	257	4,417,747	5.8
Oral Cavity and Pharynx	Total	2	121,595	1.6	2.0	3.1	0.824	264	8,867,120	3.0
Oral Cavity and Pharynx	Male	-	62,495	-	-	2.2	0.217	187	4,449,373	4.2
Oral Cavity and Pharynx	Female	2	59,100	3.4	4.0	0.9	0.431	77	4,417,747	1.7
Ovary	Female	4	59,100	6.8	8.0	3.9	1.000	346	4,417,747	7.8
Pancreas	Total	11	121,595	9.0	10.9	13.5	0.618	1,179	8,867,120	13.3
Pancreas	Male	2	62,495	3.2	3.8	7.5	0.041 <<	640	4,449,373	14.4
Pancreas	Female	9	59,100	15.2	18.3	6.0	0.306	539	4,417,747	12.2
Prostate	Male	16	62,495	25.6	32.0	10.5	0.136	933	4,449,373	21.0
Stomach	Total	1	121,595	0.8	1.0	2.3	0.659	197	8,867,120	2.2
Stomach	Male	-	62,495	-	-	1.5	0.464	121	4,449,373	2.7
Stomach	Female	1	59,100	1.7	2.0	0.9	1.000	76	4,417,747	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, 2020.

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 (BRFS) since 1984. These surveys are conducted with randomly selected adult Idahoans to measure population prevalences of risk factors for the major causes of death, including cancer. DPH provided data sets containing Behavioral Risk Factor Surveillance System (BRFSS) data from 2011 through 2021 to CDRI staff, who performed the analyses reported in these *County Profiles*. Analysis weights were poststratified to 2020 population estimates by age group, sex, and county, beginning with the BRFSS raked weights. Not all questions were asked in all years. 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* 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, 2011–2021

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 (2015–2021)	83.1%	82.8%	85.1%	77.2%	85.8%	78.9%	85.4%	85.4%	73.7%
Not See Doctor Due to Cost in Past Year (2015–2021)	12.6%	11.4%	11.8%	14.5%	12.4%	12.3%	11.8%	12.9%	14.7%
Cancer Screening									
Mammogram Past 2 Years, Age 50–74 (2014, 2016, 2018, 2020)	69.1%	67.0%	73.8%	68.2%	73.2%	64.8%	64.5%	67.1%	70.5%
Pap Test Past 3 Years, Cervix Intact Age 21–65 (2018, 2020)	71.2%	73.6%	73.6%	70.8%	72.9%	69.1%	69.5%	65.9%	.
Colorectal Cancer Screening, Age 50–75 (2018, 2020)	67.9%	66.9%	73.6%	71.4%	70.6%	61.7%	61.5%	64.7%	.
Tobacco Use									
Current Tobacco User (2016–2021)	22.3%	26.7%	23.1%	23.6%	21.8%	21.4%	22.7%	16.9%	23.7%
Other Cancer-Related									
Healthy Weight by Body Mass Index, Age 20+ (2015–2021)	32.1%	32.8%	31.7%	27.9%	36.1%	29.8%	27.9%	31.9%	29.2%
Any Physical Activity Besides Job Past 30 Days (2015-2021)	78.7%	79.2%	78.1%	74.5%	83.2%	73.4%	76.3%	79.7%	70.4%
Meet Physical Activity Guidelines (2011, 2013, 2015, 2017, 2019)	21.9%	22.8%	19.4%	20.0%	25.2%	19.5%	20.4%	20.2%	14.4%
Home Ever Tested for Radon (2016, 2018, 2020)	23.0%	30.9%	18.2%	16.9%	25.1%	19.9%	23.0%	21.8%	13.3%

Access to Care

Have Health Insurance – 2015–2021
Statewide, 83.1% of adults aged 18–64 reported having health care coverage. Health care coverage differed significantly by race/ethnicity, with 86.0% of white non-Hispanics, compared to 64.8% of Hispanics and 83.3% of Native Americans, having health insurance. Spanish-speaking respondents were significantly less likely to be insured (33.3%) than English-speaking respondents (84.2%). Health care coverage differed significantly by age of respondent, with 79.8% of persons aged 18–29, and 87.8% of persons aged 50–64, having health insurance. Health care coverage differed significantly by county, with a range of 62.1% in Adams County to 91.6% in Oneida County having health insurance.

Not See Doctor Due to Cost in Past Year – 2015–2021
Statewide, 12.6% 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 (11.5% of white non-Hispanics, 19.2% of Hispanics, and 21.0% of Native Americans). Inability to see a doctor due to cost differed significantly by annual household income (24.9% for less than $15,000, 6.1% for greater than $50,000). Inability to see a doctor due to cost differed significantly by county, with a range of 7.4% in Franklin County to 17.5% in Power County.

Cancer Screening

Mammogram – 2014, 2016, 2018, 2020
Statewide, 69.1% of women aged 50–74 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 (72.1% versus 36.7%). Mammography rates differed significantly by county, with a range in screening of 45.9% in Benewah County to 77.0% in Nez Perce County. In 2020, Idaho ranked 48th among states and the District of Columbia for mammography screening rates among women aged 50–74 and also 48th among ages 40+.

Pap Test – 2018, 2020
Statewide, 71.2% 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 (75.1% versus 52.6% screened in the past 3 years). Pap screening differed significantly by county, with a range of 50.7% 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 – 2018, 2020
Statewide, 67.9% of adults aged 50–75 reported being current for colorectal cancer screening.** Persons with health insurance were over twice as likely to be current for colorectal cancer screening. In 2020, Idaho ranked 47th among states and the District of Columbia in the percentage of adults aged 50–75 and older who reported being up-to-date for colorectal cancer screening.

** 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, or a colonoscopy in the past 10 years.

Cancer Screening and Risk Factors

Tobacco Use

Current Tobacco Use – 2016–2021
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, 22.3% of adults aged 18 and older were current tobacco users. Tobacco use differed significantly by age of respondent, with 29.9% of persons aged 18-29, and 11.1% of persons aged 65 and older reporting current tobacco use. Tobacco use was lower among white non-Hispanics (22.4%) than among Native Americans (40.0%). Tobacco use differed significantly by county, with a range of 5.4% in Madison County to 41.6% 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 – 2015–2021
Statewide, 32.1% 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 32.5% of white non-Hispanics, compared to 28.2% of Hispanics and 24.6% of Native Americans, being in the healthy weight range. Males (25.5%) were significantly less likely to be in the healthy weight range than females (38.6%). BMI differed significantly by age of respondent, with 43.3% of persons aged 18–29, and 26.0% of persons aged 50–64, being in the healthy weight range. BMI differed significantly by county, with a range of 19.8% in Power County to 47.4% in Blaine County of adults being in the healthy weight range.

Any Physical Activity – 2015-2021
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, 78.7% 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 83.3% of persons aged 18–29, and 72.3% 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 64.3% in Clark County to 84.6% in Teton County.

Physical Activity Guidelines – 2011, 2013, 2015, 2017, 2019
Statewide, 21.9% 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 26.3% 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 9.6% in Franklin County to 30.6% in Blaine County.

Home Radon Testing – 2016, 2018, 2020
Statewide, 23.0% of adults have ever tested their house for radon. Radon test usage varied significantly by race/ethnicity, with 25.1% of white non-Hispanics, 7.4% 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 8.5% in Cassia County to 54.4% in Blaine County.

This project has been funded in whole or in part with Federal funds from the National Cancer Institute, National Institutes of Health, Department of Health and Human Services, under Contract No. HHSN261201800006I and the Centers for Disease Control and Prevention, Department of Health and Human Services, under Cooperative Agreement NU58DP007160. The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention or the National Cancer Institute.

KOOTENAI COUNTY CANCER PROFILE

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

Cancer Incidence 2016–2020
Cancer Mortality 2017–2021
BRFSS 2011–2021

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.2016.3332). 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 2016–2020

Nearly one in two Idahoans are estimated to develop cancer during their lifetime. During 2016–2020, 45,610 cases of invasive cancer were diagnosed among Idaho residents, and 5,018 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, 2016–2020

Cancer Incidence 2016–2020	Kootenai County	State of Idaho
All Sites/Types	**5,018**	**45,610**
Female Breast	**736**	**6,687**
Prostate	**705**	**6,417**
Lung & Bronchus	**644**	**4,887**
Colorectal	**365**	**3,451**

Table 3 (*Cancer Incidence 2016–2020, 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 620.7 cases per 100,000 person-years per year during 2016–2020. Comparing this crude rate with the crude rate for the remainder of Idaho (509.7) 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 535.3 cases per 100,000 persons per year during 2016–2020. There were statistically significantly more cases of cancer in Kootenai County (5,018) than expected (4,778.6) 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 2017–2021

During 2017–2021, cancer was the second leading cause of death in Idaho; 15,121 Idaho residents and 1,805 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, 2017–2021

Mortality 2017–2021	Kootenai County	State of Idaho
All Deaths	**8,331**	**77,431**
Cancer Deaths	**1,805**	**15,121**
% of All Deaths	*21.7%*	*19.5%*
Lung & Bronchus	**381**	**2,961**
Colorectal	**135**	**1,319**
Pancreas	**141**	**1,190**
Female Breast	**128**	**1,086**
Prostate	**122**	**949**

Table 4 (*Cancer Mortality 2017–2021, 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 184.2 deaths per 100,000 persons per year during 2017–2021, compared with 163.3 for the remainder of the state. There were statistically significantly more cancer deaths in Kootenai County (1,805) than expected (1,600.5) 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 2016–2020
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	5,018	808,378	620.7	535.3	4,778.6	0.001 >>	40,592	7,963,450	509.7
All Sites Combined	Male	2,651	399,587	663.4	569.6	2,519.4	0.009 >>	21,638	3,997,323	541.3
All Sites Combined	Female	2,367	408,791	579.0	502.5	2,251.0	0.016 >>	18,954	3,966,127	477.9
Bladder	Total	235	808,378	29.1	24.5	235.1	1.000	1,949	7,963,450	24.5
Bladder	Male	182	399,587	45.5	38.3	186.5	0.781	1,569	3,997,323	39.3
Bladder	Female	53	408,791	13.0	11.0	46.3	0.362	380	3,966,127	9.6
Brain - malignant	Total	58	808,378	7.2	6.4	64.1	0.488	567	7,963,450	7.1
Brain - malignant	Male	34	399,587	8.5	7.7	37.8	0.602	341	3,997,323	8.5
Brain - malignant	Female	24	408,791	5.9	5.2	26.1	0.782	226	3,966,127	5.7
Brain and other CNS - non-malignant	Total	138	808,378	17.1	15.1	147.5	0.462	1,286	7,963,450	16.1
Brain and other CNS - non-malignant	Male	45	399,587	11.3	10.1	48.5	0.678	435	3,997,323	10.9
Brain and other CNS - non-malignant	Female	93	408,791	22.8	20.0	99.8	0.534	851	3,966,127	21.5
Breast	Total	743	808,378	91.9	80.1	699.3	0.104	6,003	7,963,450	75.4
Breast	Male	7	399,587	1.8	1.5	6.1	0.809	52	3,997,323	1.3
Breast	Female	736	408,791	180.0	156.2	706.9	0.282	5,951	3,966,127	150.0
Breast - in situ	Total	129	808,378	16.0	13.9	129.0	1.000	1,110	7,963,450	13.9
Breast - in situ	Male	1	399,587	0.3	0.2	0.4	0.714	4	3,997,323	0.1
Breast - in situ	Female	128	408,791	31.3	27.2	131.3	0.817	1,106	3,966,127	27.9
Cervix	Female	36	408,791	8.8	8.3	29.2	0.249	268	3,966,127	6.8
Colorectal	Total	365	808,378	45.2	39.1	362.0	0.889	3,086	7,963,450	38.8
Colorectal	Male	199	399,587	49.8	43.2	196.2	0.863	1,704	3,997,323	42.6
Colorectal	Female	166	408,791	40.6	35.1	164.7	0.941	1,382	3,966,127	34.8
Corpus Uteri	Female	155	408,791	37.9	32.7	140.4	0.238	1,175	3,966,127	29.6
Esophagus	Total	45	808,378	5.6	4.7	55.1	0.191	461	7,963,450	5.8
Esophagus	Male	40	399,587	10.0	8.5	45.0	0.511	384	3,997,323	9.6
Esophagus	Female	5	408,791	1.2	1.0	9.4	0.191	77	3,966,127	1.9
Hodgkin Lymphoma	Total	19	808,378	2.4	2.3	19.9	0.955	191	7,963,450	2.4
Hodgkin Lymphoma	Male	12	399,587	3.0	2.9	11.0	0.846	106	3,997,323	2.7
Hodgkin Lymphoma	Female	7	408,791	1.7	1.7	8.8	0.697	85	3,966,127	2.1
Kidney and Renal Pelvis	Total	216	808,378	26.7	23.2	187.3	0.043 >>	1,599	7,963,450	20.1
Kidney and Renal Pelvis	Male	139	399,587	34.8	30.3	119.8	0.093	1,043	3,997,323	26.1
Kidney and Renal Pelvis	Female	77	408,791	18.8	16.3	66.2	0.211	556	3,966,127	14.0
Larynx	Total	22	808,378	2.7	2.3	23.0	0.946	193	7,963,450	2.4
Larynx	Male	17	399,587	4.3	3.6	16.8	1.000	143	3,997,323	3.6
Larynx	Female	5	408,791	1.2	1.1	6.0	0.904	50	3,966,127	1.3
Leukemia	Total	179	808,378	22.1	19.3	169.2	0.473	1,452	7,963,450	18.2
Leukemia	Male	115	399,587	28.8	25.1	100.2	0.158	874	3,997,323	21.9
Leukemia	Female	64	408,791	15.7	13.6	68.4	0.646	578	3,966,127	14.6
Liver and Bile Duct	Total	105	808,378	13.0	11.1	86.3	0.056	724	7,963,450	9.1
Liver and Bile Duct	Male	69	399,587	17.3	14.8	60.8	0.324	521	3,997,323	13.0
Liver and Bile Duct	Female	36	408,791	8.8	7.5	24.6	0.036 >>	203	3,966,127	5.1
Lung and Bronchus	Total	644	808,378	79.7	66.9	513.3	0.000 >>	4,243	7,963,450	53.3
Lung and Bronchus	Male	316	399,587	79.1	66.4	254.5	0.000 >>	2,136	3,997,323	53.4
Lung and Bronchus	Female	328	408,791	80.2	67.4	258.4	0.000 >>	2,107	3,966,127	53.1
Melanoma of the Skin	Total	266	808,378	32.9	28.8	310.5	0.011 <<	2,676	7,963,450	33.6
Melanoma of the Skin	Male	163	399,587	40.8	35.4	184.7	0.115	1,602	3,997,323	40.1
Melanoma of the Skin	Female	103	408,791	25.2	22.4	124.8	0.052	1,074	3,966,127	27.1
Myeloma	Total	91	808,378	11.3	9.5	74.0	0.062	617	7,963,450	7.7
Myeloma	Male	58	399,587	14.5	12.3	45.2	0.075	383	3,997,323	9.6
Myeloma	Female	33	408,791	8.1	6.8	28.5	0.441	234	3,966,127	5.9
Non-Hodgkin Lymphoma	Total	205	808,378	25.4	22.0	203.4	0.930	1,735	7,963,450	21.8
Non-Hodgkin Lymphoma	Male	120	399,587	30.0	26.1	115.9	0.725	1,009	3,997,323	25.2
Non-Hodgkin Lymphoma	Female	85	408,791	20.8	17.9	86.9	0.897	726	3,966,127	18.3
Oral Cavity and Pharynx	Total	142	808,378	17.6	15.1	136.3	0.645	1,153	7,963,450	14.5
Oral Cavity and Pharynx	Male	100	399,587	25.0	21.6	96.8	0.775	836	3,997,323	20.9
Oral Cavity and Pharynx	Female	42	408,791	10.3	8.8	38.0	0.555	317	3,966,127	8.0
Ovary	Female	56	408,791	13.7	11.9	56.5	1.000	477	3,966,127	12.0
Pancreas	Total	153	808,378	18.9	16.0	152.1	0.964	1,270	7,963,450	15.9
Pancreas	Male	79	399,587	19.8	16.8	83.0	0.716	705	3,997,323	17.6
Pancreas	Female	74	408,791	18.1	15.3	68.7	0.554	565	3,966,127	14.2
Prostate	Male	705	399,587	176.4	149.4	674.4	0.248	5,712	3,997,323	142.9
Stomach	Total	54	808,378	6.7	5.7	48.8	0.492	413	7,963,450	5.2
Stomach	Male	40	399,587	10.0	8.6	31.4	0.159	269	3,997,323	6.7
Stomach	Female	14	408,791	3.4	3.0	17.1	0.553	144	3,966,127	3.6
Testis	Male	20	399,587	5.0	5.2	23.7	0.521	245	3,997,323	6.1
Thyroid	Total	102	808,378	12.6	11.8	120.9	0.089	1,118	7,963,450	14.0
Thyroid	Male	28	399,587	7.0	6.4	35.6	0.228	327	3,997,323	8.2
Thyroid	Female	74	408,791	18.1	17.1	86.3	0.201	791	3,966,127	19.9
Pediatric Age 0 to 19	Total	28	201,782	13.9	13.9	35.1	0.264	393	2,258,741	17.4
Pediatric Age 0 to 19	Male	14	104,139	13.4	13.4	18.9	0.310	209	1,152,371	18.1
Pediatric Age 0 to 19	Female	14	97,643	14.3	14.4	16.2	0.702	184	1,106,370	16.6

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 2017–2021
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	8,331	834,946	997.8	864.8	8,163.4	0.065	69,099	8,153,769	847.4
All Causes of Death	Male	4,344	413,567	1,050.4	914.4	4,255.4	0.178	36,712	4,098,301	895.8
All Causes of Death	Female	3,987	421,379	946.2	818.3	3,891.0	0.126	32,387	4,055,468	798.6
All Malignant Cancers	Total	1,805	834,946	216.2	184.2	1,600.5	0.000 >>	13,316	8,153,769	163.3
All Malignant Cancers	Male	972	413,567	235.0	200.3	853.0	0.000 >>	7,204	4,098,301	175.8
All Malignant Cancers	Female	833	421,379	197.7	168.7	744.2	0.001 >>	6,112	4,055,468	150.7
Bladder	Total	55	834,946	6.6	5.6	52.4	0.755	434	8,153,769	5.3
Bladder	Male	42	413,567	10.2	8.6	39.9	0.776	336	4,098,301	8.2
Bladder	Female	13	421,379	3.1	2.6	12.0	0.855	98	4,055,468	2.4
Brain and Other Nervous System	Total	58	834,946	6.9	6.1	52.2	0.461	446	8,153,769	5.5
Brain and Other Nervous System	Male	41	413,567	9.9	8.7	29.5	0.052	257	4,098,301	6.3
Brain and Other Nervous System	Female	17	421,379	4.0	3.5	22.6	0.281	189	4,055,468	4.7
Breast	Total	129	834,946	15.5	13.3	115.5	0.229	973	8,153,769	11.9
Breast	Male	1	413,567	0.2	0.2	1.8	0.951	15	4,098,301	0.4
Breast	Female	128	421,379	30.4	26.1	115.7	0.275	958	4,055,468	23.6
Cervix	Female	4	421,379	0.9	0.9	9.0	0.108	79	4,055,468	1.9
Colorectal	Total	135	834,946	16.2	13.9	140.9	0.658	1,184	8,153,769	14.5
Colorectal	Male	74	413,567	17.9	15.5	75.2	0.948	645	4,098,301	15.7
Colorectal	Female	61	421,379	14.5	12.4	65.2	0.658	539	4,055,468	13.3
Corpus Uteri	Female	21	421,379	5.0	4.2	18.7	0.646	152	4,055,468	3.7
Esophagus	Total	53	834,946	6.3	5.4	51.1	0.830	424	8,153,769	5.2
Esophagus	Male	47	413,567	11.4	9.7	41.9	0.471	354	4,098,301	8.6
Esophagus	Female	6	421,379	1.4	1.2	8.6	0.500	70	4,055,468	1.7
Hodgkin Lymphoma	Total	-	834,946	-	-	3.4	0.069	29	8,153,769	0.4
Hodgkin Lymphoma	Male	-	413,567	-	-	1.6	0.407	14	4,098,301	0.3
Hodgkin Lymphoma	Female	-	421,379	-	-	1.8	0.342	15	4,055,468	0.4
Kidney	Total	43	834,946	5.2	4.4	41.3	0.833	342	8,153,769	4.2
Kidney	Male	22	413,567	5.3	4.5	26.0	0.499	220	4,098,301	5.4
Kidney	Female	21	421,379	5.0	4.2	15.0	0.165	122	4,055,468	3.0
Larynx	Total	7	834,946	0.8	0.7	7.7	0.997	64	8,153,769	0.8
Larynx	Male	5	413,567	1.2	1.0	6.3	0.805	53	4,098,301	1.3
Larynx	Female	2	421,379	0.5	0.4	1.3	0.773	11	4,055,468	0.3
Leukemia	Total	72	834,946	8.6	7.4	70.4	0.883	588	8,153,769	7.2
Leukemia	Male	40	413,567	9.7	8.3	40.8	0.978	346	4,098,301	8.4
Leukemia	Female	32	421,379	7.6	6.5	29.4	0.676	242	4,055,468	6.0
Liver and Bile Duct	Total	73	834,946	8.7	7.4	64.0	0.289	530	8,153,769	6.5
Liver and Bile Duct	Male	54	413,567	13.1	11.1	42.0	0.083	354	4,098,301	8.6
Liver and Bile Duct	Female	19	421,379	4.5	3.8	21.6	0.678	176	4,055,468	4.3
Lung and Bronchus	Total	381	834,946	45.6	38.4	313.7	0.000 >>	2,580	8,153,769	31.6
Lung and Bronchus	Male	184	413,567	44.5	37.5	164.2	0.136	1,372	4,098,301	33.5
Lung and Bronchus	Female	197	421,379	46.8	39.5	148.7	0.000 >>	1,208	4,055,468	29.8
Melanoma of the Skin	Total	40	834,946	4.8	4.1	29.6	0.080	249	8,153,769	3.1
Melanoma of the Skin	Male	32	413,567	7.7	6.6	18.8	0.007 >>	160	4,098,301	3.9
Melanoma of the Skin	Female	8	421,379	1.9	1.6	10.7	0.524	89	4,055,468	2.2
Myeloma	Total	28	834,946	3.4	2.8	37.0	0.155	303	8,153,769	3.7
Myeloma	Male	22	413,567	5.3	4.5	20.9	0.868	174	4,098,301	4.2
Myeloma	Female	6	421,379	1.4	1.2	15.9	0.009 <<	129	4,055,468	3.2
Non-Hodgkin Lymphoma	Total	62	834,946	7.4	6.3	61.1	0.939	507	8,153,769	6.2
Non-Hodgkin Lymphoma	Male	37	413,567	8.9	7.6	31.9	0.412	270	4,098,301	6.6
Non-Hodgkin Lymphoma	Female	25	421,379	5.9	5.0	29.0	0.522	237	4,055,468	5.8
Oral Cavity and Pharynx	Total	37	834,946	4.4	3.8	27.6	0.102	229	8,153,769	2.8
Oral Cavity and Pharynx	Male	27	413,567	6.5	5.5	19.0	0.097	160	4,098,301	3.9
Oral Cavity and Pharynx	Female	10	421,379	2.4	2.0	8.4	0.666	69	4,055,468	1.7
Ovary	Female	34	421,379	8.1	6.9	38.6	0.515	316	4,055,468	7.8
Pancreas	Total	141	834,946	16.9	14.3	127.1	0.236	1,049	8,153,769	12.9
Pancreas	Male	76	413,567	18.4	15.6	67.3	0.320	566	4,098,301	13.8
Pancreas	Female	65	421,379	15.4	13.0	59.5	0.508	483	4,055,468	11.9
Prostate	Male	122	413,567	29.5	25.0	98.6	0.025 >>	827	4,098,301	20.2
Stomach	Total	16	834,946	1.9	1.7	21.6	0.272	182	8,153,769	2.2
Stomach	Male	10	413,567	2.4	2.1	13.1	0.493	111	4,098,301	2.7
Stomach	Female	6	421,379	1.4	1.2	8.4	0.530	71	4,055,468	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, 2020.

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 (BRFS) since 1984. These surveys are conducted with randomly selected adult Idahoans to measure population prevalences of risk factors for the major causes of death, including cancer. DPH provided data sets containing Behavioral Risk Factor Surveillance System (BRFSS) data from 2011 through 2021 to CDRI staff, who performed the analyses reported in these *County Profiles*. Analysis weights were poststratified to 2020 population estimates by age group, sex, and county, beginning with the BRFSS raked weights. Not all questions were asked in all years. 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* 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, 2011–2021

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 (2015–2021)	83.1%	82.8%	85.1%	77.2%	85.8%	78.9%	85.4%	85.4%	83.9%
Not See Doctor Due to Cost in Past Year (2015–2021)	12.6%	11.4%	11.8%	14.5%	12.4%	12.3%	11.8%	12.9%	11.2%
Cancer Screening									
Mammogram Past 2 Years, Age 50–74 (2014, 2016, 2018, 2020)	69.1%	67.0%	73.8%	68.2%	73.2%	64.8%	64.5%	67.1%	72.4%
Pap Test Past 3 Years, Cervix Intact Age 21–65 (2018, 2020)	71.2%	73.6%	73.6%	70.8%	72.9%	69.1%	69.5%	65.9%	75.6%
Colorectal Cancer Screening, Age 50–75 (2018, 2020)	67.9%	66.9%	73.6%	71.4%	70.6%	61.7%	61.5%	64.7%	72.9%
Tobacco Use									
Current Tobacco User (2016–2021)	22.3%	26.7%	23.1%	23.6%	21.8%	21.4%	22.7%	16.9%	26.3%
Other Cancer-Related									
Healthy Weight by Body Mass Index, Age 20+ (2015–2021)	32.1%	32.8%	31.7%	27.9%	36.1%	29.8%	27.9%	31.9%	32.4%
Any Physical Activity Besides Job Past 30 Days (2015-2021)	78.7%	79.2%	78.1%	74.5%	83.2%	73.4%	76.3%	79.7%	80.1%
Meet Physical Activity Guidelines (2011, 2013, 2015, 2017, 2019)	21.9%	22.8%	19.4%	20.0%	25.2%	19.5%	20.4%	20.2%	23.3%
Home Ever Tested for Radon (2016, 2018, 2020)	23.0%	30.9%	18.2%	16.9%	25.1%	19.9%	23.0%	21.8%	34.7%

Access to Care

Have Health Insurance – 2015–2021
Statewide, 83.1% of adults aged 18–64 reported having health care coverage. Health care coverage differed significantly by race/ethnicity, with 86.0% of white non-Hispanics, compared to 64.8% of Hispanics and 83.3% of Native Americans, having health insurance. Spanish-speaking respondents were significantly less likely to be insured (33.3%) than English-speaking respondents (84.2%). Health care coverage differed significantly by age of respondent, with 79.8% of persons aged 18–29, and 87.8% of persons aged 50–64, having health insurance. Health care coverage differed significantly by county, with a range of 62.1% in Adams County to 91.6% in Oneida County having health insurance.

Not See Doctor Due to Cost in Past Year – 2015–2021
Statewide, 12.6% 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 (11.5% of white non-Hispanics, 19.2% of Hispanics, and 21.0% of Native Americans). Inability to see a doctor due to cost differed significantly by annual household income (24.9% for less than $15,000, 6.1% for greater than $50,000). Inability to see a doctor due to cost differed significantly by county, with a range of 7.4% in Franklin County to 17.5% in Power County.

Cancer Screening

Mammogram – 2014, 2016, 2018, 2020
Statewide, 69.1% of women aged 50–74 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 (72.1% versus 36.7%). Mammography rates differed significantly by county, with a range in screening of 45.9% in Benewah County to 77.0% in Nez Perce County. In 2020, Idaho ranked 48th among states and the District of Columbia for mammography screening rates among women aged 50–74 and also 48th among ages 40+.

Pap Test – 2018, 2020
Statewide, 71.2% 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 (75.1% versus 52.6% screened in the past 3 years). Pap screening differed significantly by county, with a range of 50.7% 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 – 2018, 2020
Statewide, 67.9% of adults aged 50–75 reported being current for colorectal cancer screening.** Persons with health insurance were over twice as likely to be current for colorectal cancer screening. In 2020, Idaho ranked 47th among states and the District of Columbia in the percentage of adults aged 50–75 and older who reported being up-to-date for colorectal cancer screening.

** 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, or a colonoscopy in the past 10 years.

Cancer Screening and Risk Factors

Tobacco Use

Current Tobacco Use – 2016–2021
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, 22.3% of adults aged 18 and older were current tobacco users. Tobacco use differed significantly by age of respondent, with 29.9% of persons aged 18-29, and 11.1% of persons aged 65 and older reporting current tobacco use. Tobacco use was lower among white non-Hispanics (22.4%) than among Native Americans (40.0%). Tobacco use differed significantly by county, with a range of 5.4% in Madison County to 41.6% 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 – 2015–2021
Statewide, 32.1% 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 32.5% of white non-Hispanics, compared to 28.2% of Hispanics and 24.6% of Native Americans, being in the healthy weight range. Males (25.5%) were significantly less likely to be in the healthy weight range than females (38.6%). BMI differed significantly by age of respondent, with 43.3% of persons aged 18–29, and 26.0% of persons aged 50–64, being in the healthy weight range. BMI differed significantly by county, with a range of 19.8% in Power County to 47.4% in Blaine County of adults being in the healthy weight range.

Any Physical Activity – 2015-2021
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, 78.7% 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 83.3% of persons aged 18–29, and 72.3% 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 64.3% in Clark County to 84.6% in Teton County.

Physical Activity Guidelines – 2011, 2013, 2015, 2017, 2019
Statewide, 21.9% 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 26.3% 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 9.6% in Franklin County to 30.6% in Blaine County.

Home Radon Testing – 2016, 2018, 2020
Statewide, 23.0% of adults have ever tested their house for radon. Radon test usage varied significantly by race/ethnicity, with 25.1% of white non-Hispanics, 7.4% 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 8.5% in Cassia County to 54.4% in Blaine County.

This project has been funded in whole or in part with Federal funds from the National Cancer Institute, National Institutes of Health, Department of Health and Human Services, under Contract No. HHSN261201800006I and the Centers for Disease Control and Prevention, Department of Health and Human Services, under Cooperative Agreement NU58DP007160. The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention or the National Cancer Institute.

LATAH COUNTY CANCER PROFILE

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

Cancer Incidence 2016–2020
Cancer Mortality 2017–2021
BRFSS 2011–2021

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.2016.3332). 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 2016–2020

Nearly one in two Idahoans are estimated to develop cancer during their lifetime. During 2016–2020, 45,610 cases of invasive cancer were diagnosed among Idaho residents, and 807 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, 2016–2020

Cancer Incidence 2016–2020	Latah County	State of Idaho
All Sites/Types	**807**	**45,610**
Female Breast	**130**	**6,687**
Prostate	**149**	**6,417**
Lung & Bronchus	**92**	**4,887**
Colorectal	**50**	**3,451**

Table 3 (*Cancer Incidence 2016–2020, 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 403.0 cases per 100,000 person-years per year during 2016–2020. Comparing this crude rate with the crude rate for the remainder of Idaho (522.7) 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 468.6 cases per 100,000 persons per year during 2016–2020. There were statistically significantly fewer cases of cancer in Latah County (807) than expected (900.2) 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 2017–2021

During 2017–2021, cancer was the second leading cause of death in Idaho; 15,121 Idaho residents and 267 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, 2017–2021

Mortality 2017–2021	Latah County	State of Idaho
All Deaths	**1,189**	**77,431**
Cancer Deaths	**267**	**15,121**
% of All Deaths	*22.5%*	*19.5%*
Lung & Bronchus	**51**	**2,961**
Colorectal	**19**	**1,319**
Pancreas	**20**	**1,190**
Female Breast	**20**	**1,086**
Prostate	**17**	**949**

Table 4 (*Cancer Mortality 2017–2021, 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 152.5 deaths per 100,000 persons per year during 2017–2021, compared with 169.0 for the remainder of the state. There were fewer cancer deaths in Latah County (267) than expected (295.9) 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 2016–2020
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	807	200,258	403.0	468.6	900.2	0.002 <<	44,803	8,571,570	522.7
All Sites Combined	Male	430	102,192	420.8	493.2	484.4	0.013 <<	23,859	4,294,718	555.5
All Sites Combined	Female	377	98,066	384.4	442.4	417.3	0.049 <<	20,944	4,276,852	489.7
Bladder	Total	37	200,258	18.5	21.7	42.8	0.425	2,147	8,571,570	25.0
Bladder	Male	28	102,192	27.4	32.4	34.7	0.293	1,723	4,294,718	40.1
Bladder	Female	9	98,066	9.2	10.6	8.4	0.927	424	4,276,852	9.9
Brain - malignant	Total	14	200,258	7.0	7.9	12.7	0.791	611	8,571,570	7.1
Brain - malignant	Male	10	102,192	9.8	11.0	7.7	0.502	365	4,294,718	8.5
Brain - malignant	Female	4	98,066	4.1	4.6	5.0	0.866	246	4,276,852	5.8
Brain and other CNS - non-malignant	Total	28	200,258	14.0	16.0	28.4	1.000	1,396	8,571,570	16.3
Brain and other CNS - non-malignant	Male	10	102,192	9.8	11.3	9.7	0.996	470	4,294,718	10.9
Brain and other CNS - non-malignant	Female	18	98,066	18.4	20.9	18.7	1.000	926	4,276,852	21.7
Breast	Total	130	200,258	64.9	76.9	130.5	1.000	6,616	8,571,570	77.2
Breast	Male	-	102,192	-	-	1.2	0.612	59	4,294,718	1.4
Breast	Female	130	98,066	132.6	155.7	128.0	0.886	6,557	4,276,852	153.3
Breast - in situ	Total	30	200,258	15.0	17.9	23.6	0.232	1,209	8,571,570	14.1
Breast - in situ	Male	1	102,192	1.0	1.2	0.1	0.153	4	4,294,718	0.1
Breast - in situ	Female	29	98,066	29.6	35.0	23.3	0.284	1,205	4,276,852	28.2
Cervix	Female	5	98,066	5.1	5.8	6.0	0.899	299	4,276,852	7.0
Colorectal	Total	50	200,258	25.0	29.2	68.0	0.028 <<	3,401	8,571,570	39.7
Colorectal	Male	29	102,192	28.4	33.6	37.6	0.178	1,874	4,294,718	43.6
Colorectal	Female	21	98,066	21.4	24.7	30.4	0.094	1,527	4,276,852	35.7
Corpus Uteri	Female	27	98,066	27.5	32.2	25.5	0.822	1,303	4,276,852	30.5
Esophagus	Total	11	200,258	5.5	6.5	9.8	0.789	495	8,571,570	5.8
Esophagus	Male	8	102,192	7.8	9.3	8.3	1.000	416	4,294,718	9.7
Esophagus	Female	3	98,066	3.1	3.6	1.6	0.409	79	4,276,852	1.8
Hodgkin Lymphoma	Total	3	200,258	1.5	1.3	5.4	0.428	207	8,571,570	2.4
Hodgkin Lymphoma	Male	2	102,192	2.0	1.9	2.9	0.890	116	4,294,718	2.7
Hodgkin Lymphoma	Female	1	98,066	1.0	0.9	2.5	0.580	91	4,276,852	2.1
Kidney and Renal Pelvis	Total	23	200,258	11.5	13.6	35.4	0.036 <<	1,792	8,571,570	20.9
Kidney and Renal Pelvis	Male	18	102,192	17.6	21.0	23.2	0.329	1,164	4,294,718	27.1
Kidney and Renal Pelvis	Female	5	98,066	5.1	6.0	12.3	0.033 <<	628	4,276,852	14.7
Larynx	Total	2	200,258	1.0	1.2	4.3	0.395	213	8,571,570	2.5
Larynx	Male	1	102,192	1.0	1.2	3.2	0.346	159	4,294,718	3.7
Larynx	Female	1	98,066	1.0	1.1	1.1	1.000	54	4,276,852	1.3
Leukemia	Total	23	200,258	11.5	13.2	32.6	0.100	1,608	8,571,570	18.8
Leukemia	Male	9	102,192	8.8	10.3	19.9	0.011 <<	980	4,294,718	22.8
Leukemia	Female	14	98,066	14.3	16.1	12.8	0.802	628	4,276,852	14.7
Liver and Bile Duct	Total	14	200,258	7.0	8.2	16.2	0.695	815	8,571,570	9.5
Liver and Bile Duct	Male	13	102,192	12.7	15.1	11.6	0.749	577	4,294,718	13.4
Liver and Bile Duct	Female	1	98,066	1.0	1.2	4.7	0.102	238	4,276,852	5.6
Lung and Bronchus	Total	92	200,258	45.9	54.1	95.1	0.801	4,795	8,571,570	55.9
Lung and Bronchus	Male	39	102,192	38.2	45.2	48.5	0.189	2,413	4,294,718	56.2
Lung and Bronchus	Female	53	98,066	54.0	63.2	46.7	0.391	2,382	4,276,852	55.7
Melanoma of the Skin	Total	38	200,258	19.0	21.9	58.8	0.005 <<	2,904	8,571,570	33.9
Melanoma of the Skin	Male	17	102,192	16.6	19.5	35.5	0.001 <<	1,748	4,294,718	40.7
Melanoma of the Skin	Female	21	98,066	21.4	24.2	23.4	0.713	1,156	4,276,852	27.0
Myeloma	Total	13	200,258	6.5	7.7	13.8	0.980	695	8,571,570	8.1
Myeloma	Male	9	102,192	8.8	10.5	8.6	0.991	432	4,294,718	10.1
Myeloma	Female	4	98,066	4.1	4.8	5.2	0.826	263	4,276,852	6.1
Non-Hodgkin Lymphoma	Total	36	200,258	18.0	20.7	38.6	0.750	1,904	8,571,570	22.2
Non-Hodgkin Lymphoma	Male	24	102,192	23.5	27.2	22.7	0.838	1,105	4,294,718	25.7
Non-Hodgkin Lymphoma	Female	12	98,066	12.2	14.0	16.0	0.382	799	4,276,852	18.7
Oral Cavity and Pharynx	Total	25	200,258	12.5	14.7	25.2	1.000	1,270	8,571,570	14.8
Oral Cavity and Pharynx	Male	20	102,192	19.6	23.3	18.3	0.752	916	4,294,718	21.3
Oral Cavity and Pharynx	Female	5	98,066	5.1	5.9	7.0	0.600	354	4,276,852	8.3
Ovary	Female	6	98,066	6.1	7.0	10.6	0.192	527	4,276,852	12.3
Pancreas	Total	22	200,258	11.0	12.9	27.9	0.303	1,401	8,571,570	16.3
Pancreas	Male	11	102,192	10.8	12.7	15.5	0.304	773	4,294,718	18.0
Pancreas	Female	11	98,066	11.2	13.0	12.4	0.825	628	4,276,852	14.7
Prostate	Male	149	102,192	145.8	172.7	125.9	0.049 >>	6,268	4,294,718	145.9
Stomach	Total	8	200,258	4.0	4.7	9.2	0.864	459	8,571,570	5.4
Stomach	Male	6	102,192	5.9	7.0	6.1	1.000	303	4,294,718	7.1
Stomach	Female	2	98,066	2.0	2.3	3.1	0.785	156	4,276,852	3.6
Testis	Male	5	102,192	4.9	4.1	7.3	0.519	260	4,294,718	6.1
Thyroid	Total	17	200,258	8.5	8.9	26.8	0.061	1,203	8,571,570	14.0
Thyroid	Male	4	102,192	3.9	4.4	7.5	0.270	351	4,294,718	8.2
Thyroid	Female	13	98,066	13.3	13.6	19.0	0.193	852	4,276,852	19.9
Pediatric Age 0 to 19	Total	7	49,640	14.1	13.3	9.0	0.638	414	2,410,883	17.2
Pediatric Age 0 to 19	Male	5	25,020	20.0	19.5	4.5	0.954	218	1,231,490	17.7
Pediatric Age 0 to 19	Female	2	24,620	8.1	7.4	4.5	0.349	196	1,179,393	16.6

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 2017–2021
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	1,189	201,414	590.3	654.5	1,576.2	0.000 <<	76,241	8,787,301	867.6
All Causes of Death	Male	623	102,700	606.6	681.8	837.9	0.000 <<	40,433	4,409,168	917.0
All Causes of Death	Female	566	98,714	573.4	623.9	741.9	0.000 <<	35,808	4,378,133	817.9
All Malignant Cancers	Total	267	201,414	132.6	152.5	295.9	0.095	14,854	8,787,301	169.0
All Malignant Cancers	Male	141	102,700	137.3	159.2	161.4	0.113	8,035	4,409,168	182.2
All Malignant Cancers	Female	126	98,714	127.6	145.6	134.8	0.479	6,819	4,378,133	155.8
Bladder	Total	10	201,414	5.0	5.6	9.7	1.000	479	8,787,301	5.5
Bladder	Male	8	102,700	7.8	8.9	7.5	0.958	370	4,409,168	8.4
Bladder	Female	2	98,714	2.0	2.3	2.2	1.000	109	4,378,133	2.5
Brain and Other Nervous System	Total	10	201,414	5.0	5.7	9.9	1.000	494	8,787,301	5.6
Brain and Other Nervous System	Male	6	102,700	5.8	6.6	6.0	1.000	292	4,409,168	6.6
Brain and Other Nervous System	Female	4	98,714	4.1	4.7	3.9	1.000	202	4,378,133	4.6
Breast	Total	20	201,414	9.9	11.5	21.5	0.860	1,082	8,787,301	12.3
Breast	Male	-	102,700	-	-	0.3	1.000	16	4,409,168	0.4
Breast	Female	20	98,714	20.3	23.1	21.1	0.932	1,066	4,378,133	24.3
Cervix	Female	-	98,714	-	-	1.7	0.383	83	4,378,133	1.9
Colorectal	Total	19	201,414	9.4	10.9	25.8	0.206	1,300	8,787,301	14.8
Colorectal	Male	8	102,700	7.8	9.1	14.1	0.118	711	4,409,168	16.1
Colorectal	Female	11	98,714	11.1	12.6	11.8	0.980	589	4,378,133	13.5
Corpus Uteri	Female	5	98,714	5.1	5.8	3.3	0.472	168	4,378,133	3.8
Esophagus	Total	12	201,414	6.0	6.9	9.1	0.421	465	8,787,301	5.3
Esophagus	Male	10	102,700	9.7	11.4	7.7	0.505	391	4,409,168	8.9
Esophagus	Female	2	98,714	2.0	2.3	1.5	0.856	74	4,378,133	1.7
Hodgkin Lymphoma	Total	-	201,414	-	-	0.6	1.000	29	8,787,301	0.3
Hodgkin Lymphoma	Male	-	102,700	-	-	0.3	1.000	14	4,409,168	0.3
Hodgkin Lymphoma	Female	-	98,714	-	-	0.3	1.000	15	4,378,133	0.3
Kidney	Total	2	201,414	1.0	1.1	7.6	0.037 <<	383	8,787,301	4.4
Kidney	Male	2	102,700	1.9	2.3	4.8	0.288	240	4,409,168	5.4
Kidney	Female	-	98,714	-	-	2.9	0.113	143	4,378,133	3.3
Larynx	Total	-	201,414	-	-	1.4	0.492	71	8,787,301	0.8
Larynx	Male	-	102,700	-	-	1.2	0.627	58	4,409,168	1.3
Larynx	Female	-	98,714	-	-	0.3	1.000	13	4,378,133	0.3
Leukemia	Total	18	201,414	8.9	10.1	13.0	0.217	642	8,787,301	7.3
Leukemia	Male	9	102,700	8.8	10.0	7.7	0.733	377	4,409,168	8.6
Leukemia	Female	9	98,714	9.1	10.2	5.3	0.183	265	4,378,133	6.1
Liver and Bile Duct	Total	14	201,414	7.0	8.1	11.6	0.554	589	8,787,301	6.7
Liver and Bile Duct	Male	10	102,700	9.7	11.4	7.9	0.550	398	4,409,168	9.0
Liver and Bile Duct	Female	4	98,714	4.1	4.7	3.7	1.000	191	4,378,133	4.4
Lung and Bronchus	Total	51	201,414	25.3	29.4	57.4	0.438	2,910	8,787,301	33.1
Lung and Bronchus	Male	26	102,700	25.3	29.6	30.5	0.476	1,530	4,409,168	34.7
Lung and Bronchus	Female	25	98,714	25.3	29.2	27.0	0.797	1,380	4,378,133	31.5
Melanoma of the Skin	Total	9	201,414	4.5	5.1	5.6	0.226	280	8,787,301	3.2
Melanoma of the Skin	Male	4	102,700	3.9	4.5	3.8	1.000	188	4,409,168	4.3
Melanoma of the Skin	Female	5	98,714	5.1	5.8	1.8	0.076	92	4,378,133	2.1
Myeloma	Total	7	201,414	3.5	4.0	6.4	0.924	324	8,787,301	3.7
Myeloma	Male	4	102,700	3.9	4.5	3.9	1.000	192	4,409,168	4.4
Myeloma	Female	3	98,714	3.0	3.5	2.6	0.952	132	4,378,133	3.0
Non-Hodgkin Lymphoma	Total	12	201,414	6.0	6.8	11.2	0.880	557	8,787,301	6.3
Non-Hodgkin Lymphoma	Male	7	102,700	6.8	7.8	6.1	0.810	300	4,409,168	6.8
Non-Hodgkin Lymphoma	Female	5	98,714	5.1	5.8	5.1	1.000	257	4,378,133	5.9
Oral Cavity and Pharynx	Total	5	201,414	2.5	2.9	5.1	1.000	261	8,787,301	3.0
Oral Cavity and Pharynx	Male	5	102,700	4.9	5.7	3.6	0.584	182	4,409,168	4.1
Oral Cavity and Pharynx	Female	-	98,714	-	-	1.5	0.428	79	4,378,133	1.8
Ovary	Female	4	98,714	4.1	4.7	6.7	0.395	346	4,378,133	7.9
Pancreas	Total	20	201,414	9.9	11.6	23.1	0.612	1,170	8,787,301	13.3
Pancreas	Male	7	102,700	6.8	8.0	12.6	0.132	635	4,409,168	14.4
Pancreas	Female	13	98,714	13.2	15.2	10.5	0.511	535	4,378,133	12.2
Prostate	Male	17	102,700	16.6	19.0	18.9	0.767	932	4,409,168	21.1
Stomach	Total	3	201,414	1.5	1.7	3.9	0.924	195	8,787,301	2.2
Stomach	Male	2	102,700	1.9	2.3	2.4	1.000	119	4,409,168	2.7
Stomach	Female	1	98,714	1.0	1.1	1.5	1.000	76	4,378,133	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, 2020.

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 (BRFS) since 1984. These surveys are conducted with randomly selected adult Idahoans to measure population prevalences of risk factors for the major causes of death, including cancer. DPH provided data sets containing Behavioral Risk Factor Surveillance System (BRFSS) data from 2011 through 2021 to CDRI staff, who performed the analyses reported in these *County Profiles*. Analysis weights were poststratified to 2020 population estimates by age group, sex, and county, beginning with the BRFSS raked weights. Not all questions were asked in all years. 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* 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, 2011–2021

Measure	State of Idaho	HD 1	HD 2	HD 3	HD 4	HD 5	HD 6	HD 7	Latah County
Access to Care									
Have Health Insurance, Age <65 (2015–2021)	83.1%	82.8%	85.1%	77.2%	85.8%	78.9%	85.4%	85.4%	91.1%
Not See Doctor Due to Cost in Past Year (2015–2021)	12.6%	11.4%	11.8%	14.5%	12.4%	12.3%	11.8%	12.9%	11.3%
Cancer Screening									
Mammogram Past 2 Years, Age 50–74 (2014, 2016, 2018, 2020)	69.1%	67.0%	73.8%	68.2%	73.2%	64.8%	64.5%	67.1%	75.8%
Pap Test Past 3 Years, Cervix Intact Age 21–65 (2018, 2020)	71.2%	73.6%	73.6%	70.8%	72.9%	69.1%	69.5%	65.9%	76.0%
Colorectal Cancer Screening, Age 50–75 (2018, 2020)	67.9%	66.9%	73.6%	71.4%	70.6%	61.7%	61.5%	64.7%	77.1%
Tobacco Use									
Current Tobacco User (2016–2021)	22.3%	26.7%	23.1%	23.6%	21.8%	21.4%	22.7%	16.9%	21.7%
Other Cancer-Related									
Healthy Weight by Body Mass Index, Age 20+ (2015–2021)	32.1%	32.8%	31.7%	27.9%	36.1%	29.8%	27.9%	31.9%	36.4%
Any Physical Activity Besides Job Past 30 Days (2015-2021)	78.7%	79.2%	78.1%	74.5%	83.2%	73.4%	76.3%	79.7%	84.1%
Meet Physical Activity Guidelines (2011, 2013, 2015, 2017, 2019)	21.9%	22.8%	19.4%	20.0%	25.2%	19.5%	20.4%	20.2%	23.4%
Home Ever Tested for Radon (2016, 2018, 2020)	23.0%	30.9%	18.2%	16.9%	25.1%	19.9%	23.0%	21.8%	21.0%

Access to Care

Have Health Insurance – 2015–2021
Statewide, 83.1% of adults aged 18–64 reported having health care coverage. Health care coverage differed significantly by race/ethnicity, with 86.0% of white non-Hispanics, compared to 64.8% of Hispanics and 83.3% of Native Americans, having health insurance. Spanish-speaking respondents were significantly less likely to be insured (33.3%) than English-speaking respondents (84.2%). Health care coverage differed significantly by age of respondent, with 79.8% of persons aged 18–29, and 87.8% of persons aged 50–64, having health insurance. Health care coverage differed significantly by county, with a range of 62.1% in Adams County to 91.6% in Oneida County having health insurance.

Not See Doctor Due to Cost in Past Year – 2015–2021
Statewide, 12.6% 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 (11.5% of white non-Hispanics, 19.2% of Hispanics, and 21.0% of Native Americans). Inability to see a doctor due to cost differed significantly by annual household income (24.9% for less than $15,000, 6.1% for greater than $50,000). Inability to see a doctor due to cost differed significantly by county, with a range of 7.4% in Franklin County to 17.5% in Power County.

Cancer Screening

Mammogram – 2014, 2016, 2018, 2020
Statewide, 69.1% of women aged 50–74 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 (72.1% versus 36.7%). Mammography rates differed significantly by county, with a range in screening of 45.9% in Benewah County to 77.0% in Nez Perce County. In 2020, Idaho ranked 48th among states and the District of Columbia for mammography screening rates among women aged 50–74 and also 48th among ages 40+.

Pap Test – 2018, 2020
Statewide, 71.2% 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 (75.1% versus 52.6% screened in the past 3 years). Pap screening differed significantly by county, with a range of 50.7% 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 – 2018, 2020
Statewide, 67.9% of adults aged 50–75 reported being current for colorectal cancer screening.** Persons with health insurance were over twice as likely to be current for colorectal cancer screening. In 2020, Idaho ranked 47th among states and the District of Columbia in the percentage of adults aged 50–75 and older who reported being up-to-date for colorectal cancer screening.

** 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, or a colonoscopy in the past 10 years.

Cancer Screening and Risk Factors

Tobacco Use

Current Tobacco Use – 2016–2021
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, 22.3% of adults aged 18 and older were current tobacco users. Tobacco use differed significantly by age of respondent, with 29.9% of persons aged 18-29, and 11.1% of persons aged 65 and older reporting current tobacco use. Tobacco use was lower among white non-Hispanics (22.4%) than among Native Americans (40.0%). Tobacco use differed significantly by county, with a range of 5.4% in Madison County to 41.6% 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 – 2015–2021
Statewide, 32.1% 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 32.5% of white non-Hispanics, compared to 28.2% of Hispanics and 24.6% of Native Americans, being in the healthy weight range. Males (25.5%) were significantly less likely to be in the healthy weight range than females (38.6%). BMI differed significantly by age of respondent, with 43.3% of persons aged 18–29, and 26.0% of persons aged 50–64, being in the healthy weight range. BMI differed significantly by county, with a range of 19.8% in Power County to 47.4% in Blaine County of adults being in the healthy weight range.

Any Physical Activity – 2015-2021
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, 78.7% 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 83.3% of persons aged 18–29, and 72.3% 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 64.3% in Clark County to 84.6% in Teton County.

Physical Activity Guidelines – 2011, 2013, 2015, 2017, 2019
Statewide, 21.9% 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 26.3% 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 9.6% in Franklin County to 30.6% in Blaine County.

Home Radon Testing – 2016, 2018, 2020
Statewide, 23.0% of adults have ever tested their house for radon. Radon test usage varied significantly by race/ethnicity, with 25.1% of white non-Hispanics, 7.4% 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 8.5% in Cassia County to 54.4% in Blaine County.

This project has been funded in whole or in part with Federal funds from the National Cancer Institute, National Institutes of Health, Department of Health and Human Services, under Contract No. HHSN261201800006I and the Centers for Disease Control and Prevention, Department of Health and Human Services, under Cooperative Agreement NU58DP007160. The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention or the National Cancer Institute.

LEMHI COUNTY CANCER PROFILE

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

Cancer Incidence 2016–2020
Cancer Mortality 2017–2021
BRFSS 2011–2021

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.2016.3332). 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 2016–2020

Nearly one in two Idahoans are estimated to develop cancer during their lifetime. During 2016–2020, 45,610 cases of invasive cancer were diagnosed among Idaho residents, and 308 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, 2016–2020

Cancer Incidence 2016–2020	Lemhi County	State of Idaho
All Sites/Types	**308**	**45,610**
Female Breast	**33**	**6,687**
Prostate	**71**	**6,417**
Lung & Bronchus	**33**	**4,887**
Colorectal	**24**	**3,451**

Table 3 (*Cancer Incidence 2016–2020, 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 776.9 cases per 100,000 person-years per year during 2016–2020. Comparing this crude rate with the crude rate for the remainder of Idaho (518.8) 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 476.5 cases per 100,000 persons per year during 2016–2020. There were fewer cases of cancer in Lemhi County (308) than expected (335.4) 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 2017–2021

During 2017–2021, cancer was the second leading cause of death in Idaho; 15,121 Idaho residents and 131 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, 2017–2021

Mortality 2017–2021	Lemhi County	State of Idaho
All Deaths	**614**	**77,431**
Cancer Deaths	**131**	**15,121**
% of All Deaths	*21.3%*	*19.5%*
Lung & Bronchus	**29**	**2,961**
Colorectal	**14**	**1,319**
Pancreas	**10**	**1,190**
Female Breast	**10**	**1,086**
Prostate	**11**	**949**

Table 4 (*Cancer Mortality 2017–2021, 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 182.6 deaths per 100,000 persons per year during 2017–2021, compared with 167.5 for the remainder of the state. There were more cancer deaths in Lemhi County (131) than expected (120.2) 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 2016–2020
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	308	39,647	776.9	476.5	335.4	0.140	45,302	8,732,181	518.8
All Sites Combined	Male	191	20,072	951.6	536.1	196.2	0.746	24,098	4,376,838	550.6
All Sites Combined	Female	117	19,575	597.7	396.6	143.6	0.025 <<	21,204	4,355,343	486.9
Bladder	Total	18	39,647	45.4	25.0	17.9	1.000	2,166	8,732,181	24.8
Bladder	Male	14	20,072	69.7	35.5	15.6	0.802	1,737	4,376,838	39.7
Bladder	Female	4	19,575	20.4	12.1	3.2	0.814	429	4,355,343	9.8
Brain - malignant	Total	2	39,647	5.0	3.5	4.0	0.466	623	8,732,181	7.1
Brain - malignant	Male	1	20,072	5.0	3.4	2.5	0.561	374	4,376,838	8.5
Brain - malignant	Female	1	19,575	5.1	3.7	1.6	1.000	249	4,355,343	5.7
Brain and other CNS - non-malignant	Total	10	39,647	25.2	16.7	9.7	1.000	1,414	8,732,181	16.2
Brain and other CNS - non-malignant	Male	3	20,072	14.9	9.8	3.3	1.000	477	4,376,838	10.9
Brain and other CNS - non-malignant	Female	7	19,575	35.8	24.3	6.2	0.847	937	4,355,343	21.5
Breast	Total	33	39,647	83.2	54.3	46.7	0.045 <<	6,713	8,732,181	76.9
Breast	Male	-	20,072	-	-	0.5	1.000	59	4,376,838	1.3
Breast	Female	33	19,575	168.6	114.5	44.0	0.103	6,654	4,355,343	152.8
Breast - in situ	Total	3	39,647	7.6	5.1	8.3	0.070	1,236	8,732,181	14.2
Breast - in situ	Male	-	20,072	-	-	0.0	1.000	5	4,376,838	0.1
Breast - in situ	Female	3	19,575	15.3	10.7	7.9	0.089	1,231	4,355,343	28.3
Cervix	Female	1	19,575	5.1	4.7	1.5	1.000	303	4,355,343	7.0
Colorectal	Total	24	39,647	60.5	37.7	25.0	0.945	3,427	8,732,181	39.2
Colorectal	Male	16	20,072	79.7	47.4	14.5	0.770	1,887	4,376,838	43.1
Colorectal	Female	8	19,575	40.9	26.5	10.7	0.526	1,540	4,355,343	35.4
Corpus Uteri	Female	7	19,575	35.8	23.8	8.9	0.666	1,323	4,355,343	30.4
Esophagus	Total	7	39,647	17.7	10.3	3.9	0.198	499	8,732,181	5.7
Esophagus	Male	7	20,072	34.9	19.1	3.5	0.129	417	4,376,838	9.5
Esophagus	Female	-	19,575	-	-	0.6	1.000	82	4,355,343	1.9
Hodgkin Lymphoma	Total	-	39,647	-	-	1.1	0.689	210	8,732,181	2.4
Hodgkin Lymphoma	Male	-	20,072	-	-	0.6	1.000	118	4,376,838	2.7
Hodgkin Lymphoma	Female	-	19,575	-	-	0.4	1.000	92	4,355,343	2.1
Kidney and Renal Pelvis	Total	11	39,647	27.7	17.5	13.0	0.709	1,804	8,732,181	20.7
Kidney and Renal Pelvis	Male	7	20,072	34.9	21.1	8.9	0.667	1,175	4,376,838	26.8
Kidney and Renal Pelvis	Female	4	19,575	20.4	13.4	4.3	1.000	629	4,355,343	14.4
Larynx	Total	-	39,647	-	-	1.6	0.387	215	8,732,181	2.5
Larynx	Male	-	20,072	-	-	1.3	0.533	160	4,376,838	3.7
Larynx	Female	-	19,575	-	-	0.4	1.000	55	4,355,343	1.3
Leukemia	Total	9	39,647	22.7	13.9	12.0	0.485	1,622	8,732,181	18.6
Leukemia	Male	6	20,072	29.9	17.3	7.8	0.684	983	4,376,838	22.5
Leukemia	Female	3	19,575	15.3	9.9	4.5	0.699	639	4,355,343	14.7
Liver and Bile Duct	Total	4	39,647	10.1	6.0	6.3	0.491	825	8,732,181	9.4
Liver and Bile Duct	Male	1	20,072	5.0	2.8	4.8	0.099	589	4,376,838	13.5
Liver and Bile Duct	Female	3	19,575	15.3	9.5	1.7	0.491	236	4,355,343	5.4
Lung and Bronchus	Total	33	39,647	83.2	46.2	39.7	0.324	4,854	8,732,181	55.6
Lung and Bronchus	Male	21	20,072	104.6	54.0	21.6	1.000	2,431	4,376,838	55.5
Lung and Bronchus	Female	12	19,575	61.3	36.4	18.4	0.158	2,423	4,355,343	55.6
Melanoma of the Skin	Total	12	39,647	30.3	19.6	20.5	0.062	2,930	8,732,181	33.6
Melanoma of the Skin	Male	7	20,072	34.9	20.4	13.8	0.071	1,758	4,376,838	40.2
Melanoma of the Skin	Female	5	19,575	25.5	18.5	7.3	0.536	1,172	4,355,343	26.9
Myeloma	Total	4	39,647	10.1	5.7	5.6	0.678	704	8,732,181	8.1
Myeloma	Male	3	20,072	14.9	7.9	3.8	0.949	438	4,376,838	10.0
Myeloma	Female	1	19,575	5.1	3.1	2.0	0.834	266	4,355,343	6.1
Non-Hodgkin Lymphoma	Total	9	39,647	22.7	13.9	14.3	0.192	1,931	8,732,181	22.1
Non-Hodgkin Lymphoma	Male	8	20,072	39.9	23.4	8.8	0.972	1,121	4,376,838	25.6
Non-Hodgkin Lymphoma	Female	1	19,575	5.1	3.3	5.7	0.045 <<	810	4,355,343	18.6
Oral Cavity and Pharynx	Total	12	39,647	30.3	18.7	9.4	0.477	1,283	8,732,181	14.7
Oral Cavity and Pharynx	Male	10	20,072	49.8	29.6	7.2	0.371	926	4,376,838	21.2
Oral Cavity and Pharynx	Female	2	19,575	10.2	6.6	2.5	1.000	357	4,355,343	8.2
Ovary	Female	5	19,575	25.5	17.3	3.5	0.550	528	4,355,343	12.1
Pancreas	Total	10	39,647	25.2	14.4	11.3	0.860	1,413	8,732,181	16.2
Pancreas	Male	5	20,072	24.9	13.4	6.6	0.696	779	4,376,838	17.8
Pancreas	Female	5	19,575	25.5	15.4	4.7	1.000	634	4,355,343	14.6
Prostate	Male	71	20,072	353.7	193.4	53.2	0.023 >>	6,346	4,376,838	145.0
Stomach	Total	4	39,647	10.1	6.0	3.5	0.932	463	8,732,181	5.3
Stomach	Male	3	20,072	14.9	8.3	2.5	0.924	306	4,376,838	7.0
Stomach	Female	1	19,575	5.1	3.3	1.1	1.000	157	4,355,343	3.6
Testis	Male	-	20,072	-	-	1.0	0.752	265	4,376,838	6.1
Thyroid	Total	5	39,647	12.6	10.9	6.4	0.766	1,215	8,732,181	13.9
Thyroid	Male	-	20,072	-	-	2.2	0.233	355	4,376,838	8.1
Thyroid	Female	5	19,575	25.5	23.2	4.3	0.845	860	4,355,343	19.7
Pediatric Age 0 to 19	Total	1	8,001	12.5	12.5	1.4	1.000	420	2,452,522	17.1
Pediatric Age 0 to 19	Male	-	4,206	-	-	0.7	0.946	223	1,252,304	17.8
Pediatric Age 0 to 19	Female	1	3,795	26.4	26.3	0.6	0.929	197	1,200,218	16.4

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 2017–2021
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	614	40,094	1,531.4	855.6	616.0	0.956	76,816	8,948,621	858.4
All Causes of Death	Male	350	20,290	1,725.0	923.7	343.4	0.736	40,706	4,491,578	906.3
All Causes of Death	Female	264	19,804	1,333.1	770.6	277.6	0.435	36,110	4,457,043	810.2
All Malignant Cancers	Total	131	40,094	326.7	182.6	120.2	0.344	14,990	8,948,621	167.5
All Malignant Cancers	Male	81	20,290	399.2	207.3	70.4	0.232	8,095	4,491,578	180.2
All Malignant Cancers	Female	50	19,804	252.5	150.5	51.4	0.920	6,895	4,457,043	154.7
Bladder	Total	5	40,094	12.5	6.4	4.2	0.822	484	8,948,621	5.4
Bladder	Male	5	20,290	24.6	11.7	3.5	0.568	373	4,491,578	8.3
Bladder	Female	-	19,804	-	-	0.9	0.815	111	4,457,043	2.5
Brain and Other Nervous System	Total	1	40,094	2.5	1.6	3.5	0.265	503	8,948,621	5.6
Brain and Other Nervous System	Male	-	20,290	-	-	2.2	0.221	298	4,491,578	6.6
Brain and Other Nervous System	Female	1	19,804	5.0	3.3	1.4	1.000	205	4,457,043	4.6
Breast	Total	10	40,094	24.9	14.7	8.3	0.648	1,092	8,948,621	12.2
Breast	Male	-	20,290	-	-	0.1	1.000	16	4,491,578	0.4
Breast	Female	10	19,804	50.5	31.2	7.7	0.500	1,076	4,457,043	24.1
Cervix	Female	-	19,804	-	-	0.5	1.000	83	4,457,043	1.9
Colorectal	Total	14	40,094	34.9	20.2	10.1	0.283	1,305	8,948,621	14.6
Colorectal	Male	12	20,290	59.1	33.2	5.7	0.028 >>	707	4,491,578	15.7
Colorectal	Female	2	19,804	10.1	6.0	4.4	0.359	598	4,457,043	13.4
Corpus Uteri	Female	-	19,804	-	-	1.3	0.550	173	4,457,043	3.9
Esophagus	Total	3	40,094	7.5	4.3	3.7	0.979	474	8,948,621	5.3
Esophagus	Male	3	20,290	14.8	8.0	3.3	1.000	398	4,491,578	8.9
Esophagus	Female	-	19,804	-	-	0.6	1.000	76	4,457,043	1.7
Hodgkin Lymphoma	Total	-	40,094	-	-	0.2	1.000	29	8,948,621	0.3
Hodgkin Lymphoma	Male	-	20,290	-	-	0.1	1.000	14	4,491,578	0.3
Hodgkin Lymphoma	Female	-	19,804	-	-	0.1	1.000	15	4,457,043	0.3
Kidney	Total	4	40,094	10.0	5.4	3.1	0.762	381	8,948,621	4.3
Kidney	Male	3	20,290	14.8	7.7	2.1	0.680	239	4,491,578	5.3
Kidney	Female	1	19,804	5.0	2.8	1.1	1.000	142	4,457,043	3.2
Larynx	Total	-	40,094	-	-	0.6	1.000	71	8,948,621	0.8
Larynx	Male	-	20,290	-	-	0.5	1.000	58	4,491,578	1.3
Larynx	Female	-	19,804	-	-	0.1	1.000	13	4,457,043	0.3
Leukemia	Total	5	40,094	12.5	6.9	5.3	1.000	655	8,948,621	7.3
Leukemia	Male	3	20,290	14.8	7.6	3.4	1.000	383	4,491,578	8.5
Leukemia	Female	2	19,804	10.1	5.8	2.1	1.000	272	4,457,043	6.1
Liver and Bile Duct	Total	7	40,094	17.5	9.9	4.7	0.392	596	8,948,621	6.7
Liver and Bile Duct	Male	3	20,290	14.8	8.0	3.4	1.000	405	4,491,578	9.0
Liver and Bile Duct	Female	4	19,804	20.2	12.0	1.4	0.114	191	4,457,043	4.3
Lung and Bronchus	Total	29	40,094	72.3	39.4	24.1	0.365	2,932	8,948,621	32.8
Lung and Bronchus	Male	17	20,290	83.8	42.8	13.6	0.425	1,539	4,491,578	34.3
Lung and Bronchus	Female	12	19,804	60.6	35.1	10.7	0.763	1,393	4,457,043	31.3
Melanoma of the Skin	Total	3	40,094	7.5	4.4	2.2	0.751	286	8,948,621	3.2
Melanoma of the Skin	Male	3	20,290	14.8	7.9	1.6	0.428	189	4,491,578	4.2
Melanoma of the Skin	Female	-	19,804	-	-	0.7	1.000	97	4,457,043	2.2
Myeloma	Total	2	40,094	5.0	2.6	2.8	0.946	329	8,948,621	3.7
Myeloma	Male	1	20,290	4.9	2.4	1.8	0.919	195	4,491,578	4.3
Myeloma	Female	1	19,804	5.0	2.9	1.0	1.000	134	4,457,043	3.0
Non-Hodgkin Lymphoma	Total	3	40,094	7.5	4.1	4.6	0.641	566	8,948,621	6.3
Non-Hodgkin Lymphoma	Male	3	20,290	14.8	7.7	2.6	0.978	304	4,491,578	6.8
Non-Hodgkin Lymphoma	Female	-	19,804	-	-	2.0	0.261	262	4,457,043	5.9
Oral Cavity and Pharynx	Total	3	40,094	7.5	4.3	2.1	0.674	263	8,948,621	2.9
Oral Cavity and Pharynx	Male	2	20,290	9.9	5.3	1.6	0.918	185	4,491,578	4.1
Oral Cavity and Pharynx	Female	1	19,804	5.0	3.1	0.6	0.861	78	4,457,043	1.8
Ovary	Female	3	19,804	15.1	9.2	2.5	0.934	347	4,457,043	7.8
Pancreas	Total	10	40,094	24.9	13.9	9.5	0.960	1,180	8,948,621	13.2
Pancreas	Male	5	20,290	24.6	13.0	5.5	1.000	637	4,491,578	14.2
Pancreas	Female	5	19,804	25.2	14.8	4.1	0.791	543	4,457,043	12.2
Prostate	Male	11	20,290	54.2	25.5	9.0	0.587	938	4,491,578	20.9
Stomach	Total	3	40,094	7.5	4.5	1.5	0.361	195	8,948,621	2.2
Stomach	Male	2	20,290	9.9	5.5	1.0	0.498	119	4,491,578	2.6
Stomach	Female	1	19,804	5.0	3.2	0.5	0.819	76	4,457,043	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, 2020.

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 (BRFS) since 1984. These surveys are conducted with randomly selected adult Idahoans to measure population prevalences of risk factors for the major causes of death, including cancer. DPH provided data sets containing Behavioral Risk Factor Surveillance System (BRFSS) data from 2011 through 2021 to CDRI staff, who performed the analyses reported in these *County Profiles*. Analysis weights were poststratified to 2020 population estimates by age group, sex, and county, beginning with the BRFSS raked weights. Not all questions were asked in all years. 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* 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, 2011–2021

Measure	State of Idaho	HD 1	HD 2	HD 3	HD 4	HD 5	HD 6	HD 7	Lemhi County
Access to Care									
Have Health Insurance, Age <65 (2015–2021)	83.1%	82.8%	85.1%	77.2%	85.8%	78.9%	85.4%	85.4%	82.1%
Not See Doctor Due to Cost in Past Year (2015–2021)	12.6%	11.4%	11.8%	14.5%	12.4%	12.3%	11.8%	12.9%	11.0%
Cancer Screening									
Mammogram Past 2 Years, Age 50–74 (2014, 2016, 2018, 2020)	69.1%	67.0%	73.8%	68.2%	73.2%	64.8%	64.5%	67.1%	49.4%
Pap Test Past 3 Years, Cervix Intact Age 21–65 (2018, 2020)	71.2%	73.6%	73.6%	70.8%	72.9%	69.1%	69.5%	65.9%	.
Colorectal Cancer Screening, Age 50–75 (2018, 2020)	67.9%	66.9%	73.6%	71.4%	70.6%	61.7%	61.5%	64.7%	65.0%
Tobacco Use									
Current Tobacco User (2016–2021)	22.3%	26.7%	23.1%	23.6%	21.8%	21.4%	22.7%	16.9%	26.4%
Other Cancer-Related									
Healthy Weight by Body Mass Index, Age 20+ (2015–2021)	32.1%	32.8%	31.7%	27.9%	36.1%	29.8%	27.9%	31.9%	38.3%
Any Physical Activity Besides Job Past 30 Days (2015-2021)	78.7%	79.2%	78.1%	74.5%	83.2%	73.4%	76.3%	79.7%	76.0%
Meet Physical Activity Guidelines (2011, 2013, 2015, 2017, 2019)	21.9%	22.8%	19.4%	20.0%	25.2%	19.5%	20.4%	20.2%	18.9%
Home Ever Tested for Radon (2016, 2018, 2020)	23.0%	30.9%	18.2%	16.9%	25.1%	19.9%	23.0%	21.8%	24.3%

Access to Care

Have Health Insurance – 2015–2021
Statewide, 83.1% of adults aged 18–64 reported having health care coverage. Health care coverage differed significantly by race/ethnicity, with 86.0% of white non-Hispanics, compared to 64.8% of Hispanics and 83.3% of Native Americans, having health insurance. Spanish-speaking respondents were significantly less likely to be insured (33.3%) than English-speaking respondents (84.2%). Health care coverage differed significantly by age of respondent, with 79.8% of persons aged 18–29, and 87.8% of persons aged 50–64, having health insurance. Health care coverage differed significantly by county, with a range of 62.1% in Adams County to 91.6% in Oneida County having health insurance.

Not See Doctor Due to Cost in Past Year – 2015–2021
Statewide, 12.6% 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 (11.5% of white non-Hispanics, 19.2% of Hispanics, and 21.0% of Native Americans). Inability to see a doctor due to cost differed significantly by annual household income (24.9% for less than $15,000, 6.1% for greater than $50,000). Inability to see a doctor due to cost differed significantly by county, with a range of 7.4% in Franklin County to 17.5% in Power County.

Cancer Screening

Mammogram – 2014, 2016, 2018, 2020
Statewide, 69.1% of women aged 50–74 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 (72.1% versus 36.7%). Mammography rates differed significantly by county, with a range in screening of 45.9% in Benewah County to 77.0% in Nez Perce County. In 2020, Idaho ranked 48th among states and the District of Columbia for mammography screening rates among women aged 50–74 and also 48th among ages 40+.

Pap Test – 2018, 2020
Statewide, 71.2% 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 (75.1% versus 52.6% screened in the past 3 years). Pap screening differed significantly by county, with a range of 50.7% 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 – 2018, 2020
Statewide, 67.9% of adults aged 50–75 reported being current for colorectal cancer screening.** Persons with health insurance were over twice as likely to be current for colorectal cancer screening. In 2020, Idaho ranked 47th among states and the District of Columbia in the percentage of adults aged 50–75 and older who reported being up-to-date for colorectal cancer screening.

** 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, or a colonoscopy in the past 10 years.

Cancer Screening and Risk Factors

Tobacco Use

Current Tobacco Use – 2016–2021
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, 22.3% of adults aged 18 and older were current tobacco users. Tobacco use differed significantly by age of respondent, with 29.9% of persons aged 18-29, and 11.1% of persons aged 65 and older reporting current tobacco use. Tobacco use was lower among white non-Hispanics (22.4%) than among Native Americans (40.0%). Tobacco use differed significantly by county, with a range of 5.4% in Madison County to 41.6% 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 – 2015–2021
Statewide, 32.1% 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 32.5% of white non-Hispanics, compared to 28.2% of Hispanics and 24.6% of Native Americans, being in the healthy weight range. Males (25.5%) were significantly less likely to be in the healthy weight range than females (38.6%). BMI differed significantly by age of respondent, with 43.3% of persons aged 18–29, and 26.0% of persons aged 50–64, being in the healthy weight range. BMI differed significantly by county, with a range of 19.8% in Power County to 47.4% in Blaine County of adults being in the healthy weight range.

Any Physical Activity – 2015-2021
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, 78.7% 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 83.3% of persons aged 18–29, and 72.3% 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 64.3% in Clark County to 84.6% in Teton County.

Physical Activity Guidelines – 2011, 2013, 2015, 2017, 2019
Statewide, 21.9% 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 26.3% 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 9.6% in Franklin County to 30.6% in Blaine County.

Home Radon Testing – 2016, 2018, 2020
Statewide, 23.0% of adults have ever tested their house for radon. Radon test usage varied significantly by race/ethnicity, with 25.1% of white non-Hispanics, 7.4% 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 8.5% in Cassia County to 54.4% in Blaine County.

This project has been funded in whole or in part with Federal funds from the National Cancer Institute, National Institutes of Health, Department of Health and Human Services, under Contract No. HHSN261201800006I and the Centers for Disease Control and Prevention, Department of Health and Human Services, under Cooperative Agreement NU58DP007160. The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention or the National Cancer Institute.

LEWIS COUNTY CANCER PROFILE

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

Cancer Incidence 2016–2020
Cancer Mortality 2017–2021
BRFSS 2011–2021

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.2016.3332). 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 2016–2020

Nearly one in two Idahoans are estimated to develop cancer during their lifetime. During 2016–2020, 45,610 cases of invasive cancer were diagnosed among Idaho residents, and 140 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, 2016–2020

Cancer Incidence 2016–2020	Lewis County	State of Idaho
All Sites/Types	**140**	**45,610**
Female Breast	**21**	**6,687**
Prostate	**21**	**6,417**
Lung & Bronchus	**25**	**4,887**
Colorectal	**9**	**3,451**

Table 3 (*Cancer Incidence 2016–2020, 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 727.2 cases per 100,000 person-years per year during 2016–2020. Comparing this crude rate with the crude rate for the remainder of Idaho (519.5) 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 494.1 cases per 100,000 persons per year during 2016–2020. There were fewer cases of cancer in Lewis County (140) than expected (147.2) 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 2017–2021

During 2017–2021, cancer was the second leading cause of death in Idaho; 15,121 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, 2017–2021

Mortality 2017–2021	Lewis County	State of Idaho
All Deaths	**273**	**77,431**
Cancer Deaths	**55**	**15,121**
% of All Deaths	*20.1%*	*19.5%*
Lung & Bronchus	**13**	**2,961**
Colorectal	**5**	**1,319**
Pancreas	**2**	**1,190**
Female Breast	**0**	**1,086**
Prostate	**5**	**949**

Table 4 (*Cancer Mortality 2017–2021, 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 179.1 deaths per 100,000 persons per year during 2017–2021, compared with 168.0 for the remainder of the state. There were more cancer deaths in Lewis County (55) than expected (51.6) 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 2016–2020
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	140	19,251	727.2	494.1	147.2	0.587	45,470	8,752,577	519.5
All Sites Combined	Male	86	9,732	883.7	556.2	85.3	0.968	24,203	4,387,178	551.7
All Sites Combined	Female	54	9,519	567.3	413.3	63.7	0.248	21,267	4,365,399	487.2
Bladder	Total	9	19,251	46.8	28.8	7.8	0.753	2,175	8,752,577	24.8
Bladder	Male	6	9,732	61.7	35.5	6.7	0.981	1,745	4,387,178	39.8
Bladder	Female	3	9,519	31.5	20.9	1.4	0.341	430	4,365,399	9.9
Brain - malignant	Total	-	19,251	-	-	1.8	0.326	625	8,752,577	7.1
Brain - malignant	Male	-	9,732	-	-	1.1	0.648	375	4,387,178	8.5
Brain - malignant	Female	-	9,519	-	-	0.7	0.992	250	4,365,399	5.7
Brain and other CNS - non-malignant	Total	3	19,251	15.6	11.3	4.3	0.752	1,421	8,752,577	16.2
Brain and other CNS - non-malignant	Male	2	9,732	20.6	14.8	1.5	0.869	478	4,387,178	10.9
Brain and other CNS - non-malignant	Female	1	9,519	10.5	7.8	2.8	0.474	943	4,365,399	21.6
Breast	Total	21	19,251	109.1	78.5	20.5	0.978	6,725	8,752,577	76.8
Breast	Male	-	9,732	-	-	0.2	1.000	59	4,387,178	1.3
Breast	Female	21	9,519	220.6	164.6	19.5	0.790	6,666	4,365,399	152.7
Breast - in situ	Total	2	19,251	10.4	7.8	3.6	0.589	1,237	8,752,577	14.1
Breast - in situ	Male	-	9,732	-	-	0.0	1.000	5	4,387,178	0.1
Breast - in situ	Female	2	9,519	21.0	16.1	3.5	0.640	1,232	4,365,399	28.2
Cervix	Female	-	9,519	-	-	0.7	1.000	304	4,365,399	7.0
Colorectal	Total	9	19,251	46.8	32.0	11.1	0.668	3,442	8,752,577	39.3
Colorectal	Male	7	9,732	71.9	47.1	6.4	0.921	1,896	4,387,178	43.2
Colorectal	Female	2	9,519	21.0	14.9	4.7	0.297	1,546	4,365,399	35.4
Corpus Uteri	Female	1	9,519	10.5	7.8	3.9	0.198	1,329	4,365,399	30.4
Esophagus	Total	2	19,251	10.4	6.7	1.7	1.000	504	8,752,577	5.8
Esophagus	Male	1	9,732	10.3	6.3	1.5	1.000	423	4,387,178	9.6
Esophagus	Female	1	9,519	10.5	7.2	0.3	0.455	81	4,365,399	1.9
Hodgkin Lymphoma	Total	-	19,251	-	-	0.5	1.000	210	8,752,577	2.4
Hodgkin Lymphoma	Male	-	9,732	-	-	0.3	1.000	118	4,387,178	2.7
Hodgkin Lymphoma	Female	-	9,519	-	-	0.2	1.000	92	4,365,399	2.1
Kidney and Renal Pelvis	Total	8	19,251	41.6	28.8	5.7	0.439	1,807	8,752,577	20.6
Kidney and Renal Pelvis	Male	5	9,732	51.4	34.3	3.9	0.708	1,177	4,387,178	26.8
Kidney and Renal Pelvis	Female	3	9,519	31.5	22.6	1.9	0.600	630	4,365,399	14.4
Larynx	Total	2	19,251	10.4	6.8	0.7	0.323	213	8,752,577	2.4
Larynx	Male	2	9,732	20.6	12.6	0.6	0.226	158	4,387,178	3.6
Larynx	Female	-	9,519	-	-	0.2	1.000	55	4,365,399	1.3
Leukemia	Total	3	19,251	15.6	10.5	5.3	0.446	1,628	8,752,577	18.6
Leukemia	Male	3	9,732	30.8	19.8	3.4	1.000	986	4,387,178	22.5
Leukemia	Female	-	9,519	-	-	2.0	0.272	642	4,365,399	14.7
Liver and Bile Duct	Total	4	19,251	20.8	13.8	2.7	0.587	825	8,752,577	9.4
Liver and Bile Duct	Male	4	9,732	41.1	26.1	2.1	0.304	586	4,387,178	13.4
Liver and Bile Duct	Female	-	9,519	-	-	0.8	0.941	239	4,365,399	5.5
Lung and Bronchus	Total	25	19,251	129.9	80.5	17.3	0.094	4,862	8,752,577	55.5
Lung and Bronchus	Male	14	9,732	143.9	83.9	9.3	0.177	2,438	4,387,178	55.6
Lung and Bronchus	Female	11	9,519	115.6	75.7	8.1	0.382	2,424	4,365,399	55.5
Melanoma of the Skin	Total	6	19,251	31.2	22.2	9.0	0.405	2,936	8,752,577	33.5
Melanoma of the Skin	Male	5	9,732	51.4	33.4	6.0	0.892	1,760	4,387,178	40.1
Melanoma of the Skin	Female	1	9,519	10.5	8.3	3.3	0.329	1,176	4,365,399	26.9
Myeloma	Total	4	19,251	20.8	13.1	2.4	0.463	704	8,752,577	8.0
Myeloma	Male	3	9,732	30.8	18.4	1.6	0.449	438	4,387,178	10.0
Myeloma	Female	1	9,519	10.5	7.0	0.9	1.000	266	4,365,399	6.1
Non-Hodgkin Lymphoma	Total	3	19,251	15.6	10.6	6.3	0.254	1,937	8,752,577	22.1
Non-Hodgkin Lymphoma	Male	3	9,732	30.8	20.1	3.8	0.932	1,126	4,387,178	25.7
Non-Hodgkin Lymphoma	Female	-	9,519	-	-	2.5	0.161	811	4,365,399	18.6
Oral Cavity and Pharynx	Total	6	19,251	31.2	21.5	4.1	0.467	1,289	8,752,577	14.7
Oral Cavity and Pharynx	Male	4	9,732	41.1	27.0	3.1	0.771	932	4,387,178	21.2
Oral Cavity and Pharynx	Female	2	9,519	21.0	15.1	1.1	0.589	357	4,365,399	8.2
Ovary	Female	-	9,519	-	-	1.6	0.419	533	4,365,399	12.2
Pancreas	Total	5	19,251	26.0	16.5	4.9	1.000	1,418	8,752,577	16.2
Pancreas	Male	2	9,732	20.6	12.4	2.9	0.900	782	4,387,178	17.8
Pancreas	Female	3	9,519	31.5	21.0	2.1	0.690	636	4,365,399	14.6
Prostate	Male	21	9,732	215.8	133.0	23.0	0.777	6,396	4,387,178	145.8
Stomach	Total	2	19,251	10.4	6.9	1.5	0.916	465	8,752,577	5.3
Stomach	Male	-	9,732	-	-	1.1	0.658	309	4,387,178	7.0
Stomach	Female	2	9,519	21.0	15.0	0.5	0.167	156	4,365,399	3.6
Testis	Male	-	9,732	-	-	0.5	1.000	265	4,387,178	6.0
Thyroid	Total	4	19,251	20.8	19.0	2.9	0.669	1,216	8,752,577	13.9
Thyroid	Male	2	9,732	20.6	16.9	1.0	0.492	353	4,387,178	8.0
Thyroid	Female	2	9,519	21.0	20.0	2.0	1.000	863	4,365,399	19.8
Pediatric Age 0 to 19	Total	2	4,778	41.9	42.4	0.8	0.386	419	2,455,745	17.1
Pediatric Age 0 to 19	Male	2	2,525	79.2	79.9	0.4	0.146	221	1,253,985	17.6
Pediatric Age 0 to 19	Female	-	2,253	-	-	0.4	1.000	198	1,201,760	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 2017–2021
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	273	19,116	1,428.1	893.7	262.8	0.543	77,157	8,969,599	860.2
All Causes of Death	Male	168	9,680	1,735.5	1,034.2	147.5	0.105	40,888	4,502,188	908.2
All Causes of Death	Female	105	9,436	1,112.8	727.2	117.2	0.278	36,269	4,467,411	811.9
All Malignant Cancers	Total	55	19,116	287.7	179.1	51.6	0.670	15,066	8,969,599	168.0
All Malignant Cancers	Male	42	9,680	433.9	251.3	30.2	0.048 >>	8,134	4,502,188	180.7
All Malignant Cancers	Female	13	9,436	137.8	91.4	22.1	0.054	6,932	4,467,411	155.2
Bladder	Total	4	19,116	20.9	12.2	1.8	0.211	485	8,969,599	5.4
Bladder	Male	3	9,680	31.0	16.6	1.5	0.387	375	4,502,188	8.3
Bladder	Female	1	9,436	10.6	6.6	0.4	0.625	110	4,467,411	2.5
Brain and Other Nervous System	Total	2	19,116	10.5	7.3	1.5	0.906	502	8,969,599	5.6
Brain and Other Nervous System	Male	2	9,680	20.7	13.8	1.0	0.496	296	4,502,188	6.6
Brain and Other Nervous System	Female	-	9,436	-	-	0.6	1.000	206	4,467,411	4.6
Breast	Total	-	19,116	-	-	3.6	0.055	1,102	8,969,599	12.3
Breast	Male	-	9,680	-	-	0.1	1.000	16	4,502,188	0.4
Breast	Female	-	9,436	-	-	3.3	0.072	1,086	4,467,411	24.3
Cervix	Female	-	9,436	-	-	0.2	1.000	83	4,467,411	1.9
Colorectal	Total	5	19,116	26.2	16.8	4.4	0.880	1,314	8,969,599	14.6
Colorectal	Male	4	9,680	41.3	25.6	2.5	0.477	715	4,502,188	15.9
Colorectal	Female	1	9,436	10.6	7.1	1.9	0.867	599	4,467,411	13.4
Corpus Uteri	Female	-	9,436	-	-	0.5	1.000	173	4,467,411	3.9
Esophagus	Total	2	19,116	10.5	6.6	1.6	0.949	475	8,969,599	5.3
Esophagus	Male	1	9,680	10.3	6.2	1.4	1.000	400	4,502,188	8.9
Esophagus	Female	1	9,436	10.6	7.0	0.2	0.425	75	4,467,411	1.7
Hodgkin Lymphoma	Total	-	19,116	-	-	0.1	1.000	29	8,969,599	0.3
Hodgkin Lymphoma	Male	-	9,680	-	-	0.0	1.000	14	4,502,188	0.3
Hodgkin Lymphoma	Female	-	9,436	-	-	0.0	1.000	15	4,467,411	0.3
Kidney	Total	2	19,116	10.5	6.4	1.3	0.770	383	8,969,599	4.3
Kidney	Male	2	9,680	20.7	12.1	0.9	0.443	240	4,502,188	5.3
Kidney	Female	-	9,436	-	-	0.5	1.000	143	4,467,411	3.2
Larynx	Total	2	19,116	10.5	6.5	0.2	0.048 >>	69	8,969,599	0.8
Larynx	Male	1	9,680	10.3	5.9	0.2	0.387	57	4,502,188	1.3
Larynx	Female	1	9,436	10.6	7.5	0.0	0.070	12	4,467,411	0.3
Leukemia	Total	1	19,116	5.2	3.2	2.3	0.661	659	8,969,599	7.3
Leukemia	Male	1	9,680	10.3	5.9	1.4	1.000	385	4,502,188	8.6
Leukemia	Female	-	9,436	-	-	0.9	0.811	274	4,467,411	6.1
Liver and Bile Duct	Total	2	19,116	10.5	6.6	2.0	1.000	601	8,969,599	6.7
Liver and Bile Duct	Male	2	9,680	20.7	12.4	1.4	0.850	406	4,502,188	9.0
Liver and Bile Duct	Female	-	9,436	-	-	0.6	1.000	195	4,467,411	4.4
Lung and Bronchus	Total	13	19,116	68.0	41.3	10.3	0.482	2,948	8,969,599	32.9
Lung and Bronchus	Male	6	9,680	62.0	35.5	5.8	1.000	1,550	4,502,188	34.4
Lung and Bronchus	Female	7	9,436	74.2	47.7	4.6	0.362	1,398	4,467,411	31.3
Melanoma of the Skin	Total	-	19,116	-	-	1.0	0.768	289	8,969,599	3.2
Melanoma of the Skin	Male	-	9,680	-	-	0.7	1.000	192	4,502,188	4.3
Melanoma of the Skin	Female	-	9,436	-	-	0.3	1.000	97	4,467,411	2.2
Myeloma	Total	3	19,116	15.7	9.2	1.2	0.238	328	8,969,599	3.7
Myeloma	Male	3	9,680	31.0	16.8	0.8	0.085	193	4,502,188	4.3
Myeloma	Female	-	9,436	-	-	0.5	1.000	135	4,467,411	3.0
Non-Hodgkin Lymphoma	Total	2	19,116	10.5	6.3	2.0	1.000	567	8,969,599	6.3
Non-Hodgkin Lymphoma	Male	2	9,680	20.7	11.9	1.1	0.628	305	4,502,188	6.8
Non-Hodgkin Lymphoma	Female	-	9,436	-	-	0.9	0.831	262	4,467,411	5.9
Oral Cavity and Pharynx	Total	2	19,116	10.5	6.7	0.9	0.442	264	8,969,599	2.9
Oral Cavity and Pharynx	Male	2	9,680	20.7	12.5	0.7	0.284	185	4,502,188	4.1
Oral Cavity and Pharynx	Female	-	9,436	-	-	0.2	1.000	79	4,467,411	1.8
Ovary	Female	1	9,436	10.6	7.1	1.1	1.000	349	4,467,411	7.8
Pancreas	Total	2	19,116	10.5	6.5	4.1	0.452	1,188	8,969,599	13.2
Pancreas	Male	2	9,680	20.7	12.1	2.3	1.000	640	4,502,188	14.2
Pancreas	Female	-	9,436	-	-	1.8	0.340	548	4,467,411	12.3
Prostate	Male	5	9,680	51.7	27.4	3.8	0.675	944	4,502,188	21.0
Stomach	Total	1	19,116	5.2	3.4	0.6	0.945	197	8,969,599	2.2
Stomach	Male	-	9,680	-	-	0.4	1.000	121	4,502,188	2.7
Stomach	Female	1	9,436	10.6	7.5	0.2	0.405	76	4,467,411	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, 2020.

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 (BRFS) since 1984. These surveys are conducted with randomly selected adult Idahoans to measure population prevalences of risk factors for the major causes of death, including cancer. DPH provided data sets containing Behavioral Risk Factor Surveillance System (BRFSS) data from 2011 through 2021 to CDRI staff, who performed the analyses reported in these *County Profiles*. Analysis weights were poststratified to 2020 population estimates by age group, sex, and county, beginning with the BRFSS raked weights. Not all questions were asked in all years. 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* 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, 2011–2021

Measure	State of Idaho	HD 1	HD 2	HD 3	HD 4	HD 5	HD 6	HD 7	Lewis County
Access to Care									
Have Health Insurance, Age <65 (2015–2021)	83.1%	82.8%	85.1%	77.2%	85.8%	78.9%	85.4%	85.4%	85.7%
Not See Doctor Due to Cost in Past Year (2015–2021)	12.6%	11.4%	11.8%	14.5%	12.4%	12.3%	11.8%	12.9%	9.1%
Cancer Screening									
Mammogram Past 2 Years, Age 50–74 (2014, 2016, 2018, 2020)	69.1%	67.0%	73.8%	68.2%	73.2%	64.8%	64.5%	67.1%	.
Pap Test Past 3 Years, Cervix Intact Age 21–65 (2018, 2020)	71.2%	73.6%	73.6%	70.8%	72.9%	69.1%	69.5%	65.9%	.
Colorectal Cancer Screening, Age 50–75 (2018, 2020)	67.9%	66.9%	73.6%	71.4%	70.6%	61.7%	61.5%	64.7%	.
Tobacco Use									
Current Tobacco User (2016–2021)	22.3%	26.7%	23.1%	23.6%	21.8%	21.4%	22.7%	16.9%	31.5%
Other Cancer-Related									
Healthy Weight by Body Mass Index, Age 20+ (2015–2021)	32.1%	32.8%	31.7%	27.9%	36.1%	29.8%	27.9%	31.9%	23.5%
Any Physical Activity Besides Job Past 30 Days (2015-2021)	78.7%	79.2%	78.1%	74.5%	83.2%	73.4%	76.3%	79.7%	70.8%
Meet Physical Activity Guidelines (2011, 2013, 2015, 2017, 2019)	21.9%	22.8%	19.4%	20.0%	25.2%	19.5%	20.4%	20.2%	15.6%
Home Ever Tested for Radon (2016, 2018, 2020)	23.0%	30.9%	18.2%	16.9%	25.1%	19.9%	23.0%	21.8%	16.7%

Access to Care

Have Health Insurance – 2015–2021
Statewide, 83.1% of adults aged 18–64 reported having health care coverage. Health care coverage differed significantly by race/ethnicity, with 86.0% of white non-Hispanics, compared to 64.8% of Hispanics and 83.3% of Native Americans, having health insurance. Spanish-speaking respondents were significantly less likely to be insured (33.3%) than English-speaking respondents (84.2%). Health care coverage differed significantly by age of respondent, with 79.8% of persons aged 18–29, and 87.8% of persons aged 50–64, having health insurance. Health care coverage differed significantly by county, with a range of 62.1% in Adams County to 91.6% in Oneida County having health insurance.

Not See Doctor Due to Cost in Past Year – 2015–2021
Statewide, 12.6% 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 (11.5% of white non-Hispanics, 19.2% of Hispanics, and 21.0% of Native Americans). Inability to see a doctor due to cost differed significantly by annual household income (24.9% for less than $15,000, 6.1% for greater than $50,000). Inability to see a doctor due to cost differed significantly by county, with a range of 7.4% in Franklin County to 17.5% in Power County.

Cancer Screening

Mammogram – 2014, 2016, 2018, 2020
Statewide, 69.1% of women aged 50–74 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 (72.1% versus 36.7%). Mammography rates differed significantly by county, with a range in screening of 45.9% in Benewah County to 77.0% in Nez Perce County. In 2020, Idaho ranked 48th among states and the District of Columbia for mammography screening rates among women aged 50–74 and also 48th among ages 40+.

Pap Test – 2018, 2020
Statewide, 71.2% 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 (75.1% versus 52.6% screened in the past 3 years). Pap screening differed significantly by county, with a range of 50.7% 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 – 2018, 2020
Statewide, 67.9% of adults aged 50–75 reported being current for colorectal cancer screening.** Persons with health insurance were over twice as likely to be current for colorectal cancer screening. In 2020, Idaho ranked 47th among states and the District of Columbia in the percentage of adults aged 50–75 and older who reported being up-to-date for colorectal cancer screening.

** 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, or a colonoscopy in the past 10 years.

Cancer Screening and Risk Factors

Tobacco Use

Current Tobacco Use – 2016–2021
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, 22.3% of adults aged 18 and older were current tobacco users. Tobacco use differed significantly by age of respondent, with 29.9% of persons aged 18-29, and 11.1% of persons aged 65 and older reporting current tobacco use. Tobacco use was lower among white non-Hispanics (22.4%) than among Native Americans (40.0%). Tobacco use differed significantly by county, with a range of 5.4% in Madison County to 41.6% 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 – 2015–2021
Statewide, 32.1% 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 32.5% of white non-Hispanics, compared to 28.2% of Hispanics and 24.6% of Native Americans, being in the healthy weight range. Males (25.5%) were significantly less likely to be in the healthy weight range than females (38.6%). BMI differed significantly by age of respondent, with 43.3% of persons aged 18–29, and 26.0% of persons aged 50–64, being in the healthy weight range. BMI differed significantly by county, with a range of 19.8% in Power County to 47.4% in Blaine County of adults being in the healthy weight range.

Any Physical Activity – 2015-2021
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, 78.7% 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 83.3% of persons aged 18–29, and 72.3% 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 64.3% in Clark County to 84.6% in Teton County.

Physical Activity Guidelines – 2011, 2013, 2015, 2017, 2019
Statewide, 21.9% 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 26.3% 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 9.6% in Franklin County to 30.6% in Blaine County.

Home Radon Testing – 2016, 2018, 2020
Statewide, 23.0% of adults have ever tested their house for radon. Radon test usage varied significantly by race/ethnicity, with 25.1% of white non-Hispanics, 7.4% 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 8.5% in Cassia County to 54.4% in Blaine County.

This project has been funded in whole or in part with Federal funds from the National Cancer Institute, National Institutes of Health, Department of Health and Human Services, under Contract No. HHSN261201800006I and the Centers for Disease Control and Prevention, Department of Health and Human Services, under Cooperative Agreement NU58DP007160. The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention or the National Cancer Institute.

LINCOLN COUNTY CANCER PROFILE

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

Cancer Incidence 2016–2020
Cancer Mortality 2017–2021
BRFSS 2011–2021

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.2016.3332). 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 2016–2020

Nearly one in two Idahoans are estimated to develop cancer during their lifetime. During 2016–2020, 45,610 cases of invasive cancer were diagnosed among Idaho residents, and 112 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, 2016–2020

Cancer Incidence 2016–2020	Lincoln County	State of Idaho
All Sites/Types	**112**	**45,610**
Female Breast	**15**	**6,687**
Prostate	**20**	**6,417**
Lung & Bronchus	**20**	**4,887**
Colorectal	**3**	**3,451**

Table 3 (*Cancer Incidence 2016–2020, 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 419.4 cases per 100,000 person-years per year during 2016–2020. Comparing this crude rate with the crude rate for the remainder of Idaho (520.3) 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 457.7 cases per 100,000 persons per year during 2016–2020. There were fewer cases of cancer in Lincoln County (112) than expected (127.3) 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 2017–2021

During 2017–2021, cancer was the second leading cause of death in Idaho; 15,121 Idaho residents and 40 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, 2017–2021

Mortality 2017–2021	Lincoln County	State of Idaho
All Deaths	**216**	**77,431**
Cancer Deaths	**40**	**15,121**
% of All Deaths	*18.5%*	*19.5%*
Lung & Bronchus	**12**	**2,961**
Colorectal	**2**	**1,319**
Pancreas	**1**	**1,190**
Female Breast	**2**	**1,086**
Prostate	**3**	**949**

Table 4 (*Cancer Mortality 2017–2021, 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 165.1 deaths per 100,000 persons per year during 2017–2021, compared with 168.3 for the remainder of the state. There were fewer cancer deaths in Lincoln County (40) than expected (40.8) 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 2016–2020
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	112	26,708	419.4	457.7	127.3	0.186	45,498	8,745,120	520.3
All Sites Combined	Male	59	13,835	426.5	452.5	72.1	0.132	24,230	4,383,075	552.8
All Sites Combined	Female	53	12,873	411.7	459.7	56.2	0.733	21,268	4,362,045	487.6
Bladder	Total	5	26,708	18.7	21.0	5.9	0.916	2,179	8,745,120	24.9
Bladder	Male	4	13,835	28.9	31.0	5.1	0.831	1,747	4,383,075	39.9
Bladder	Female	1	12,873	7.8	9.0	1.1	1.000	432	4,362,045	9.9
Brain - malignant	Total	1	26,708	3.7	4.0	1.8	0.925	624	8,745,120	7.1
Brain - malignant	Male	-	13,835	-	-	1.1	0.639	375	4,383,075	8.6
Brain - malignant	Female	1	12,873	7.8	8.4	0.7	0.986	249	4,362,045	5.7
Brain and other CNS - non-malignant	Total	2	26,708	7.5	8.0	4.0	0.464	1,422	8,745,120	16.3
Brain and other CNS - non-malignant	Male	1	13,835	7.2	7.5	1.5	1.000	479	4,383,075	10.9
Brain and other CNS - non-malignant	Female	1	12,873	7.8	8.7	2.5	0.575	943	4,362,045	21.6
Breast	Total	16	26,708	59.9	64.3	19.1	0.561	6,730	8,745,120	77.0
Breast	Male	1	13,835	7.2	7.6	0.2	0.319	58	4,383,075	1.3
Breast	Female	15	12,873	116.5	129.0	17.8	0.607	6,672	4,362,045	153.0
Breast - in situ	Total	1	26,708	3.7	4.0	3.6	0.261	1,238	8,745,120	14.2
Breast - in situ	Male	-	13,835	-	-	0.0	1.000	5	4,383,075	0.1
Breast - in situ	Female	1	12,873	7.8	8.5	3.3	0.313	1,233	4,362,045	28.3
Cervix	Female	1	12,873	7.8	8.0	0.9	1.000	303	4,362,045	6.9
Colorectal	Total	3	26,708	11.2	12.2	9.7	0.026 <<	3,448	8,745,120	39.4
Colorectal	Male	3	13,835	21.7	22.6	5.8	0.348	1,900	4,383,075	43.3
Colorectal	Female	-	12,873	-	-	4.0	0.035 <<	1,548	4,362,045	35.5
Corpus Uteri	Female	4	12,873	31.1	34.2	3.6	0.950	1,326	4,362,045	30.4
Esophagus	Total	-	26,708	-	-	1.4	0.490	506	8,745,120	5.8
Esophagus	Male	-	13,835	-	-	1.3	0.564	424	4,383,075	9.7
Esophagus	Female	-	12,873	-	-	0.2	1.000	82	4,362,045	1.9
Hodgkin Lymphoma	Total	-	26,708	-	-	0.6	1.000	210	8,745,120	2.4
Hodgkin Lymphoma	Male	-	13,835	-	-	0.4	1.000	118	4,383,075	2.7
Hodgkin Lymphoma	Female	-	12,873	-	-	0.3	1.000	92	4,362,045	2.1
Kidney and Renal Pelvis	Total	6	26,708	22.5	24.4	5.1	0.799	1,809	8,745,120	20.7
Kidney and Renal Pelvis	Male	4	13,835	28.9	30.3	3.5	0.945	1,178	4,383,075	26.9
Kidney and Renal Pelvis	Female	2	12,873	15.5	17.5	1.7	0.985	631	4,362,045	14.5
Larynx	Total	-	26,708	-	-	0.6	1.000	215	8,745,120	2.5
Larynx	Male	-	13,835	-	-	0.5	1.000	160	4,383,075	3.7
Larynx	Female	-	12,873	-	-	0.1	1.000	55	4,362,045	1.3
Leukemia	Total	2	26,708	7.5	8.2	4.6	0.336	1,629	8,745,120	18.6
Leukemia	Male	2	13,835	14.5	15.2	3.0	0.862	987	4,383,075	22.5
Leukemia	Female	-	12,873	-	-	1.7	0.376	642	4,362,045	14.7
Liver and Bile Duct	Total	2	26,708	7.5	8.2	2.3	1.000	827	8,745,120	9.5
Liver and Bile Duct	Male	1	13,835	7.2	7.7	1.8	0.955	589	4,383,075	13.4
Liver and Bile Duct	Female	1	12,873	7.8	8.9	0.6	0.920	238	4,362,045	5.5
Lung and Bronchus	Total	20	26,708	74.9	84.0	13.2	0.099	4,867	8,745,120	55.7
Lung and Bronchus	Male	9	13,835	65.1	70.3	7.1	0.579	2,443	4,383,075	55.7
Lung and Bronchus	Female	11	12,873	85.5	99.0	6.2	0.101	2,424	4,362,045	55.6
Melanoma of the Skin	Total	6	26,708	22.5	24.3	8.3	0.556	2,936	8,745,120	33.6
Melanoma of the Skin	Male	3	13,835	21.7	22.8	5.3	0.453	1,762	4,383,075	40.2
Melanoma of the Skin	Female	3	12,873	23.3	25.5	3.2	1.000	1,174	4,362,045	26.9
Myeloma	Total	-	26,708	-	-	1.9	0.287	708	8,745,120	8.1
Myeloma	Male	-	13,835	-	-	1.3	0.548	441	4,383,075	10.1
Myeloma	Female	-	12,873	-	-	0.7	1.000	267	4,362,045	6.1
Non-Hodgkin Lymphoma	Total	4	26,708	15.0	16.4	5.4	0.743	1,936	8,745,120	22.1
Non-Hodgkin Lymphoma	Male	2	13,835	14.5	15.3	3.4	0.695	1,127	4,383,075	25.7
Non-Hodgkin Lymphoma	Female	2	12,873	15.5	17.5	2.1	1.000	809	4,362,045	18.5
Oral Cavity and Pharynx	Total	4	26,708	15.0	16.2	3.6	0.984	1,291	8,745,120	14.8
Oral Cavity and Pharynx	Male	4	13,835	28.9	30.3	2.8	0.618	932	4,383,075	21.3
Oral Cavity and Pharynx	Female	-	12,873	-	-	0.9	0.778	359	4,362,045	8.2
Ovary	Female	3	12,873	23.3	25.8	1.4	0.340	530	4,362,045	12.2
Pancreas	Total	2	26,708	7.5	8.3	3.9	0.505	1,421	8,745,120	16.2
Pancreas	Male	1	13,835	7.2	7.7	2.3	0.651	783	4,383,075	17.9
Pancreas	Female	1	12,873	7.8	9.0	1.6	1.000	638	4,362,045	14.6
Prostate	Male	20	13,835	144.6	155.1	18.8	0.845	6,397	4,383,075	145.9
Stomach	Total	2	26,708	7.5	8.2	1.3	0.746	465	8,745,120	5.3
Stomach	Male	1	13,835	7.2	7.6	0.9	1.000	308	4,383,075	7.0
Stomach	Female	1	12,873	7.8	8.8	0.4	0.672	157	4,362,045	3.6
Testis	Male	-	13,835	-	-	0.8	0.897	265	4,383,075	6.0
Thyroid	Total	2	26,708	7.5	7.8	3.6	0.614	1,218	8,745,120	13.9
Thyroid	Male	-	13,835	-	-	1.1	0.677	355	4,383,075	8.1
Thyroid	Female	2	12,873	15.5	16.2	2.4	1.000	863	4,362,045	19.8
Pediatric Age 0 to 19	Total	1	8,431	11.9	12.0	1.4	1.000	420	2,452,092	17.1
Pediatric Age 0 to 19	Male	1	4,353	23.0	23.2	0.8	1.000	222	1,252,157	17.7
Pediatric Age 0 to 19	Female	-	4,078	-	-	0.7	1.000	198	1,199,935	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 2017–2021
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	216	26,686	809.4	885.2	210.2	0.708	77,214	8,962,029	861.6
All Causes of Death	Male	116	13,829	838.8	858.0	123.1	0.561	40,940	4,498,039	910.2
All Causes of Death	Female	100	12,857	777.8	912.6	89.0	0.269	36,274	4,463,990	812.6
All Malignant Cancers	Total	40	26,686	149.9	165.1	40.8	0.989	15,081	8,962,029	168.3
All Malignant Cancers	Male	19	13,829	137.4	143.5	24.0	0.360	8,157	4,498,039	181.3
All Malignant Cancers	Female	21	12,857	163.3	187.8	17.3	0.438	6,924	4,463,990	155.1
Bladder	Total	-	26,686	-	-	1.3	0.543	489	8,962,029	5.5
Bladder	Male	-	13,829	-	-	1.1	0.638	378	4,498,039	8.4
Bladder	Female	-	12,857	-	-	0.3	1.000	111	4,463,990	2.5
Brain and Other Nervous System	Total	2	26,686	7.5	8.0	1.4	0.815	502	8,962,029	5.6
Brain and Other Nervous System	Male	-	13,829	-	-	0.9	0.827	298	4,498,039	6.6
Brain and Other Nervous System	Female	2	12,857	15.6	17.1	0.5	0.202	204	4,463,990	4.6
Breast	Total	2	26,686	7.5	8.1	3.0	0.837	1,100	8,962,029	12.3
Breast	Male	-	13,829	-	-	0.0	1.000	16	4,498,039	0.4
Breast	Female	2	12,857	15.6	17.6	2.8	0.961	1,084	4,463,990	24.3
Cervix	Female	-	12,857	-	-	0.2	1.000	83	4,463,990	1.9
Colorectal	Total	2	26,686	7.5	8.2	3.6	0.605	1,317	8,962,029	14.7
Colorectal	Male	2	13,829	14.5	15.0	2.1	1.000	717	4,498,039	15.9
Colorectal	Female	-	12,857	-	-	1.5	0.445	600	4,463,990	13.4
Corpus Uteri	Female	-	12,857	-	-	0.4	1.000	173	4,463,990	3.9
Esophagus	Total	-	26,686	-	-	1.3	0.547	477	8,962,029	5.3
Esophagus	Male	-	13,829	-	-	1.2	0.618	401	4,498,039	8.9
Esophagus	Female	-	12,857	-	-	0.2	1.000	76	4,463,990	1.7
Hodgkin Lymphoma	Total	-	26,686	-	-	0.1	1.000	29	8,962,029	0.3
Hodgkin Lymphoma	Male	-	13,829	-	-	0.0	1.000	14	4,498,039	0.3
Hodgkin Lymphoma	Female	-	12,857	-	-	0.0	1.000	15	4,463,990	0.3
Kidney	Total	2	26,686	7.5	8.3	1.0	0.550	383	8,962,029	4.3
Kidney	Male	2	13,829	14.5	15.2	0.7	0.314	240	4,498,039	5.3
Kidney	Female	-	12,857	-	-	0.3	1.000	143	4,463,990	3.2
Larynx	Total	-	26,686	-	-	0.2	1.000	71	8,962,029	0.8
Larynx	Male	-	13,829	-	-	0.2	1.000	58	4,498,039	1.3
Larynx	Female	-	12,857	-	-	0.0	1.000	13	4,463,990	0.3
Leukemia	Total	-	26,686	-	-	1.8	0.339	660	8,962,029	7.4
Leukemia	Male	-	13,829	-	-	1.1	0.638	386	4,498,039	8.6
Leukemia	Female	-	12,857	-	-	0.7	1.000	274	4,463,990	6.1
Liver and Bile Duct	Total	1	26,686	3.7	4.1	1.6	1.000	602	8,962,029	6.7
Liver and Bile Duct	Male	-	13,829	-	-	1.2	0.611	408	4,498,039	9.1
Liver and Bile Duct	Female	1	12,857	7.8	8.9	0.5	0.771	194	4,463,990	4.3
Lung and Bronchus	Total	12	26,686	45.0	50.2	7.9	0.206	2,949	8,962,029	32.9
Lung and Bronchus	Male	6	13,829	43.4	46.3	4.5	0.583	1,550	4,498,039	34.5
Lung and Bronchus	Female	6	12,857	46.7	54.1	3.5	0.278	1,399	4,463,990	31.3
Melanoma of the Skin	Total	-	26,686	-	-	0.8	0.907	289	8,962,029	3.2
Melanoma of the Skin	Male	-	13,829	-	-	0.6	1.000	192	4,498,039	4.3
Melanoma of the Skin	Female	-	12,857	-	-	0.2	1.000	97	4,463,990	2.2
Myeloma	Total	-	26,686	-	-	0.9	0.833	331	8,962,029	3.7
Myeloma	Male	-	13,829	-	-	0.6	1.000	196	4,498,039	4.4
Myeloma	Female	-	12,857	-	-	0.3	1.000	135	4,463,990	3.0
Non-Hodgkin Lymphoma	Total	3	26,686	11.2	12.4	1.5	0.394	566	8,962,029	6.3
Non-Hodgkin Lymphoma	Male	2	13,829	14.5	15.1	0.9	0.454	305	4,498,039	6.8
Non-Hodgkin Lymphoma	Female	1	12,857	7.8	9.2	0.6	0.943	261	4,463,990	5.8
Oral Cavity and Pharynx	Total	1	26,686	3.7	4.1	0.7	1.000	265	8,962,029	3.0
Oral Cavity and Pharynx	Male	-	13,829	-	-	0.5	1.000	187	4,498,039	4.2
Oral Cavity and Pharynx	Female	1	12,857	7.8	8.8	0.2	0.359	78	4,463,990	1.7
Ovary	Female	1	12,857	7.8	8.8	0.9	1.000	349	4,463,990	7.8
Pancreas	Total	1	26,686	3.7	4.2	3.2	0.344	1,189	8,962,029	13.3
Pancreas	Male	-	13,829	-	-	1.9	0.311	642	4,498,039	14.3
Pancreas	Female	1	12,857	7.8	9.0	1.4	1.000	547	4,463,990	12.3
Prostate	Male	3	13,829	21.7	22.2	2.8	1.000	946	4,498,039	21.0
Stomach	Total	1	26,686	3.7	4.0	0.5	0.838	197	8,962,029	2.2
Stomach	Male	-	13,829	-	-	0.4	1.000	121	4,498,039	2.7
Stomach	Female	1	12,857	7.8	8.8	0.2	0.351	76	4,463,990	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, 2020.

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 (BRFS) since 1984. These surveys are conducted with randomly selected adult Idahoans to measure population prevalences of risk factors for the major causes of death, including cancer. DPH provided data sets containing Behavioral Risk Factor Surveillance System (BRFSS) data from 2011 through 2021 to CDRI staff, who performed the analyses reported in these *County Profiles*. Analysis weights were poststratified to 2020 population estimates by age group, sex, and county, beginning with the BRFSS raked weights. Not all questions were asked in all years. 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* 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, 2011–2021

Measure	State of Idaho	HD 1	HD 2	HD 3	HD 4	HD 5	HD 6	HD 7	Lincoln County
Access to Care									
Have Health Insurance, Age <65 (2015–2021)	83.1%	82.8%	85.1%	77.2%	85.8%	78.9%	85.4%	85.4%	76.5%
Not See Doctor Due to Cost in Past Year (2015–2021)	12.6%	11.4%	11.8%	14.5%	12.4%	12.3%	11.8%	12.9%	11.4%
Cancer Screening									
Mammogram Past 2 Years, Age 50–74 (2014, 2016, 2018, 2020)	69.1%	67.0%	73.8%	68.2%	73.2%	64.8%	64.5%	67.1%	.
Pap Test Past 3 Years, Cervix Intact Age 21–65 (2018, 2020)	71.2%	73.6%	73.6%	70.8%	72.9%	69.1%	69.5%	65.9%	.
Colorectal Cancer Screening, Age 50–75 (2018, 2020)	67.9%	66.9%	73.6%	71.4%	70.6%	61.7%	61.5%	64.7%	.
Tobacco Use									
Current Tobacco User (2016–2021)	22.3%	26.7%	23.1%	23.6%	21.8%	21.4%	22.7%	16.9%	17.2%
Other Cancer-Related									
Healthy Weight by Body Mass Index, Age 20+ (2015–2021)	32.1%	32.8%	31.7%	27.9%	36.1%	29.8%	27.9%	31.9%	25.9%
Any Physical Activity Besides Job Past 30 Days (2015-2021)	78.7%	79.2%	78.1%	74.5%	83.2%	73.4%	76.3%	79.7%	69.0%
Meet Physical Activity Guidelines (2011, 2013, 2015, 2017, 2019)	21.9%	22.8%	19.4%	20.0%	25.2%	19.5%	20.4%	20.2%	18.1%
Home Ever Tested for Radon (2016, 2018, 2020)	23.0%	30.9%	18.2%	16.9%	25.1%	19.9%	23.0%	21.8%	14.2%

Access to Care

Have Health Insurance – 2015–2021
Statewide, 83.1% of adults aged 18–64 reported having health care coverage. Health care coverage differed significantly by race/ethnicity, with 86.0% of white non-Hispanics, compared to 64.8% of Hispanics and 83.3% of Native Americans, having health insurance. Spanish-speaking respondents were significantly less likely to be insured (33.3%) than English-speaking respondents (84.2%). Health care coverage differed significantly by age of respondent, with 79.8% of persons aged 18–29, and 87.8% of persons aged 50–64, having health insurance. Health care coverage differed significantly by county, with a range of 62.1% in Adams County to 91.6% in Oneida County having health insurance.

Not See Doctor Due to Cost in Past Year – 2015–2021
Statewide, 12.6% 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 (11.5% of white non-Hispanics, 19.2% of Hispanics, and 21.0% of Native Americans). Inability to see a doctor due to cost differed significantly by annual household income (24.9% for less than $15,000, 6.1% for greater than $50,000). Inability to see a doctor due to cost differed significantly by county, with a range of 7.4% in Franklin County to 17.5% in Power County.

Cancer Screening

Mammogram – 2014, 2016, 2018, 2020
Statewide, 69.1% of women aged 50–74 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 (72.1% versus 36.7%). Mammography rates differed significantly by county, with a range in screening of 45.9% in Benewah County to 77.0% in Nez Perce County. In 2020, Idaho ranked 48th among states and the District of Columbia for mammography screening rates among women aged 50–74 and also 48th among ages 40+.

Pap Test – 2018, 2020
Statewide, 71.2% 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 (75.1% versus 52.6% screened in the past 3 years). Pap screening differed significantly by county, with a range of 50.7% 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 – 2018, 2020
Statewide, 67.9% of adults aged 50–75 reported being current for colorectal cancer screening.** Persons with health insurance were over twice as likely to be current for colorectal cancer screening. In 2020, Idaho ranked 47th among states and the District of Columbia in the percentage of adults aged 50–75 and older who reported being up-to-date for colorectal cancer screening.

** 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, or a colonoscopy in the past 10 years.

Cancer Screening and Risk Factors

Tobacco Use

Current Tobacco Use – 2016–2021
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, 22.3% of adults aged 18 and older were current tobacco users. Tobacco use differed significantly by age of respondent, with 29.9% of persons aged 18-29, and 11.1% of persons aged 65 and older reporting current tobacco use. Tobacco use was lower among white non-Hispanics (22.4%) than among Native Americans (40.0%). Tobacco use differed significantly by county, with a range of 5.4% in Madison County to 41.6% 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 – 2015–2021
Statewide, 32.1% 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 32.5% of white non-Hispanics, compared to 28.2% of Hispanics and 24.6% of Native Americans, being in the healthy weight range. Males (25.5%) were significantly less likely to be in the healthy weight range than females (38.6%). BMI differed significantly by age of respondent, with 43.3% of persons aged 18–29, and 26.0% of persons aged 50–64, being in the healthy weight range. BMI differed significantly by county, with a range of 19.8% in Power County to 47.4% in Blaine County of adults being in the healthy weight range.

Any Physical Activity – 2015-2021
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, 78.7% 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 83.3% of persons aged 18–29, and 72.3% 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 64.3% in Clark County to 84.6% in Teton County.

Physical Activity Guidelines – 2011, 2013, 2015, 2017, 2019
Statewide, 21.9% 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 26.3% 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 9.6% in Franklin County to 30.6% in Blaine County.

Home Radon Testing – 2016, 2018, 2020
Statewide, 23.0% of adults have ever tested their house for radon. Radon test usage varied significantly by race/ethnicity, with 25.1% of white non-Hispanics, 7.4% 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 8.5% in Cassia County to 54.4% in Blaine County.

This project has been funded in whole or in part with Federal funds from the National Cancer Institute, National Institutes of Health, Department of Health and Human Services, under Contract No. HHSN261201800006I and the Centers for Disease Control and Prevention, Department of Health and Human Services, under Cooperative Agreement NU58DP007160. The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention or the National Cancer Institute.

MADISON COUNTY CANCER PROFILE

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

Cancer Incidence 2016–2020
Cancer Mortality 2017–2021
BRFSS 2011–2021

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.2016.3332). 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 2016–2020

Nearly one in two Idahoans are estimated to develop cancer during their lifetime. During 2016–2020, 45,610 cases of invasive cancer were diagnosed among Idaho residents, and 466 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, 2016–2020

Cancer Incidence 2016–2020	Madison County	State of Idaho
All Sites/Types	**466**	**45,610**
Female Breast	**72**	**6,687**
Prostate	**70**	**6,417**
Lung & Bronchus	**15**	**4,887**
Colorectal	**35**	**3,451**

Table 3 (*Cancer Incidence 2016–2020, 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 234.6 cases per 100,000 person-years per year during 2016–2020. 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 Madison County.

The age- and sex-adjusted incidence rate of invasive cancer in Madison County, all sites combined, was 469.7 cases per 100,000 persons per year during 2016–2020. There were statistically significantly fewer cases of cancer in Madison County (466) than expected (522.4) based upon rates in the remainder of the state (p=.013).

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 2017–2021

During 2017–2021, cancer was the second leading cause of death in Idaho; 15,121 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, 2017–2021

Mortality 2017–2021	Madison County	State of Idaho
All Deaths	**911**	**77,431**
Cancer Deaths	**112**	**15,121**
% of All Deaths	*12.3%*	*19.5%*
Lung & Bronchus	**8**	**2,961**
Colorectal	**11**	**1,319**
Pancreas	**11**	**1,190**
Female Breast	**11**	**1,086**
Prostate	**10**	**949**

Table 4 (*Cancer Mortality 2017–2021, 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 110.8 deaths per 100,000 persons per year during 2017–2021, compared with 171.0 for the remainder of the state. There were statistically significantly fewer cancer deaths in Madison County (112) than expected (172.9) 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 2016–2020
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	466	198,625	234.6	469.7	522.4	0.013 <<	45,144	8,573,203	526.6
All Sites Combined	Male	233	100,762	231.2	482.4	270.4	0.022 <<	24,056	4,296,148	559.9
All Sites Combined	Female	233	97,863	238.1	458.1	250.8	0.274	21,088	4,277,055	493.0
Bladder	Total	10	198,625	5.0	11.1	22.8	0.004 <<	2,174	8,573,203	25.4
Bladder	Male	8	100,762	7.9	18.0	18.0	0.014 <<	1,743	4,296,148	40.6
Bladder	Female	2	97,863	2.0	4.3	4.6	0.318	431	4,277,055	10.1
Brain - malignant	Total	8	198,625	4.0	6.4	9.0	0.916	617	8,573,203	7.2
Brain - malignant	Male	5	100,762	5.0	7.9	5.4	1.000	370	4,296,148	8.6
Brain - malignant	Female	3	97,863	3.1	4.9	3.6	1.000	247	4,277,055	5.8
Brain and other CNS - non-malignant	Total	22	198,625	11.1	20.2	17.8	0.379	1,402	8,573,203	16.4
Brain and other CNS - non-malignant	Male	7	100,762	6.9	12.3	6.3	0.870	473	4,296,148	11.0
Brain and other CNS - non-malignant	Female	15	97,863	15.3	28.0	11.6	0.393	929	4,277,055	21.7
Breast	Total	74	198,625	37.3	77.0	74.8	0.988	6,672	8,573,203	77.8
Breast	Male	2	100,762	2.0	4.4	0.6	0.246	57	4,296,148	1.3
Breast	Female	72	97,863	73.6	149.0	74.8	0.808	6,615	4,277,055	154.7
Breast - in situ	Total	7	198,625	3.5	7.4	13.7	0.076	1,232	8,573,203	14.4
Breast - in situ	Male	-	100,762	-	-	0.1	1.000	5	4,296,148	0.1
Breast - in situ	Female	7	97,863	7.2	14.6	13.7	0.073	1,227	4,277,055	28.7
Cervix	Female	4	97,863	4.1	6.8	4.1	1.000	300	4,277,055	7.0
Colorectal	Total	35	198,625	17.6	35.8	39.0	0.591	3,416	8,573,203	39.8
Colorectal	Male	15	100,762	14.9	31.3	21.1	0.218	1,888	4,296,148	43.9
Colorectal	Female	20	97,863	20.4	40.1	17.8	0.666	1,528	4,277,055	35.7
Corpus Uteri	Female	17	97,863	17.4	35.7	14.6	0.601	1,313	4,277,055	30.7
Esophagus	Total	2	198,625	1.0	2.2	5.4	0.192	504	8,573,203	5.9
Esophagus	Male	1	100,762	1.0	2.2	4.5	0.125	423	4,296,148	9.8
Esophagus	Female	1	97,863	1.0	2.2	0.9	1.000	81	4,277,055	1.9
Hodgkin Lymphoma	Total	1	198,625	0.5	0.5	5.2	0.070	209	8,573,203	2.4
Hodgkin Lymphoma	Male	-	100,762	-	-	2.6	0.142	118	4,296,148	2.7
Hodgkin Lymphoma	Female	1	97,863	1.0	0.8	2.6	0.551	91	4,277,055	2.1
Kidney and Renal Pelvis	Total	14	198,625	7.0	14.4	20.4	0.179	1,801	8,573,203	21.0
Kidney and Renal Pelvis	Male	9	100,762	8.9	18.8	13.0	0.325	1,173	4,296,148	27.3
Kidney and Renal Pelvis	Female	5	97,863	5.1	10.1	7.3	0.528	628	4,277,055	14.7
Larynx	Total	2	198,625	1.0	2.0	2.4	1.000	213	8,573,203	2.5
Larynx	Male	2	100,762	2.0	4.4	1.7	0.992	158	4,296,148	3.7
Larynx	Female	-	97,863	-	-	0.7	0.950	55	4,277,055	1.3
Leukemia	Total	17	198,625	8.6	15.4	20.7	0.488	1,614	8,573,203	18.8
Leukemia	Male	11	100,762	10.9	20.4	12.3	0.855	978	4,296,148	22.8
Leukemia	Female	6	97,863	6.1	10.5	8.5	0.517	636	4,277,055	14.9
Liver and Bile Duct	Total	6	198,625	3.0	6.4	9.0	0.417	823	8,573,203	9.6
Liver and Bile Duct	Male	4	100,762	4.0	8.8	6.2	0.510	586	4,296,148	13.6
Liver and Bile Duct	Female	2	97,863	2.0	4.1	2.7	0.990	237	4,277,055	5.5
Lung and Bronchus	Total	15	198,625	7.6	16.7	51.2	0.000 <<	4,872	8,573,203	56.8
Lung and Bronchus	Male	5	100,762	5.0	11.3	25.2	0.000 <<	2,447	4,296,148	57.0
Lung and Bronchus	Female	10	97,863	10.2	21.9	25.9	0.001 <<	2,425	4,277,055	56.7
Melanoma of the Skin	Total	29	198,625	14.6	27.9	35.3	0.325	2,913	8,573,203	34.0
Melanoma of the Skin	Male	16	100,762	15.9	32.6	20.0	0.447	1,749	4,296,148	40.7
Melanoma of the Skin	Female	13	97,863	13.3	23.4	15.1	0.703	1,164	4,277,055	27.2
Myeloma	Total	7	198,625	3.5	7.7	7.4	1.000	701	8,573,203	8.2
Myeloma	Male	3	100,762	3.0	6.7	4.6	0.666	438	4,296,148	10.2
Myeloma	Female	4	97,863	4.1	8.7	2.8	0.630	263	4,277,055	6.1
Non-Hodgkin Lymphoma	Total	23	198,625	11.6	22.1	23.2	1.000	1,917	8,573,203	22.4
Non-Hodgkin Lymphoma	Male	15	100,762	14.9	28.5	13.6	0.783	1,114	4,296,148	25.9
Non-Hodgkin Lymphoma	Female	8	97,863	8.2	15.7	9.6	0.770	803	4,277,055	18.8
Oral Cavity and Pharynx	Total	8	198,625	4.0	8.5	14.1	0.118	1,287	8,573,203	15.0
Oral Cavity and Pharynx	Male	6	100,762	6.0	13.0	10.0	0.262	930	4,296,148	21.6
Oral Cavity and Pharynx	Female	2	97,863	2.0	4.1	4.0	0.469	357	4,277,055	8.3
Ovary	Female	7	97,863	7.2	13.2	6.5	0.952	526	4,277,055	12.3
Pancreas	Total	16	198,625	8.1	17.5	15.0	0.872	1,407	8,573,203	16.4
Pancreas	Male	11	100,762	10.9	24.3	8.2	0.399	773	4,296,148	18.0
Pancreas	Female	5	97,863	5.1	10.8	6.9	0.637	634	4,277,055	14.8
Prostate	Male	70	100,762	69.5	158.5	65.3	0.589	6,347	4,296,148	147.7
Stomach	Total	2	198,625	1.0	2.1	5.2	0.223	465	8,573,203	5.4
Stomach	Male	2	100,762	2.0	4.3	3.3	0.722	307	4,296,148	7.1
Stomach	Female	-	97,863	-	-	1.8	0.320	158	4,277,055	3.7
Testis	Male	10	100,762	9.9	7.9	7.5	0.458	255	4,296,148	5.9
Thyroid	Total	40	198,625	20.1	27.0	20.4	0.000 >>	1,180	8,573,203	13.8
Thyroid	Male	10	100,762	9.9	15.5	5.2	0.078	345	4,296,148	8.0
Thyroid	Female	30	97,863	30.7	39.3	14.9	0.001 >>	835	4,277,055	19.5
Pediatric Age 0 to 19	Total	8	68,037	11.8	10.8	12.8	0.217	413	2,392,486	17.3
Pediatric Age 0 to 19	Male	4	31,564	12.7	11.9	6.0	0.571	219	1,224,946	17.9
Pediatric Age 0 to 19	Female	4	36,473	11.0	9.5	7.0	0.341	194	1,167,540	16.6

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 2017–2021
COMPARISON BETWEEN MADISON COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cause of Death Cancer Site/Type	Sex	Madison County Observed Deaths	Person Years	Crude Rate (1)	A.A.M. Rate (1,2)	Expected Deaths (3)	P-Value (4)	Remainder of Idaho Observed Deaths	Person Years	Crude Rate (1)
All Causes of Death	Total	911	213,395	426.9	822.6	965.7	0.079	76,519	8,775,320	872.0
All Causes of Death	Male	457	108,581	420.9	792.6	531.6	0.001 <<	40,599	4,403,287	922.0
All Causes of Death	Female	454	104,814	433.1	859.0	434.2	0.355	35,920	4,372,033	821.6
All Malignant Cancers	Total	112	213,395	52.5	110.8	172.9	0.000 <<	15,009	8,775,320	171.0
All Malignant Cancers	Male	59	108,581	54.3	117.1	92.9	0.000 <<	8,117	4,403,287	184.3
All Malignant Cancers	Female	53	104,814	50.6	104.6	79.9	0.002 <<	6,892	4,372,033	157.6
Bladder	Total	6	213,395	2.8	6.1	5.4	0.901	483	8,775,320	5.5
Bladder	Male	6	108,581	5.5	12.3	4.1	0.474	372	4,403,287	8.4
Bladder	Female	-	104,814	-	-	1.2	0.581	111	4,372,033	2.5
Brain and Other Nervous System	Total	5	213,395	2.3	4.2	6.7	0.678	499	8,775,320	5.7
Brain and Other Nervous System	Male	3	108,581	2.8	4.9	4.1	0.831	295	4,403,287	6.7
Brain and Other Nervous System	Female	2	104,814	1.9	3.6	2.6	1.000	204	4,372,033	4.7
Breast	Total	12	213,395	5.6	11.9	12.6	1.000	1,090	8,775,320	12.4
Breast	Male	1	108,581	0.9	2.0	0.2	0.311	15	4,403,287	0.3
Breast	Female	11	104,814	10.5	21.7	12.5	0.816	1,075	4,372,033	24.6
Cervix	Female	-	104,814	-	-	1.1	0.642	83	4,372,033	1.9
Colorectal	Total	11	213,395	5.2	10.9	15.1	0.359	1,308	8,775,320	14.9
Colorectal	Male	5	108,581	4.6	9.9	8.2	0.344	714	4,403,287	16.2
Colorectal	Female	6	104,814	5.7	11.9	6.8	0.945	594	4,372,033	13.6
Corpus Uteri	Female	-	104,814	-	-	2.0	0.282	173	4,372,033	4.0
Esophagus	Total	3	213,395	1.4	3.0	5.3	0.440	474	8,775,320	5.4
Esophagus	Male	3	108,581	2.8	6.1	4.4	0.705	398	4,403,287	9.0
Esophagus	Female	-	104,814	-	-	0.9	0.842	76	4,372,033	1.7
Hodgkin Lymphoma	Total	-	213,395	-	-	0.5	1.000	29	8,775,320	0.3
Hodgkin Lymphoma	Male	-	108,581	-	-	0.3	1.000	14	4,403,287	0.3
Hodgkin Lymphoma	Female	-	104,814	-	-	0.2	1.000	15	4,372,033	0.3
Kidney	Total	2	213,395	0.9	2.0	4.3	0.393	383	8,775,320	4.4
Kidney	Male	1	108,581	0.9	2.0	2.7	0.497	241	4,403,287	5.5
Kidney	Female	1	104,814	1.0	2.0	1.6	1.000	142	4,372,033	3.2
Larynx	Total	-	213,395	-	-	0.8	0.890	71	8,775,320	0.8
Larynx	Male	-	108,581	-	-	0.7	1.000	58	4,403,287	1.3
Larynx	Female	-	104,814	-	-	0.1	1.000	13	4,372,033	0.3
Leukemia	Total	10	213,395	4.7	9.3	8.0	0.557	650	8,775,320	7.4
Leukemia	Male	7	108,581	6.4	12.8	4.7	0.396	379	4,403,287	8.6
Leukemia	Female	3	104,814	2.9	5.7	3.3	1.000	271	4,372,033	6.2
Liver and Bile Duct	Total	5	213,395	2.3	5.1	6.7	0.671	598	8,775,320	6.8
Liver and Bile Duct	Male	3	108,581	2.8	6.1	4.5	0.675	405	4,403,287	9.2
Liver and Bile Duct	Female	2	104,814	1.9	4.0	2.2	1.000	193	4,372,033	4.4
Lung and Bronchus	Total	8	213,395	3.7	8.2	32.9	0.000 <<	2,953	8,775,320	33.7
Lung and Bronchus	Male	2	108,581	1.8	4.1	17.1	0.000 <<	1,554	4,403,287	35.3
Lung and Bronchus	Female	6	104,814	5.7	12.1	15.8	0.009 <<	1,399	4,372,033	32.0
Melanoma of the Skin	Total	1	213,395	0.5	1.0	3.4	0.286	288	8,775,320	3.3
Melanoma of the Skin	Male	-	108,581	-	-	2.2	0.217	192	4,403,287	4.4
Melanoma of the Skin	Female	1	104,814	1.0	1.8	1.2	1.000	96	4,372,033	2.2
Myeloma	Total	6	213,395	2.8	6.1	3.6	0.318	325	8,775,320	3.7
Myeloma	Male	4	108,581	3.7	8.3	2.1	0.328	192	4,403,287	4.4
Myeloma	Female	2	104,814	1.9	4.0	1.5	0.887	133	4,372,033	3.0
Non-Hodgkin Lymphoma	Total	3	213,395	1.4	2.9	6.6	0.208	566	8,775,320	6.4
Non-Hodgkin Lymphoma	Male	2	108,581	1.8	3.8	3.6	0.590	305	4,403,287	6.9
Non-Hodgkin Lymphoma	Female	1	104,814	1.0	2.0	3.0	0.407	261	4,372,033	6.0
Oral Cavity and Pharynx	Total	-	213,395	-	-	3.0	0.100	266	8,775,320	3.0
Oral Cavity and Pharynx	Male	-	108,581	-	-	2.1	0.251	187	4,403,287	4.2
Oral Cavity and Pharynx	Female	-	104,814	-	-	0.9	0.807	79	4,372,033	1.8
Ovary	Female	6	104,814	5.7	12.0	3.9	0.408	344	4,372,033	7.9
Pancreas	Total	11	213,395	5.2	11.2	13.2	0.665	1,179	8,775,320	13.4
Pancreas	Male	5	108,581	4.6	10.3	7.1	0.587	637	4,403,287	14.5
Pancreas	Female	6	104,814	5.7	12.1	6.1	1.000	542	4,372,033	12.4
Prostate	Male	10	108,581	9.2	20.5	10.4	1.000	939	4,403,287	21.3
Stomach	Total	1	213,395	0.5	1.0	2.3	0.667	197	8,775,320	2.2
Stomach	Male	1	108,581	0.9	2.0	1.4	1.000	120	4,403,287	2.7
Stomach	Female	-	104,814	-	-	0.9	0.802	77	4,372,033	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, 2020.

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 (BRFS) since 1984. These surveys are conducted with randomly selected adult Idahoans to measure population prevalences of risk factors for the major causes of death, including cancer. DPH provided data sets containing Behavioral Risk Factor Surveillance System (BRFSS) data from 2011 through 2021 to CDRI staff, who performed the analyses reported in these *County Profiles*. Analysis weights were poststratified to 2020 population estimates by age group, sex, and county, beginning with the BRFSS raked weights. Not all questions were asked in all years. 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* 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, 2011–2021

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 (2015–2021)	83.1%	82.8%	85.1%	77.2%	85.8%	78.9%	85.4%	85.4%	89.9%
Not See Doctor Due to Cost in Past Year (2015–2021)	12.6%	11.4%	11.8%	14.5%	12.4%	12.3%	11.8%	12.9%	11.0%
Cancer Screening									
Mammogram Past 2 Years, Age 50–74 (2014, 2016, 2018, 2020)	69.1%	67.0%	73.8%	68.2%	73.2%	64.8%	64.5%	67.1%	70.5%
Pap Test Past 3 Years, Cervix Intact Age 21–65 (2018, 2020)	71.2%	73.6%	73.6%	70.8%	72.9%	69.1%	69.5%	65.9%	66.8%
Colorectal Cancer Screening, Age 50–75 (2018, 2020)	67.9%	66.9%	73.6%	71.4%	70.6%	61.7%	61.5%	64.7%	62.0%
Tobacco Use									
Current Tobacco User (2016–2021)	22.3%	26.7%	23.1%	23.6%	21.8%	21.4%	22.7%	16.9%	5.4%
Other Cancer-Related									
Healthy Weight by Body Mass Index, Age 20+ (2015–2021)	32.1%	32.8%	31.7%	27.9%	36.1%	29.8%	27.9%	31.9%	36.2%
Any Physical Activity Besides Job Past 30 Days (2015-2021)	78.7%	79.2%	78.1%	74.5%	83.2%	73.4%	76.3%	79.7%	84.5%
Meet Physical Activity Guidelines (2011, 2013, 2015, 2017, 2019)	21.9%	22.8%	19.4%	20.0%	25.2%	19.5%	20.4%	20.2%	21.3%
Home Ever Tested for Radon (2016, 2018, 2020)	23.0%	30.9%	18.2%	16.9%	25.1%	19.9%	23.0%	21.8%	15.2%

Access to Care

Have Health Insurance – 2015–2021
Statewide, 83.1% of adults aged 18–64 reported having health care coverage. Health care coverage differed significantly by race/ethnicity, with 86.0% of white non-Hispanics, compared to 64.8% of Hispanics and 83.3% of Native Americans, having health insurance. Spanish-speaking respondents were significantly less likely to be insured (33.3%) than English-speaking respondents (84.2%). Health care coverage differed significantly by age of respondent, with 79.8% of persons aged 18–29, and 87.8% of persons aged 50–64, having health insurance. Health care coverage differed significantly by county, with a range of 62.1% in Adams County to 91.6% in Oneida County having health insurance.

Not See Doctor Due to Cost in Past Year – 2015–2021
Statewide, 12.6% 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 (11.5% of white non-Hispanics, 19.2% of Hispanics, and 21.0% of Native Americans). Inability to see a doctor due to cost differed significantly by annual household income (24.9% for less than $15,000, 6.1% for greater than $50,000). Inability to see a doctor due to cost differed significantly by county, with a range of 7.4% in Franklin County to 17.5% in Power County.

Cancer Screening

Mammogram – 2014, 2016, 2018, 2020
Statewide, 69.1% of women aged 50–74 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 (72.1% versus 36.7%). Mammography rates differed significantly by county, with a range in screening of 45.9% in Benewah County to 77.0% in Nez Perce County. In 2020, Idaho ranked 48th among states and the District of Columbia for mammography screening rates among women aged 50–74 and also 48th among ages 40+.

Pap Test – 2018, 2020
Statewide, 71.2% 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 (75.1% versus 52.6% screened in the past 3 years). Pap screening differed significantly by county, with a range of 50.7% 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 – 2018, 2020
Statewide, 67.9% of adults aged 50–75 reported being current for colorectal cancer screening.** Persons with health insurance were over twice as likely to be current for colorectal cancer screening. In 2020, Idaho ranked 47th among states and the District of Columbia in the percentage of adults aged 50–75 and older who reported being up-to-date for colorectal cancer screening.

** 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, or a colonoscopy in the past 10 years.

Cancer Screening and Risk Factors

Tobacco Use

Current Tobacco Use – 2016–2021
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, 22.3% of adults aged 18 and older were current tobacco users. Tobacco use differed significantly by age of respondent, with 29.9% of persons aged 18-29, and 11.1% of persons aged 65 and older reporting current tobacco use. Tobacco use was lower among white non-Hispanics (22.4%) than among Native Americans (40.0%). Tobacco use differed significantly by county, with a range of 5.4% in Madison County to 41.6% 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 – 2015–2021
Statewide, 32.1% 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 32.5% of white non-Hispanics, compared to 28.2% of Hispanics and 24.6% of Native Americans, being in the healthy weight range. Males (25.5%) were significantly less likely to be in the healthy weight range than females (38.6%). BMI differed significantly by age of respondent, with 43.3% of persons aged 18–29, and 26.0% of persons aged 50–64, being in the healthy weight range. BMI differed significantly by county, with a range of 19.8% in Power County to 47.4% in Blaine County of adults being in the healthy weight range.

Any Physical Activity – 2015-2021
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, 78.7% 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 83.3% of persons aged 18–29, and 72.3% 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 64.3% in Clark County to 84.6% in Teton County.

Physical Activity Guidelines – 2011, 2013, 2015, 2017, 2019
Statewide, 21.9% 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 26.3% 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 9.6% in Franklin County to 30.6% in Blaine County.

Home Radon Testing – 2016, 2018, 2020
Statewide, 23.0% of adults have ever tested their house for radon. Radon test usage varied significantly by race/ethnicity, with 25.1% of white non-Hispanics, 7.4% 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 8.5% in Cassia County to 54.4% in Blaine County.

This project has been funded in whole or in part with Federal funds from the National Cancer Institute, National Institutes of Health, Department of Health and Human Services, under Contract No. HHSN261201800006I and the Centers for Disease Control and Prevention, Department of Health and Human Services, under Cooperative Agreement NU58DP007160. The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention or the National Cancer Institute.

MINIDOKA COUNTY CANCER PROFILE

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

Cancer Incidence 2016–2020
Cancer Mortality 2017–2021
BRFSS 2011–2021

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.2016.3332). 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 2016–2020

Nearly one in two Idahoans are estimated to develop cancer during their lifetime. During 2016–2020, 45,610 cases of invasive cancer were diagnosed among Idaho residents, and 509 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, 2016–2020

Cancer Incidence 2016–2020	Minidoka County	State of Idaho
All Sites/Types	**509**	**45,610**
Female Breast	**78**	**6,687**
Prostate	**63**	**6,417**
Lung & Bronchus	**42**	**4,887**
Colorectal	**48**	**3,451**

Table 3 (*Cancer Incidence 2016–2020, 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 489.0 cases per 100,000 person-years per year during 2016–2020. Comparing this crude rate with the crude rate for the remainder of Idaho (520.3) 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 484.8 cases per 100,000 persons per year during 2016–2020. There were fewer cases of cancer in Minidoka County (509) than expected (546.3) 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 2017–2021

During 2017–2021, cancer was the second leading cause of death in Idaho; 15,121 Idaho residents and 178 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, 2017–2021

Mortality 2017–2021	Minidoka County	State of Idaho
All Deaths	**1,051**	**77,431**
Cancer Deaths	**178**	**15,121**
% of All Deaths	*16.9%*	*19.5%*
Lung & Bronchus	**19**	**2,961**
Colorectal	**17**	**1,319**
Pancreas	**16**	**1,190**
Female Breast	**12**	**1,086**
Prostate	**15**	**949**

Table 4 (*Cancer Mortality 2017–2021, 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 160.7 deaths per 100,000 persons per year during 2017–2021, compared with 168.2 for the remainder of the state. There were fewer cancer deaths in Minidoka County (178) than expected (186.3) 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 2016–2020
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	509	104,085	489.0	484.8	546.3	0.113	45,101	8,667,743	520.3
All Sites Combined	Male	278	52,090	533.7	527.1	291.5	0.450	24,011	4,344,820	552.6
All Sites Combined	Female	231	51,995	444.3	443.4	254.2	0.152	21,090	4,322,923	487.9
Bladder	Total	29	104,085	27.9	26.6	27.1	0.765	2,155	8,667,743	24.9
Bladder	Male	23	52,090	44.2	42.3	21.6	0.828	1,728	4,344,820	39.8
Bladder	Female	6	51,995	11.5	11.1	5.4	0.895	427	4,322,923	9.9
Brain - malignant	Total	11	104,085	10.6	10.5	7.4	0.257	614	8,667,743	7.1
Brain - malignant	Male	10	52,090	19.2	19.3	4.3	0.028 >>	365	4,344,820	8.4
Brain - malignant	Female	1	51,995	1.9	1.9	3.0	0.384	249	4,322,923	5.8
Brain and other CNS - non-malignant	Total	20	104,085	19.2	19.1	17.0	0.524	1,404	8,667,743	16.2
Brain and other CNS - non-malignant	Male	5	52,090	9.6	9.5	5.7	0.976	475	4,344,820	10.9
Brain and other CNS - non-malignant	Female	15	51,995	28.8	28.7	11.2	0.325	929	4,322,923	21.5
Breast	Total	79	104,085	75.9	76.9	79.0	1.000	6,667	8,667,743	76.9
Breast	Male	1	52,090	1.9	1.8	0.7	1.000	58	4,344,820	1.3
Breast	Female	78	51,995	150.0	153.2	77.9	1.000	6,609	4,322,923	152.9
Breast - in situ	Total	15	104,085	14.4	14.9	14.2	0.898	1,224	8,667,743	14.1
Breast - in situ	Male	-	52,090	-	-	0.1	1.000	5	4,344,820	0.1
Breast - in situ	Female	15	51,995	28.8	30.2	14.0	0.862	1,219	4,322,923	28.2
Cervix	Female	5	51,995	9.6	10.4	3.3	0.485	299	4,322,923	6.9
Colorectal	Total	48	104,085	46.1	45.3	41.6	0.360	3,403	8,667,743	39.3
Colorectal	Male	31	52,090	59.5	58.7	22.8	0.115	1,872	4,344,820	43.1
Colorectal	Female	17	51,995	32.7	31.9	18.9	0.779	1,531	4,322,923	35.4
Corpus Uteri	Female	24	51,995	46.2	47.4	15.3	0.047 >>	1,306	4,322,923	30.2
Esophagus	Total	7	104,085	6.7	6.6	6.1	0.828	499	8,667,743	5.8
Esophagus	Male	7	52,090	13.4	13.1	5.1	0.508	417	4,344,820	9.6
Esophagus	Female	-	51,995	-	-	1.0	0.725	82	4,322,923	1.9
Hodgkin Lymphoma	Total	3	104,085	2.9	3.0	2.4	0.862	207	8,667,743	2.4
Hodgkin Lymphoma	Male	1	52,090	1.9	2.0	1.4	1.000	117	4,344,820	2.7
Hodgkin Lymphoma	Female	2	51,995	3.8	3.9	1.1	0.569	90	4,322,923	2.1
Kidney and Renal Pelvis	Total	31	104,085	29.8	29.7	21.5	0.062	1,784	8,667,743	20.6
Kidney and Renal Pelvis	Male	20	52,090	38.4	38.3	14.0	0.149	1,162	4,344,820	26.7
Kidney and Renal Pelvis	Female	11	51,995	21.2	21.0	7.5	0.279	622	4,322,923	14.4
Larynx	Total	6	104,085	5.8	5.7	2.5	0.090	209	8,667,743	2.4
Larynx	Male	3	52,090	5.8	5.7	1.9	0.598	157	4,344,820	3.6
Larynx	Female	3	51,995	5.8	5.7	0.6	0.053	52	4,322,923	1.2
Leukemia	Total	16	104,085	15.4	14.8	20.1	0.427	1,615	8,667,743	18.6
Leukemia	Male	11	52,090	21.1	20.4	12.1	0.897	978	4,344,820	22.5
Leukemia	Female	5	51,995	9.6	9.2	8.0	0.387	637	4,322,923	14.7
Liver and Bile Duct	Total	3	104,085	2.9	2.9	9.9	0.022 <<	826	8,667,743	9.5
Liver and Bile Duct	Male	3	52,090	5.8	5.8	7.0	0.159	587	4,344,820	13.5
Liver and Bile Duct	Female	-	51,995	-	-	2.9	0.108	239	4,322,923	5.5
Lung and Bronchus	Total	42	104,085	40.4	39.1	60.0	0.018 <<	4,845	8,667,743	55.9
Lung and Bronchus	Male	25	52,090	48.0	46.8	29.9	0.431	2,427	4,344,820	55.9
Lung and Bronchus	Female	17	51,995	32.7	31.6	30.1	0.014 <<	2,418	4,322,923	55.9
Melanoma of the Skin	Total	29	104,085	27.9	27.8	35.0	0.351	2,913	8,667,743	33.6
Melanoma of the Skin	Male	19	52,090	36.5	36.0	21.2	0.736	1,746	4,344,820	40.2
Melanoma of the Skin	Female	10	51,995	19.2	19.6	13.8	0.382	1,167	4,322,923	27.0
Myeloma	Total	7	104,085	6.7	6.5	8.7	0.731	701	8,667,743	8.1
Myeloma	Male	4	52,090	7.7	7.5	5.4	0.753	437	4,344,820	10.1
Myeloma	Female	3	51,995	5.8	5.6	3.3	1.000	264	4,322,923	6.1
Non-Hodgkin Lymphoma	Total	16	104,085	15.4	15.1	23.4	0.139	1,924	8,667,743	22.2
Non-Hodgkin Lymphoma	Male	9	52,090	17.3	17.1	13.6	0.264	1,120	4,344,820	25.8
Non-Hodgkin Lymphoma	Female	7	51,995	13.5	13.2	9.9	0.460	804	4,322,923	18.6
Oral Cavity and Pharynx	Total	12	104,085	11.5	11.6	15.3	0.483	1,283	8,667,743	14.8
Oral Cavity and Pharynx	Male	7	52,090	13.4	13.5	11.1	0.272	929	4,344,820	21.4
Oral Cavity and Pharynx	Female	5	51,995	9.6	9.6	4.2	0.839	354	4,322,923	8.2
Ovary	Female	8	51,995	15.4	15.5	6.3	0.590	525	4,322,923	12.1
Pancreas	Total	16	104,085	15.4	14.8	17.5	0.837	1,407	8,667,743	16.2
Pancreas	Male	12	52,090	23.0	22.4	9.5	0.504	772	4,344,820	17.8
Pancreas	Female	4	51,995	7.7	7.4	8.0	0.202	635	4,322,923	14.7
Prostate	Male	63	52,090	120.9	121.5	75.8	0.151	6,354	4,344,820	146.2
Stomach	Total	4	104,085	3.8	3.7	5.7	0.645	463	8,667,743	5.3
Stomach	Male	1	52,090	1.9	1.9	3.8	0.218	308	4,344,820	7.1
Stomach	Female	3	51,995	5.8	5.5	1.9	0.618	155	4,322,923	3.6
Testis	Male	3	52,090	5.8	6.1	2.9	1.000	262	4,344,820	6.0
Thyroid	Total	11	104,085	10.6	11.1	13.8	0.550	1,209	8,667,743	13.9
Thyroid	Male	6	52,090	11.5	11.9	4.1	0.449	349	4,344,820	8.0
Thyroid	Female	5	51,995	9.6	10.2	9.7	0.157	860	4,322,923	19.9
Pediatric Age 0 to 19	Total	3	32,401	9.3	9.3	5.5	0.397	418	2,428,122	17.2
Pediatric Age 0 to 19	Male	-	16,437	-	-	3.0	0.104	223	1,240,073	18.0
Pediatric Age 0 to 19	Female	3	15,964	18.8	19.2	2.6	0.943	195	1,188,049	16.4

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 2017–2021
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	1,051	105,431	996.9	909.2	993.9	0.074	76,379	8,883,284	859.8
All Causes of Death	Male	578	52,768	1,095.4	1,027.7	510.5	0.004 >>	40,478	4,459,100	907.8
All Causes of Death	Female	473	52,663	898.2	795.3	482.6	0.683	35,901	4,424,184	811.5
All Malignant Cancers	Total	178	105,431	168.8	160.7	186.3	0.574	14,943	8,883,284	168.2
All Malignant Cancers	Male	107	52,768	202.8	194.3	99.6	0.486	8,069	4,459,100	181.0
All Malignant Cancers	Female	71	52,663	134.8	127.8	86.3	0.104	6,874	4,424,184	155.4
Bladder	Total	9	105,431	8.5	7.6	6.4	0.387	480	8,883,284	5.4
Bladder	Male	7	52,768	13.3	12.0	4.9	0.439	371	4,459,100	8.3
Bladder	Female	2	52,663	3.8	3.4	1.4	0.848	109	4,424,184	2.5
Brain and Other Nervous System	Total	7	105,431	6.6	6.6	5.9	0.753	497	8,883,284	5.6
Brain and Other Nervous System	Male	6	52,768	11.4	11.4	3.4	0.269	292	4,459,100	6.5
Brain and Other Nervous System	Female	1	52,663	1.9	1.9	2.4	0.596	205	4,424,184	4.6
Breast	Total	12	105,431	11.4	10.9	13.5	0.824	1,090	8,883,284	12.3
Breast	Male	-	52,768	-	-	0.2	1.000	16	4,459,100	0.4
Breast	Female	12	52,663	22.8	21.9	13.3	0.860	1,074	4,424,184	24.3
Cervix	Female	1	52,663	1.9	2.0	0.9	1.000	82	4,424,184	1.9
Colorectal	Total	17	105,431	16.1	15.4	16.2	0.904	1,302	8,883,284	14.7
Colorectal	Male	9	52,768	17.1	16.6	8.6	0.987	710	4,459,100	15.9
Colorectal	Female	8	52,663	15.2	14.1	7.6	0.971	592	4,424,184	13.4
Corpus Uteri	Female	1	52,663	1.9	1.9	2.1	0.766	172	4,424,184	3.9
Esophagus	Total	3	105,431	2.8	2.8	5.8	0.345	474	8,883,284	5.3
Esophagus	Male	3	52,768	5.7	5.6	4.8	0.589	398	4,459,100	8.9
Esophagus	Female	-	52,663	-	-	1.0	0.765	76	4,424,184	1.7
Hodgkin Lymphoma	Total	-	105,431	-	-	0.4	1.000	29	8,883,284	0.3
Hodgkin Lymphoma	Male	-	52,768	-	-	0.2	1.000	14	4,459,100	0.3
Hodgkin Lymphoma	Female	-	52,663	-	-	0.2	1.000	15	4,424,184	0.3
Kidney	Total	4	105,431	3.8	3.6	4.8	0.964	381	8,883,284	4.3
Kidney	Male	3	52,768	5.7	5.5	2.9	1.000	239	4,459,100	5.4
Kidney	Female	1	52,663	1.9	1.7	1.8	0.898	142	4,424,184	3.2
Larynx	Total	1	105,431	0.9	0.9	0.9	1.000	70	8,883,284	0.8
Larynx	Male	1	52,768	1.9	1.8	0.7	1.000	57	4,459,100	1.3
Larynx	Female	-	52,663	-	-	0.2	1.000	13	4,424,184	0.3
Leukemia	Total	8	105,431	7.6	7.0	8.4	1.000	652	8,883,284	7.3
Leukemia	Male	5	52,768	9.5	8.9	4.8	1.000	381	4,459,100	8.5
Leukemia	Female	3	52,663	5.7	5.2	3.6	1.000	271	4,424,184	6.1
Liver and Bile Duct	Total	8	105,431	7.6	7.5	7.1	0.846	595	8,883,284	6.7
Liver and Bile Duct	Male	6	52,768	11.4	11.3	4.8	0.689	402	4,459,100	9.0
Liver and Bile Duct	Female	2	52,663	3.8	3.7	2.4	1.000	193	4,424,184	4.4
Lung and Bronchus	Total	19	105,431	18.0	17.3	36.3	0.002 <<	2,942	8,883,284	33.1
Lung and Bronchus	Male	10	52,768	19.0	18.5	18.8	0.041 <<	1,546	4,459,100	34.7
Lung and Bronchus	Female	9	52,663	17.1	16.2	17.5	0.040 <<	1,396	4,424,184	31.6
Melanoma of the Skin	Total	2	105,431	1.9	1.8	3.5	0.629	287	8,883,284	3.2
Melanoma of the Skin	Male	-	52,768	-	-	2.4	0.187	192	4,459,100	4.3
Melanoma of the Skin	Female	2	52,663	3.8	3.7	1.2	0.643	95	4,424,184	2.1
Myeloma	Total	6	105,431	5.7	5.3	4.1	0.466	325	8,883,284	3.7
Myeloma	Male	5	52,768	9.5	9.0	2.4	0.188	191	4,459,100	4.3
Myeloma	Female	1	52,663	1.9	1.8	1.7	0.977	134	4,424,184	3.0
Non-Hodgkin Lymphoma	Total	8	105,431	7.6	7.1	7.1	0.840	561	8,883,284	6.3
Non-Hodgkin Lymphoma	Male	5	52,768	9.5	9.1	3.7	0.640	302	4,459,100	6.8
Non-Hodgkin Lymphoma	Female	3	52,663	5.7	5.2	3.4	1.000	259	4,424,184	5.9
Oral Cavity and Pharynx	Total	1	105,431	0.9	0.9	3.2	0.339	265	8,883,284	3.0
Oral Cavity and Pharynx	Male	-	52,768	-	-	2.2	0.213	187	4,459,100	4.2
Oral Cavity and Pharynx	Female	1	52,663	1.9	1.8	1.0	1.000	78	4,424,184	1.8
Ovary	Female	3	52,663	5.7	5.5	4.2	0.774	347	4,424,184	7.8
Pancreas	Total	16	105,431	15.2	14.7	14.4	0.733	1,174	8,883,284	13.2
Pancreas	Male	12	52,768	22.7	22.3	7.6	0.172	630	4,459,100	14.1
Pancreas	Female	4	52,663	7.6	7.3	6.7	0.399	544	4,424,184	12.3
Prostate	Male	15	52,768	28.4	25.7	12.2	0.496	934	4,459,100	20.9
Stomach	Total	5	105,431	4.7	4.5	2.4	0.191	193	8,883,284	2.2
Stomach	Male	3	52,768	5.7	5.5	1.4	0.354	118	4,459,100	2.6
Stomach	Female	2	52,663	3.8	3.6	0.9	0.491	75	4,424,184	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, 2020.

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 (BRFS) since 1984. These surveys are conducted with randomly selected adult Idahoans to measure population prevalences of risk factors for the major causes of death, including cancer. DPH provided data sets containing Behavioral Risk Factor Surveillance System (BRFSS) data from 2011 through 2021 to CDRI staff, who performed the analyses reported in these *County Profiles*. Analysis weights were poststratified to 2020 population estimates by age group, sex, and county, beginning with the BRFSS raked weights. Not all questions were asked in all years. 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* 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, 2011–2021

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 (2015–2021)	83.1%	82.8%	85.1%	77.2%	85.8%	78.9%	85.4%	85.4%	78.9%
Not See Doctor Due to Cost in Past Year (2015–2021)	12.6%	11.4%	11.8%	14.5%	12.4%	12.3%	11.8%	12.9%	9.6%
Cancer Screening									
Mammogram Past 2 Years, Age 50–74 (2014, 2016, 2018, 2020)	69.1%	67.0%	73.8%	68.2%	73.2%	64.8%	64.5%	67.1%	65.5%
Pap Test Past 3 Years, Cervix Intact Age 21–65 (2018, 2020)	71.2%	73.6%	73.6%	70.8%	72.9%	69.1%	69.5%	65.9%	.
Colorectal Cancer Screening, Age 50–75 (2018, 2020)	67.9%	66.9%	73.6%	71.4%	70.6%	61.7%	61.5%	64.7%	65.1%
Tobacco Use									
Current Tobacco User (2016–2021)	22.3%	26.7%	23.1%	23.6%	21.8%	21.4%	22.7%	16.9%	23.1%
Other Cancer-Related									
Healthy Weight by Body Mass Index, Age 20+ (2015–2021)	32.1%	32.8%	31.7%	27.9%	36.1%	29.8%	27.9%	31.9%	19.8%
Any Physical Activity Besides Job Past 30 Days (2015-2021)	78.7%	79.2%	78.1%	74.5%	83.2%	73.4%	76.3%	79.7%	71.0%
Meet Physical Activity Guidelines (2011, 2013, 2015, 2017, 2019)	21.9%	22.8%	19.4%	20.0%	25.2%	19.5%	20.4%	20.2%	13.9%
Home Ever Tested for Radon (2016, 2018, 2020)	23.0%	30.9%	18.2%	16.9%	25.1%	19.9%	23.0%	21.8%	18.3%

Access to Care

Have Health Insurance – 2015–2021
Statewide, 83.1% of adults aged 18–64 reported having health care coverage. Health care coverage differed significantly by race/ethnicity, with 86.0% of white non-Hispanics, compared to 64.8% of Hispanics and 83.3% of Native Americans, having health insurance. Spanish-speaking respondents were significantly less likely to be insured (33.3%) than English-speaking respondents (84.2%). Health care coverage differed significantly by age of respondent, with 79.8% of persons aged 18–29, and 87.8% of persons aged 50–64, having health insurance. Health care coverage differed significantly by county, with a range of 62.1% in Adams County to 91.6% in Oneida County having health insurance.

Not See Doctor Due to Cost in Past Year – 2015–2021
Statewide, 12.6% 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 (11.5% of white non-Hispanics, 19.2% of Hispanics, and 21.0% of Native Americans). Inability to see a doctor due to cost differed significantly by annual household income (24.9% for less than $15,000, 6.1% for greater than $50,000). Inability to see a doctor due to cost differed significantly by county, with a range of 7.4% in Franklin County to 17.5% in Power County.

Cancer Screening

Mammogram – 2014, 2016, 2018, 2020
Statewide, 69.1% of women aged 50–74 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 (72.1% versus 36.7%). Mammography rates differed significantly by county, with a range in screening of 45.9% in Benewah County to 77.0% in Nez Perce County. In 2020, Idaho ranked 48th among states and the District of Columbia for mammography screening rates among women aged 50–74 and also 48th among ages 40+.

Pap Test – 2018, 2020
Statewide, 71.2% 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 (75.1% versus 52.6% screened in the past 3 years). Pap screening differed significantly by county, with a range of 50.7% 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 – 2018, 2020
Statewide, 67.9% of adults aged 50–75 reported being current for colorectal cancer screening.** Persons with health insurance were over twice as likely to be current for colorectal cancer screening. In 2020, Idaho ranked 47th among states and the District of Columbia in the percentage of adults aged 50–75 and older who reported being up-to-date for colorectal cancer screening.

** 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, or a colonoscopy in the past 10 years.

Cancer Screening and Risk Factors

Tobacco Use

Current Tobacco Use – 2016–2021
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, 22.3% of adults aged 18 and older were current tobacco users. Tobacco use differed significantly by age of respondent, with 29.9% of persons aged 18-29, and 11.1% of persons aged 65 and older reporting current tobacco use. Tobacco use was lower among white non-Hispanics (22.4%) than among Native Americans (40.0%). Tobacco use differed significantly by county, with a range of 5.4% in Madison County to 41.6% 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 – 2015–2021
Statewide, 32.1% 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 32.5% of white non-Hispanics, compared to 28.2% of Hispanics and 24.6% of Native Americans, being in the healthy weight range. Males (25.5%) were significantly less likely to be in the healthy weight range than females (38.6%). BMI differed significantly by age of respondent, with 43.3% of persons aged 18–29, and 26.0% of persons aged 50–64, being in the healthy weight range. BMI differed significantly by county, with a range of 19.8% in Power County to 47.4% in Blaine County of adults being in the healthy weight range.

Any Physical Activity – 2015-2021
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, 78.7% 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 83.3% of persons aged 18–29, and 72.3% 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 64.3% in Clark County to 84.6% in Teton County.

Physical Activity Guidelines – 2011, 2013, 2015, 2017, 2019
Statewide, 21.9% 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 26.3% 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 9.6% in Franklin County to 30.6% in Blaine County.

Home Radon Testing – 2016, 2018, 2020
Statewide, 23.0% of adults have ever tested their house for radon. Radon test usage varied significantly by race/ethnicity, with 25.1% of white non-Hispanics, 7.4% 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 8.5% in Cassia County to 54.4% in Blaine County.

This project has been funded in whole or in part with Federal funds from the National Cancer Institute, National Institutes of Health, Department of Health and Human Services, under Contract No. HHSN261201800006I and the Centers for Disease Control and Prevention, Department of Health and Human Services, under Cooperative Agreement NU58DP007160. The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention or the National Cancer Institute.

NEZ PERCE COUNTY CANCER PROFILE

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

Cancer Incidence 2016–2020
Cancer Mortality 2017–2021
BRFSS 2011–2021

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.2016.3332). 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 2016–2020

Nearly one in two Idahoans are estimated to develop cancer during their lifetime. During 2016–2020, 45,610 cases of invasive cancer were diagnosed among Idaho residents, and 1,221 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, 2016–2020

Cancer Incidence 2016–2020	Nez Perce County	State of Idaho
All Sites/Types	**1,221**	**45,610**
Female Breast	**179**	**6,687**
Prostate	**162**	**6,417**
Lung & Bronchus	**184**	**4,887**
Colorectal	**99**	**3,451**

Table 3 (*Cancer Incidence 2016–2020, 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 603.4 cases per 100,000 person-years per year during 2016–2020. Comparing this crude rate with the crude rate for the remainder of Idaho (518.0) 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 503.5 cases per 100,000 persons per year during 2016–2020. There were fewer cases of cancer in Nez Perce County (1,221) than expected (1,256.2) 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 2017–2021

During 2017–2021, cancer was the second leading cause of death in Idaho; 15,121 Idaho residents and 502 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, 2017–2021

Mortality 2017–2021	Nez Perce County	State of Idaho
All Deaths	**2,695**	**77,431**
Cancer Deaths	**502**	**15,121**
% of All Deaths	*18.6%*	*19.5%*
Lung & Bronchus	**119**	**2,961**
Colorectal	**43**	**1,319**
Pancreas	**36**	**1,190**
Female Breast	**28**	**1,086**
Prostate	**35**	**949**

Table 4 (*Cancer Mortality 2017–2021, 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 189.1 deaths per 100,000 persons per year during 2017–2021, compared with 166.4 for the remainder of the state. There were statistically significantly more cancer deaths in Nez Perce County (502) than expected (441.8) based upon rates in the remainder of the state (p=.005).

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 2016–2020
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	1,221	202,340	603.4	503.5	1,256.2	0.328	44,389	8,569,488	518.0
All Sites Combined	Male	642	99,902	642.6	534.5	661.0	0.474	23,647	4,297,008	550.3
All Sites Combined	Female	579	102,438	565.2	475.1	591.7	0.621	20,742	4,272,480	485.5
Bladder	Total	52	202,340	25.7	20.1	64.4	0.130	2,132	8,569,488	24.9
Bladder	Male	40	99,902	40.0	31.5	50.5	0.152	1,711	4,297,008	39.8
Bladder	Female	12	102,438	11.7	9.2	12.9	0.945	421	4,272,480	9.9
Brain - malignant	Total	19	202,340	9.4	8.3	16.2	0.555	606	8,569,488	7.1
Brain - malignant	Male	12	99,902	12.0	10.7	9.5	0.491	363	4,297,008	8.4
Brain - malignant	Female	7	102,438	6.8	5.9	6.7	1.000	243	4,272,480	5.7
Brain and other CNS - non-malignant	Total	28	202,340	13.8	11.7	38.8	0.087	1,396	8,569,488	16.3
Brain and other CNS - non-malignant	Male	6	99,902	6.0	5.2	12.7	0.062	474	4,297,008	11.0
Brain and other CNS - non-malignant	Female	22	102,438	21.5	18.0	26.4	0.461	922	4,272,480	21.6
Breast	Total	179	202,340	88.5	76.3	179.8	0.992	6,567	8,569,488	76.6
Breast	Male	-	99,902	-	-	1.7	0.358	59	4,297,008	1.4
Breast	Female	179	102,438	174.7	150.9	180.6	0.942	6,508	4,272,480	152.3
Breast - in situ	Total	31	202,340	15.3	13.6	32.0	0.949	1,208	8,569,488	14.1
Breast - in situ	Male	-	99,902	-	-	0.1	1.000	5	4,297,008	0.1
Breast - in situ	Female	31	102,438	30.3	27.0	32.3	0.906	1,203	4,272,480	28.2
Cervix	Female	4	102,438	3.9	3.8	7.4	0.278	300	4,272,480	7.0
Colorectal	Total	99	202,340	48.9	40.3	96.0	0.786	3,352	8,569,488	39.1
Colorectal	Male	54	99,902	54.1	45.2	51.4	0.755	1,849	4,297,008	43.0
Colorectal	Female	45	102,438	43.9	35.7	44.4	0.968	1,503	4,272,480	35.2
Corpus Uteri	Female	33	102,438	32.2	28.0	35.7	0.727	1,297	4,272,480	30.4
Esophagus	Total	16	202,340	7.9	6.4	14.2	0.710	490	8,569,488	5.7
Esophagus	Male	12	99,902	12.0	9.8	11.8	1.000	412	4,297,008	9.6
Esophagus	Female	4	102,438	3.9	3.2	2.3	0.401	78	4,272,480	1.8
Hodgkin Lymphoma	Total	3	202,340	1.5	1.4	5.1	0.515	207	8,569,488	2.4
Hodgkin Lymphoma	Male	1	99,902	1.0	1.0	2.8	0.455	117	4,297,008	2.7
Hodgkin Lymphoma	Female	2	102,438	2.0	1.9	2.2	1.000	90	4,272,480	2.1
Kidney and Renal Pelvis	Total	48	202,340	23.7	20.1	49.2	0.937	1,767	8,569,488	20.6
Kidney and Renal Pelvis	Male	32	99,902	32.0	27.3	31.4	0.962	1,150	4,297,008	26.8
Kidney and Renal Pelvis	Female	16	102,438	15.6	13.2	17.6	0.829	617	4,272,480	14.4
Larynx	Total	8	202,340	4.0	3.3	5.9	0.487	207	8,569,488	2.4
Larynx	Male	6	99,902	6.0	4.9	4.4	0.544	154	4,297,008	3.6
Larynx	Female	2	102,438	2.0	1.6	1.5	0.895	53	4,272,480	1.2
Leukemia	Total	36	202,340	17.8	14.7	45.7	0.165	1,595	8,569,488	18.6
Leukemia	Male	22	99,902	22.0	18.4	27.0	0.393	967	4,297,008	22.5
Leukemia	Female	14	102,438	13.7	11.1	18.5	0.353	628	4,272,480	14.7
Liver and Bile Duct	Total	21	202,340	10.4	8.7	22.8	0.803	808	8,569,488	9.4
Liver and Bile Duct	Male	13	99,902	13.0	10.9	16.0	0.552	577	4,297,008	13.4
Liver and Bile Duct	Female	8	102,438	7.8	6.4	6.8	0.729	231	4,272,480	5.4
Lung and Bronchus	Total	184	202,340	90.9	72.6	139.1	0.000 >>	4,703	8,569,488	54.9
Lung and Bronchus	Male	86	99,902	86.1	69.5	68.1	0.041 >>	2,366	4,297,008	55.1
Lung and Bronchus	Female	98	102,438	95.7	75.8	70.7	0.002 >>	2,337	4,272,480	54.7
Melanoma of the Skin	Total	64	202,340	31.6	26.8	80.1	0.075	2,878	8,569,488	33.6
Melanoma of the Skin	Male	34	99,902	34.0	28.4	48.2	0.041 <<	1,731	4,297,008	40.3
Melanoma of the Skin	Female	30	102,438	29.3	25.6	31.4	0.893	1,147	4,272,480	26.8
Myeloma	Total	15	202,340	7.4	5.9	20.4	0.274	693	8,569,488	8.1
Myeloma	Male	11	99,902	11.0	8.9	12.4	0.842	430	4,297,008	10.0
Myeloma	Female	4	102,438	3.9	3.1	7.9	0.214	263	4,272,480	6.2
Non-Hodgkin Lymphoma	Total	53	202,340	26.2	21.8	53.6	1.000	1,887	8,569,488	22.0
Non-Hodgkin Lymphoma	Male	31	99,902	31.0	26.2	30.2	0.934	1,098	4,297,008	25.6
Non-Hodgkin Lymphoma	Female	22	102,438	21.5	17.5	23.2	0.915	789	4,272,480	18.5
Oral Cavity and Pharynx	Total	34	202,340	16.8	14.2	35.2	0.923	1,261	8,569,488	14.7
Oral Cavity and Pharynx	Male	27	99,902	27.0	22.9	25.0	0.734	909	4,297,008	21.2
Oral Cavity and Pharynx	Female	7	102,438	6.8	5.7	10.1	0.429	352	4,272,480	8.2
Ovary	Female	9	102,438	8.8	7.5	14.8	0.153	524	4,272,480	12.3
Pancreas	Total	42	202,340	20.8	16.5	41.1	0.924	1,381	8,569,488	16.1
Pancreas	Male	28	99,902	28.0	22.6	21.8	0.228	756	4,297,008	17.6
Pancreas	Female	14	102,438	13.7	10.7	19.1	0.285	625	4,272,480	14.6
Prostate	Male	162	99,902	162.2	136.3	173.0	0.426	6,255	4,297,008	145.6
Stomach	Total	13	202,340	6.4	5.2	13.3	1.000	454	8,569,488	5.3
Stomach	Male	8	99,902	8.0	6.6	8.5	1.000	301	4,297,008	7.0
Stomach	Female	5	102,438	4.9	3.9	4.6	0.984	153	4,272,480	3.6
Testis	Male	4	99,902	4.0	4.1	6.0	0.580	261	4,297,008	6.1
Thyroid	Total	27	202,340	13.3	12.6	29.8	0.697	1,193	8,569,488	13.9
Thyroid	Male	8	99,902	8.0	7.4	8.8	0.972	347	4,297,008	8.1
Thyroid	Female	19	102,438	18.5	17.8	21.1	0.754	846	4,272,480	19.8
Pediatric Age 0 to 19	Total	7	48,091	14.6	14.4	8.3	0.813	414	2,412,432	17.2
Pediatric Age 0 to 19	Male	2	24,492	8.2	8.1	4.4	0.363	221	1,232,018	17.9
Pediatric Age 0 to 19	Female	5	23,599	21.2	20.9	3.9	0.709	193	1,180,414	16.4

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 2017–2021
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	2,695	204,594	1,317.2	967.0	2,371.1	0.000 >>	74,735	8,784,121	850.8
All Causes of Death	Male	1,397	100,999	1,383.2	1,059.9	1,185.1	0.000 >>	39,659	4,410,869	899.1
All Causes of Death	Female	1,298	103,595	1,253.0	882.5	1,179.7	0.001 >>	35,076	4,373,252	802.1
All Malignant Cancers	Total	502	204,594	245.4	189.1	441.8	0.005 >>	14,619	8,784,121	166.4
All Malignant Cancers	Male	281	100,999	278.2	216.6	232.2	0.002 >>	7,895	4,410,869	179.0
All Malignant Cancers	Female	221	103,595	213.3	163.5	207.9	0.380	6,724	4,373,252	153.8
Bladder	Total	19	204,594	9.3	6.5	15.6	0.449	470	8,784,121	5.4
Bladder	Male	14	100,999	13.9	9.9	11.7	0.580	364	4,410,869	8.3
Bladder	Female	5	103,595	4.8	3.4	3.6	0.583	106	4,373,252	2.4
Brain and Other Nervous System	Total	17	204,594	8.3	7.1	13.3	0.380	487	8,784,121	5.5
Brain and Other Nervous System	Male	11	100,999	10.9	9.3	7.7	0.310	287	4,410,869	6.5
Brain and Other Nervous System	Female	6	103,595	5.8	4.9	5.6	0.974	200	4,373,252	4.6
Breast	Total	28	204,594	13.7	10.7	31.9	0.563	1,074	8,784,121	12.2
Breast	Male	-	100,999	-	-	0.5	1.000	16	4,410,869	0.4
Breast	Female	28	103,595	27.0	21.2	32.0	0.548	1,058	4,373,252	24.2
Cervix	Female	3	103,595	2.9	2.6	2.1	0.704	80	4,373,252	1.8
Colorectal	Total	43	204,594	21.0	16.3	38.2	0.479	1,276	8,784,121	14.5
Colorectal	Male	18	100,999	17.8	14.3	20.0	0.765	701	4,410,869	15.9
Colorectal	Female	25	103,595	24.1	18.1	18.2	0.147	575	4,373,252	13.1
Corpus Uteri	Female	4	103,595	3.9	3.1	5.0	0.867	169	4,373,252	3.9
Esophagus	Total	14	204,594	6.8	5.4	13.6	0.976	463	8,784,121	5.3
Esophagus	Male	9	100,999	8.9	7.2	11.1	0.653	392	4,410,869	8.9
Esophagus	Female	5	103,595	4.8	3.7	2.2	0.150	71	4,373,252	1.6
Hodgkin Lymphoma	Total	-	204,594	-	-	0.8	0.862	29	8,784,121	0.3
Hodgkin Lymphoma	Male	-	100,999	-	-	0.4	1.000	14	4,410,869	0.3
Hodgkin Lymphoma	Female	-	103,595	-	-	0.5	1.000	15	4,373,252	0.3
Kidney	Total	13	204,594	6.4	4.8	11.4	0.707	372	8,784,121	4.2
Kidney	Male	9	100,999	8.9	7.0	6.8	0.485	233	4,410,869	5.3
Kidney	Female	4	103,595	3.9	2.8	4.5	1.000	139	4,373,252	3.2
Larynx	Total	1	204,594	0.5	0.4	2.1	0.766	70	8,784,121	0.8
Larynx	Male	1	100,999	1.0	0.8	1.7	0.995	57	4,410,869	1.3
Larynx	Female	-	103,595	-	-	0.4	1.000	13	4,373,252	0.3
Leukemia	Total	21	204,594	10.3	7.7	19.9	0.859	639	8,784,121	7.3
Leukemia	Male	14	100,999	13.9	10.7	11.1	0.450	372	4,410,869	8.4
Leukemia	Female	7	103,595	6.8	4.9	8.7	0.722	267	4,373,252	6.1
Liver and Bile Duct	Total	12	204,594	5.9	4.7	17.1	0.264	591	8,784,121	6.7
Liver and Bile Duct	Male	7	100,999	6.9	5.7	11.2	0.257	401	4,410,869	9.1
Liver and Bile Duct	Female	5	103,595	4.8	3.8	5.7	0.987	190	4,373,252	4.3
Lung and Bronchus	Total	119	204,594	58.2	45.2	85.2	0.001 >>	2,842	8,784,121	32.4
Lung and Bronchus	Male	63	100,999	62.4	49.3	43.2	0.006 >>	1,493	4,410,869	33.8
Lung and Bronchus	Female	56	103,595	54.1	41.3	41.8	0.042 >>	1,349	4,373,252	30.8
Melanoma of the Skin	Total	4	204,594	2.0	1.5	8.4	0.156	285	8,784,121	3.2
Melanoma of the Skin	Male	4	100,999	4.0	3.1	5.5	0.721	188	4,410,869	4.3
Melanoma of the Skin	Female	-	103,595	-	-	2.9	0.114	97	4,373,252	2.2
Myeloma	Total	12	204,594	5.9	4.4	9.9	0.591	319	8,784,121	3.6
Myeloma	Male	10	100,999	9.9	7.5	5.6	0.121	186	4,410,869	4.2
Myeloma	Female	2	103,595	1.9	1.4	4.2	0.409	133	4,373,252	3.0
Non-Hodgkin Lymphoma	Total	21	204,594	10.3	7.7	17.0	0.391	548	8,784,121	6.2
Non-Hodgkin Lymphoma	Male	10	100,999	9.9	7.7	8.7	0.759	297	4,410,869	6.7
Non-Hodgkin Lymphoma	Female	11	103,595	10.6	7.7	8.2	0.414	251	4,373,252	5.7
Oral Cavity and Pharynx	Total	11	204,594	5.4	4.3	7.4	0.264	255	8,784,121	2.9
Oral Cavity and Pharynx	Male	7	100,999	6.9	5.6	5.1	0.498	180	4,410,869	4.1
Oral Cavity and Pharynx	Female	4	103,595	3.9	3.0	2.3	0.393	75	4,373,252	1.7
Ovary	Female	7	103,595	6.8	5.3	10.3	0.394	343	4,373,252	7.8
Pancreas	Total	36	204,594	17.6	13.8	34.2	0.799	1,154	8,784,121	13.1
Pancreas	Male	17	100,999	16.8	13.5	17.9	0.958	625	4,410,869	14.2
Pancreas	Female	19	103,595	18.3	14.2	16.2	0.544	529	4,373,252	12.1
Prostate	Male	35	100,999	34.7	24.8	29.3	0.333	914	4,410,869	20.7
Stomach	Total	11	204,594	5.4	4.2	5.6	0.053	187	8,784,121	2.1
Stomach	Male	9	100,999	8.9	7.1	3.2	0.012 >>	112	4,410,869	2.5
Stomach	Female	2	103,595	1.9	1.5	2.3	1.000	75	4,373,252	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, 2020.

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 (BRFS) since 1984. These surveys are conducted with randomly selected adult Idahoans to measure population prevalences of risk factors for the major causes of death, including cancer. DPH provided data sets containing Behavioral Risk Factor Surveillance System (BRFSS) data from 2011 through 2021 to CDRI staff, who performed the analyses reported in these *County Profiles*. Analysis weights were poststratified to 2020 population estimates by age group, sex, and county, beginning with the BRFSS raked weights. Not all questions were asked in all years. 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* 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, 2011–2021

Measure	State of Idaho	HD 1	HD 2	HD 3	HD 4	HD 5	HD 6	HD 7	Nez Perce County
Access to Care									
Have Health Insurance, Age <65 (2015–2021)	83.1%	82.8%	85.1%	77.2%	85.8%	78.9%	85.4%	85.4%	86.5%
Not See Doctor Due to Cost in Past Year (2015–2021)	12.6%	11.4%	11.8%	14.5%	12.4%	12.3%	11.8%	12.9%	10.8%
Cancer Screening									
Mammogram Past 2 Years, Age 50–74 (2014, 2016, 2018, 2020)	69.1%	67.0%	73.8%	68.2%	73.2%	64.8%	64.5%	67.1%	77.0%
Pap Test Past 3 Years, Cervix Intact Age 21–65 (2018, 2020)	71.2%	73.6%	73.6%	70.8%	72.9%	69.1%	69.5%	65.9%	72.1%
Colorectal Cancer Screening, Age 50–75 (2018, 2020)	67.9%	66.9%	73.6%	71.4%	70.6%	61.7%	61.5%	64.7%	75.1%
Tobacco Use									
Current Tobacco User (2016–2021)	22.3%	26.7%	23.1%	23.6%	21.8%	21.4%	22.7%	16.9%	23.1%
Other Cancer-Related									
Healthy Weight by Body Mass Index, Age 20+ (2015–2021)	32.1%	32.8%	31.7%	27.9%	36.1%	29.8%	27.9%	31.9%	28.2%
Any Physical Activity Besides Job Past 30 Days (2015-2021)	78.7%	79.2%	78.1%	74.5%	83.2%	73.4%	76.3%	79.7%	77.2%
Meet Physical Activity Guidelines (2011, 2013, 2015, 2017, 2019)	21.9%	22.8%	19.4%	20.0%	25.2%	19.5%	20.4%	20.2%	18.3%
Home Ever Tested for Radon (2016, 2018, 2020)	23.0%	30.9%	18.2%	16.9%	25.1%	19.9%	23.0%	21.8%	18.8%

Access to Care

Have Health Insurance – 2015–2021
Statewide, 83.1% of adults aged 18–64 reported having health care coverage. Health care coverage differed significantly by race/ethnicity, with 86.0% of white non-Hispanics, compared to 64.8% of Hispanics and 83.3% of Native Americans, having health insurance. Spanish-speaking respondents were significantly less likely to be insured (33.3%) than English-speaking respondents (84.2%). Health care coverage differed significantly by age of respondent, with 79.8% of persons aged 18–29, and 87.8% of persons aged 50–64, having health insurance. Health care coverage differed significantly by county, with a range of 62.1% in Adams County to 91.6% in Oneida County having health insurance.

Not See Doctor Due to Cost in Past Year – 2015–2021
Statewide, 12.6% 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 (11.5% of white non-Hispanics, 19.2% of Hispanics, and 21.0% of Native Americans). Inability to see a doctor due to cost differed significantly by annual household income (24.9% for less than $15,000, 6.1% for greater than $50,000). Inability to see a doctor due to cost differed significantly by county, with a range of 7.4% in Franklin County to 17.5% in Power County.

Cancer Screening

Mammogram – 2014, 2016, 2018, 2020
Statewide, 69.1% of women aged 50–74 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 (72.1% versus 36.7%). Mammography rates differed significantly by county, with a range in screening of 45.9% in Benewah County to 77.0% in Nez Perce County. In 2020, Idaho ranked 48th among states and the District of Columbia for mammography screening rates among women aged 50–74 and also 48th among ages 40+.

Pap Test – 2018, 2020
Statewide, 71.2% 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 (75.1% versus 52.6% screened in the past 3 years). Pap screening differed significantly by county, with a range of 50.7% 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 – 2018, 2020
Statewide, 67.9% of adults aged 50–75 reported being current for colorectal cancer screening.** Persons with health insurance were over twice as likely to be current for colorectal cancer screening. In 2020, Idaho ranked 47th among states and the District of Columbia in the percentage of adults aged 50–75 and older who reported being up-to-date for colorectal cancer screening.

** 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, or a colonoscopy in the past 10 years.

Cancer Screening and Risk Factors

Tobacco Use

Current Tobacco Use – 2016–2021
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, 22.3% of adults aged 18 and older were current tobacco users. Tobacco use differed significantly by age of respondent, with 29.9% of persons aged 18-29, and 11.1% of persons aged 65 and older reporting current tobacco use. Tobacco use was lower among white non-Hispanics (22.4%) than among Native Americans (40.0%). Tobacco use differed significantly by county, with a range of 5.4% in Madison County to 41.6% 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 – 2015–2021
Statewide, 32.1% 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 32.5% of white non-Hispanics, compared to 28.2% of Hispanics and 24.6% of Native Americans, being in the healthy weight range. Males (25.5%) were significantly less likely to be in the healthy weight range than females (38.6%). BMI differed significantly by age of respondent, with 43.3% of persons aged 18–29, and 26.0% of persons aged 50–64, being in the healthy weight range. BMI differed significantly by county, with a range of 19.8% in Power County to 47.4% in Blaine County of adults being in the healthy weight range.

Any Physical Activity – 2015-2021
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, 78.7% 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 83.3% of persons aged 18–29, and 72.3% 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 64.3% in Clark County to 84.6% in Teton County.

Physical Activity Guidelines – 2011, 2013, 2015, 2017, 2019
Statewide, 21.9% 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 26.3% 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 9.6% in Franklin County to 30.6% in Blaine County.

Home Radon Testing – 2016, 2018, 2020
Statewide, 23.0% of adults have ever tested their house for radon. Radon test usage varied significantly by race/ethnicity, with 25.1% of white non-Hispanics, 7.4% 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 8.5% in Cassia County to 54.4% in Blaine County.

This project has been funded in whole or in part with Federal funds from the National Cancer Institute, National Institutes of Health, Department of Health and Human Services, under Contract No. HHSN261201800006I and the Centers for Disease Control and Prevention, Department of Health and Human Services, under Cooperative Agreement NU58DP007160. The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention or the National Cancer Institute.

ONEIDA COUNTY CANCER PROFILE

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

Cancer Incidence 2016–2020
Cancer Mortality 2017–2021
BRFSS 2011–2021

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.2016.3332). 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 2016–2020

Nearly one in two Idahoans are estimated to develop cancer during their lifetime. During 2016–2020, 45,610 cases of invasive cancer were diagnosed among Idaho residents, and 104 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, 2016–2020

Cancer Incidence 2016–2020	Oneida County	State of Idaho
All Sites/Types	**104**	**45,610**
Female Breast	**9**	**6,687**
Prostate	**12**	**6,417**
Lung & Bronchus	**11**	**4,887**
Colorectal	**7**	**3,451**

Table 3 (*Cancer Incidence 2016–2020, 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 469.7 cases per 100,000 person-years per year during 2016–2020. Comparing this crude rate with the crude rate for the remainder of Idaho (520.1) 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 398.0 cases per 100,000 persons per year during 2016–2020. There were statistically significantly fewer cases of cancer in Oneida County (104) than expected (135.9) based upon rates in the remainder of the state (p=.005).

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 2017–2021

During 2017–2021, cancer was the second leading cause of death in Idaho; 15,121 Idaho residents and 35 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, 2017–2021

Mortality 2017–2021	Oneida County	State of Idaho
All Deaths	**249**	**77,431**
Cancer Deaths	**35**	**15,121**
% of All Deaths	*14.1%*	*19.5%*
Lung & Bronchus	**4**	**2,961**
Colorectal	**1**	**1,319**
Pancreas	**2**	**1,190**
Female Breast	**2**	**1,086**
Prostate	**6**	**949**

Table 4 (*Cancer Mortality 2017–2021, 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 121.6 deaths per 100,000 persons per year during 2017–2021, compared with 168.3 for the remainder of the state. There were fewer cancer deaths in Oneida County (35) than expected (48.4) 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 2016–2020
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	104	22,144	469.7	398.0	135.9	0.005 <<	45,506	8,749,684	520.1
All Sites Combined	Male	68	11,095	612.9	499.4	75.2	0.445	24,221	4,385,815	552.3
All Sites Combined	Female	36	11,049	325.8	285.8	61.4	0.001 <<	21,285	4,363,869	487.8
Bladder	Total	7	22,144	31.6	25.0	7.0	1.000	2,177	8,749,684	24.9
Bladder	Male	7	11,095	63.1	48.5	5.7	0.705	1,744	4,385,815	39.8
Bladder	Female	-	11,049	-	-	1.3	0.522	433	4,363,869	9.9
Brain - malignant	Total	2	22,144	9.0	8.1	1.8	1.000	623	8,749,684	7.1
Brain - malignant	Male	2	11,095	18.0	16.0	1.1	0.577	373	4,385,815	8.5
Brain - malignant	Female	-	11,049	-	-	0.7	0.981	250	4,363,869	5.7
Brain and other CNS - non-malignant	Total	1	22,144	4.5	3.9	4.1	0.164	1,423	8,749,684	16.3
Brain and other CNS - non-malignant	Male	1	11,095	9.0	7.8	1.4	1.000	479	4,385,815	10.9
Brain and other CNS - non-malignant	Female	-	11,049	-	-	2.7	0.132	944	4,363,869	21.6
Breast	Total	9	22,144	40.6	35.7	19.4	0.014 <<	6,737	8,749,684	77.0
Breast	Male	-	11,095	-	-	0.2	1.000	59	4,385,815	1.3
Breast	Female	9	11,049	81.5	73.3	18.8	0.020 <<	6,678	4,363,869	153.0
Breast - in situ	Total	4	22,144	18.1	16.4	3.4	0.902	1,235	8,749,684	14.1
Breast - in situ	Male	-	11,095	-	-	0.0	1.000	5	4,385,815	0.1
Breast - in situ	Female	4	11,049	36.2	33.7	3.3	0.860	1,230	4,363,869	28.2
Cervix	Female	-	11,049	-	-	0.8	0.942	304	4,363,869	7.0
Colorectal	Total	7	22,144	31.6	26.6	10.3	0.382	3,444	8,749,684	39.4
Colorectal	Male	5	11,095	45.1	37.4	5.8	0.964	1,898	4,385,815	43.3
Colorectal	Female	2	11,049	18.1	15.4	4.6	0.324	1,546	4,363,869	35.4
Corpus Uteri	Female	1	11,049	9.1	8.2	3.7	0.228	1,329	4,363,869	30.5
Esophagus	Total	1	22,144	4.5	3.7	1.6	1.000	505	8,749,684	5.8
Esophagus	Male	1	11,095	9.0	7.2	1.3	1.000	423	4,385,815	9.6
Esophagus	Female	-	11,049	-	-	0.2	1.000	82	4,363,869	1.9
Hodgkin Lymphoma	Total	-	22,144	-	-	0.5	1.000	210	8,749,684	2.4
Hodgkin Lymphoma	Male	-	11,095	-	-	0.3	1.000	118	4,385,815	2.7
Hodgkin Lymphoma	Female	-	11,049	-	-	0.2	1.000	92	4,363,869	2.1
Kidney and Renal Pelvis	Total	6	22,144	27.1	23.3	5.3	0.880	1,809	8,749,684	20.7
Kidney and Renal Pelvis	Male	5	11,095	45.1	38.0	3.5	0.562	1,177	4,385,815	26.8
Kidney and Renal Pelvis	Female	1	11,049	9.1	7.9	1.8	0.908	632	4,363,869	14.5
Larynx	Total	-	22,144	-	-	0.7	1.000	215	8,749,684	2.5
Larynx	Male	-	11,095	-	-	0.5	1.000	160	4,385,815	3.6
Larynx	Female	-	11,049	-	-	0.2	1.000	55	4,363,869	1.3
Leukemia	Total	7	22,144	31.6	26.3	4.9	0.461	1,624	8,749,684	18.6
Leukemia	Male	6	11,095	54.1	44.2	3.0	0.177	983	4,385,815	22.4
Leukemia	Female	1	11,049	9.1	7.6	1.9	0.852	641	4,363,869	14.7
Liver and Bile Duct	Total	3	22,144	13.5	11.4	2.5	0.906	826	8,749,684	9.4
Liver and Bile Duct	Male	3	11,095	27.0	22.0	1.8	0.554	587	4,385,815	13.4
Liver and Bile Duct	Female	-	11,049	-	-	0.7	0.986	239	4,363,869	5.5
Lung and Bronchus	Total	11	22,144	49.7	40.0	15.3	0.329	4,876	8,749,684	55.7
Lung and Bronchus	Male	8	11,095	72.1	56.4	7.9	1.000	2,444	4,385,815	55.7
Lung and Bronchus	Female	3	11,049	27.2	22.5	7.4	0.123	2,432	4,363,869	55.7
Melanoma of the Skin	Total	7	22,144	31.6	27.5	8.5	0.760	2,935	8,749,684	33.5
Melanoma of the Skin	Male	5	11,095	45.1	37.3	5.4	1.000	1,760	4,385,815	40.1
Melanoma of the Skin	Female	2	11,049	18.1	16.6	3.2	0.743	1,175	4,363,869	26.9
Myeloma	Total	1	22,144	4.5	3.7	2.2	0.710	707	8,749,684	8.1
Myeloma	Male	1	11,095	9.0	7.1	1.4	1.000	440	4,385,815	10.0
Myeloma	Female	-	11,049	-	-	0.8	0.890	267	4,363,869	6.1
Non-Hodgkin Lymphoma	Total	3	22,144	13.5	11.4	5.8	0.337	1,937	8,749,684	22.1
Non-Hodgkin Lymphoma	Male	1	11,095	9.0	7.4	3.5	0.282	1,128	4,385,815	25.7
Non-Hodgkin Lymphoma	Female	2	11,049	18.1	15.4	2.4	1.000	809	4,363,869	18.5
Oral Cavity and Pharynx	Total	-	22,144	-	-	3.8	0.044 <<	1,295	8,749,684	14.8
Oral Cavity and Pharynx	Male	-	11,095	-	-	2.8	0.116	936	4,385,815	21.3
Oral Cavity and Pharynx	Female	-	11,049	-	-	1.0	0.710	359	4,363,869	8.2
Ovary	Female	4	11,049	36.2	32.2	1.5	0.133	529	4,363,869	12.1
Pancreas	Total	3	22,144	13.5	10.9	4.5	0.698	1,420	8,749,684	16.2
Pancreas	Male	2	11,095	18.0	14.2	2.5	1.000	782	4,385,815	17.8
Pancreas	Female	1	11,049	9.1	7.4	2.0	0.826	638	4,363,869	14.6
Prostate	Male	12	11,095	108.2	87.8	20.0	0.079	6,405	4,385,815	146.0
Stomach	Total	1	22,144	4.5	3.7	1.4	1.000	466	8,749,684	5.3
Stomach	Male	1	11,095	9.0	7.2	1.0	1.000	308	4,385,815	7.0
Stomach	Female	-	11,049	-	-	0.5	1.000	158	4,363,869	3.6
Testis	Male	-	11,095	-	-	0.6	1.000	265	4,385,815	6.0
Thyroid	Total	2	22,144	9.0	9.1	3.1	0.818	1,218	8,749,684	13.9
Thyroid	Male	-	11,095	-	-	0.9	0.774	355	4,385,815	8.1
Thyroid	Female	2	11,049	18.1	18.7	2.1	1.000	863	4,363,869	19.8
Pediatric Age 0 to 19	Total	3	6,798	44.1	45.0	1.1	0.214	418	2,453,725	17.0
Pediatric Age 0 to 19	Male	-	3,480	-	-	0.6	1.000	223	1,253,030	17.8
Pediatric Age 0 to 19	Female	3	3,318	90.4	92.6	0.5	0.033 >>	195	1,200,695	16.2

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 2017–2021
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	249	22,453	1,109.0	833.4	257.2	0.637	77,181	8,966,262	860.8
All Causes of Death	Male	145	11,293	1,284.0	984.5	133.9	0.357	40,911	4,500,575	909.0
All Causes of Death	Female	104	11,160	931.9	679.9	124.2	0.071	36,270	4,465,687	812.2
All Malignant Cancers	Total	35	22,453	155.9	121.6	48.4	0.054	15,086	8,966,262	168.3
All Malignant Cancers	Male	25	11,293	221.4	168.9	26.8	0.824	8,151	4,500,575	181.1
All Malignant Cancers	Female	10	11,160	89.6	71.4	21.8	0.008 <<	6,935	4,465,687	155.3
Bladder	Total	1	22,453	4.5	3.2	1.7	0.986	488	8,966,262	5.4
Bladder	Male	1	11,293	8.9	6.3	1.3	1.000	377	4,500,575	8.4
Bladder	Female	-	11,160	-	-	0.4	1.000	111	4,465,687	2.5
Brain and Other Nervous System	Total	2	22,453	8.9	7.6	1.5	0.865	502	8,966,262	5.6
Brain and Other Nervous System	Male	2	11,293	17.7	14.8	0.9	0.448	296	4,500,575	6.6
Brain and Other Nervous System	Female	-	11,160	-	-	0.6	1.000	206	4,465,687	4.6
Breast	Total	2	22,453	8.9	7.1	3.5	0.660	1,100	8,966,262	12.3
Breast	Male	-	11,293	-	-	0.1	1.000	16	4,500,575	0.4
Breast	Female	2	11,160	17.9	14.6	3.3	0.705	1,084	4,465,687	24.3
Cervix	Female	-	11,160	-	-	0.2	1.000	83	4,465,687	1.9
Colorectal	Total	1	22,453	4.5	3.5	4.2	0.159	1,318	8,966,262	14.7
Colorectal	Male	1	11,293	8.9	7.0	2.3	0.671	718	4,500,575	16.0
Colorectal	Female	-	11,160	-	-	1.9	0.293	600	4,465,687	13.4
Corpus Uteri	Female	-	11,160	-	-	0.5	1.000	173	4,465,687	3.9
Esophagus	Total	1	22,453	4.5	3.6	1.5	1.000	476	8,966,262	5.3
Esophagus	Male	1	11,293	8.9	6.9	1.3	1.000	400	4,500,575	8.9
Esophagus	Female	-	11,160	-	-	0.2	1.000	76	4,465,687	1.7
Hodgkin Lymphoma	Total	-	22,453	-	-	0.1	1.000	29	8,966,262	0.3
Hodgkin Lymphoma	Male	-	11,293	-	-	0.0	1.000	14	4,500,575	0.3
Hodgkin Lymphoma	Female	-	11,160	-	-	0.0	1.000	15	4,465,687	0.3
Kidney	Total	2	22,453	8.9	6.9	1.2	0.707	383	8,966,262	4.3
Kidney	Male	2	11,293	17.7	13.6	0.8	0.370	240	4,500,575	5.3
Kidney	Female	-	11,160	-	-	0.5	1.000	143	4,465,687	3.2
Larynx	Total	1	22,453	4.5	3.5	0.2	0.400	70	8,966,262	0.8
Larynx	Male	1	11,293	8.9	6.6	0.2	0.347	57	4,500,575	1.3
Larynx	Female	-	11,160	-	-	0.0	1.000	13	4,465,687	0.3
Leukemia	Total	1	22,453	4.5	3.4	2.2	0.722	659	8,966,262	7.3
Leukemia	Male	1	11,293	8.9	6.7	1.3	1.000	385	4,500,575	8.6
Leukemia	Female	-	11,160	-	-	0.9	0.805	274	4,465,687	6.1
Liver and Bile Duct	Total	1	22,453	4.5	3.6	1.9	0.892	602	8,966,262	6.7
Liver and Bile Duct	Male	1	11,293	8.9	7.0	1.3	1.000	407	4,500,575	9.0
Liver and Bile Duct	Female	-	11,160	-	-	0.6	1.000	195	4,465,687	4.4
Lung and Bronchus	Total	4	22,453	17.8	13.9	9.5	0.082	2,957	8,966,262	33.0
Lung and Bronchus	Male	4	11,293	35.4	27.1	5.1	0.849	1,552	4,500,575	34.5
Lung and Bronchus	Female	-	11,160	-	-	4.4	0.024 <<	1,405	4,465,687	31.5
Melanoma of the Skin	Total	-	22,453	-	-	0.9	0.808	289	8,966,262	3.2
Melanoma of the Skin	Male	-	11,293	-	-	0.6	1.000	192	4,500,575	4.3
Melanoma of the Skin	Female	-	11,160	-	-	0.3	1.000	97	4,465,687	2.2
Myeloma	Total	1	22,453	4.5	3.4	1.1	1.000	330	8,966,262	3.7
Myeloma	Male	1	11,293	8.9	6.6	0.7	0.967	195	4,500,575	4.3
Myeloma	Female	-	11,160	-	-	0.4	1.000	135	4,465,687	3.0
Non-Hodgkin Lymphoma	Total	3	22,453	13.4	10.2	1.9	0.569	566	8,966,262	6.3
Non-Hodgkin Lymphoma	Male	-	11,293	-	-	1.0	0.728	307	4,500,575	6.8
Non-Hodgkin Lymphoma	Female	3	11,160	26.9	20.3	0.9	0.112	259	4,465,687	5.8
Oral Cavity and Pharynx	Total	-	22,453	-	-	0.8	0.877	266	8,966,262	3.0
Oral Cavity and Pharynx	Male	-	11,293	-	-	0.6	1.000	187	4,500,575	4.2
Oral Cavity and Pharynx	Female	-	11,160	-	-	0.2	1.000	79	4,465,687	1.8
Ovary	Female	1	11,160	9.0	7.4	1.1	1.000	349	4,465,687	7.8
Pancreas	Total	2	22,453	8.9	7.1	3.8	0.553	1,188	8,966,262	13.2
Pancreas	Male	1	11,293	8.9	6.9	2.1	0.775	641	4,500,575	14.2
Pancreas	Female	1	11,160	9.0	7.2	1.7	0.989	547	4,465,687	12.2
Prostate	Male	6	11,293	53.1	37.7	3.3	0.242	943	4,500,575	21.0
Stomach	Total	-	22,453	-	-	0.6	1.000	198	8,966,262	2.2
Stomach	Male	-	11,293	-	-	0.4	1.000	121	4,500,575	2.7
Stomach	Female	-	11,160	-	-	0.2	1.000	77	4,465,687	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, 2020.

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 (BRFS) since 1984. These surveys are conducted with randomly selected adult Idahoans to measure population prevalences of risk factors for the major causes of death, including cancer. DPH provided data sets containing Behavioral Risk Factor Surveillance System (BRFSS) data from 2011 through 2021 to CDRI staff, who performed the analyses reported in these *County Profiles*. Analysis weights were poststratified to 2020 population estimates by age group, sex, and county, beginning with the BRFSS raked weights. Not all questions were asked in all years. 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* 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, 2011–2021

Measure	State of Idaho	HD 1	HD 2	HD 3	HD 4	HD 5	HD 6	HD 7	Oneida County
Access to Care									
Have Health Insurance, Age <65 (2015–2021)	83.1%	82.8%	85.1%	77.2%	85.8%	78.9%	85.4%	85.4%	91.6%
Not See Doctor Due to Cost in Past Year (2015–2021)	12.6%	11.4%	11.8%	14.5%	12.4%	12.3%	11.8%	12.9%	12.0%
Cancer Screening									
Mammogram Past 2 Years, Age 50–74 (2014, 2016, 2018, 2020)	69.1%	67.0%	73.8%	68.2%	73.2%	64.8%	64.5%	67.1%	.
Pap Test Past 3 Years, Cervix Intact Age 21–65 (2018, 2020)	71.2%	73.6%	73.6%	70.8%	72.9%	69.1%	69.5%	65.9%	.
Colorectal Cancer Screening, Age 50–75 (2018, 2020)	67.9%	66.9%	73.6%	71.4%	70.6%	61.7%	61.5%	64.7%	56.3%
Tobacco Use									
Current Tobacco User (2016–2021)	22.3%	26.7%	23.1%	23.6%	21.8%	21.4%	22.7%	16.9%	26.1%
Other Cancer-Related									
Healthy Weight by Body Mass Index, Age 20+ (2015–2021)	32.1%	32.8%	31.7%	27.9%	36.1%	29.8%	27.9%	31.9%	30.6%
Any Physical Activity Besides Job Past 30 Days (2015-2021)	78.7%	79.2%	78.1%	74.5%	83.2%	73.4%	76.3%	79.7%	66.8%
Meet Physical Activity Guidelines (2011, 2013, 2015, 2017, 2019)	21.9%	22.8%	19.4%	20.0%	25.2%	19.5%	20.4%	20.2%	11.1%
Home Ever Tested for Radon (2016, 2018, 2020)	23.0%	30.9%	18.2%	16.9%	25.1%	19.9%	23.0%	21.8%	12.6%

Access to Care

Have Health Insurance – 2015–2021
Statewide, 83.1% of adults aged 18–64 reported having health care coverage. Health care coverage differed significantly by race/ethnicity, with 86.0% of white non-Hispanics, compared to 64.8% of Hispanics and 83.3% of Native Americans, having health insurance. Spanish-speaking respondents were significantly less likely to be insured (33.3%) than English-speaking respondents (84.2%). Health care coverage differed significantly by age of respondent, with 79.8% of persons aged 18–29, and 87.8% of persons aged 50–64, having health insurance. Health care coverage differed significantly by county, with a range of 62.1% in Adams County to 91.6% in Oneida County having health insurance.

Not See Doctor Due to Cost in Past Year – 2015–2021
Statewide, 12.6% 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 (11.5% of white non-Hispanics, 19.2% of Hispanics, and 21.0% of Native Americans). Inability to see a doctor due to cost differed significantly by annual household income (24.9% for less than $15,000, 6.1% for greater than $50,000). Inability to see a doctor due to cost differed significantly by county, with a range of 7.4% in Franklin County to 17.5% in Power County.

Cancer Screening

Mammogram – 2014, 2016, 2018, 2020
Statewide, 69.1% of women aged 50–74 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 (72.1% versus 36.7%). Mammography rates differed significantly by county, with a range in screening of 45.9% in Benewah County to 77.0% in Nez Perce County. In 2020, Idaho ranked 48th among states and the District of Columbia for mammography screening rates among women aged 50–74 and also 48th among ages 40+.

Pap Test – 2018, 2020
Statewide, 71.2% 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 (75.1% versus 52.6% screened in the past 3 years). Pap screening differed significantly by county, with a range of 50.7% 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 – 2018, 2020
Statewide, 67.9% of adults aged 50–75 reported being current for colorectal cancer screening.** Persons with health insurance were over twice as likely to be current for colorectal cancer screening. In 2020, Idaho ranked 47th among states and the District of Columbia in the percentage of adults aged 50–75 and older who reported being up-to-date for colorectal cancer screening.

** 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, or a colonoscopy in the past 10 years.

Cancer Screening and Risk Factors

Tobacco Use

Current Tobacco Use – 2016–2021
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, 22.3% of adults aged 18 and older were current tobacco users. Tobacco use differed significantly by age of respondent, with 29.9% of persons aged 18-29, and 11.1% of persons aged 65 and older reporting current tobacco use. Tobacco use was lower among white non-Hispanics (22.4%) than among Native Americans (40.0%). Tobacco use differed significantly by county, with a range of 5.4% in Madison County to 41.6% 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 – 2015–2021
Statewide, 32.1% 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 32.5% of white non-Hispanics, compared to 28.2% of Hispanics and 24.6% of Native Americans, being in the healthy weight range. Males (25.5%) were significantly less likely to be in the healthy weight range than females (38.6%). BMI differed significantly by age of respondent, with 43.3% of persons aged 18–29, and 26.0% of persons aged 50–64, being in the healthy weight range. BMI differed significantly by county, with a range of 19.8% in Power County to 47.4% in Blaine County of adults being in the healthy weight range.

Any Physical Activity – 2015-2021
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, 78.7% 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 83.3% of persons aged 18–29, and 72.3% 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 64.3% in Clark County to 84.6% in Teton County.

Physical Activity Guidelines – 2011, 2013, 2015, 2017, 2019
Statewide, 21.9% 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 26.3% 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 9.6% in Franklin County to 30.6% in Blaine County.

Home Radon Testing – 2016, 2018, 2020
Statewide, 23.0% of adults have ever tested their house for radon. Radon test usage varied significantly by race/ethnicity, with 25.1% of white non-Hispanics, 7.4% 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 8.5% in Cassia County to 54.4% in Blaine County.

This project has been funded in whole or in part with Federal funds from the National Cancer Institute, National Institutes of Health, Department of Health and Human Services, under Contract No. HHSN261201800006I and the Centers for Disease Control and Prevention, Department of Health and Human Services, under Cooperative Agreement NU58DP007160. The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention or the National Cancer Institute.

OWYHEE COUNTY CANCER PROFILE

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

Cancer Incidence 2016–2020
Cancer Mortality 2017–2021
BRFSS 2011–2021

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.2016.3332). 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 2016–2020

Nearly one in two Idahoans are estimated to develop cancer during their lifetime. During 2016–2020, 45,610 cases of invasive cancer were diagnosed among Idaho residents, and 309 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, 2016–2020

Cancer Incidence 2016–2020	Owyhee County	State of Idaho
All Sites/Types	**309**	**45,610**
Female Breast	**56**	**6,687**
Prostate	**42**	**6,417**
Lung & Bronchus	**30**	**4,887**
Colorectal	**22**	**3,451**

Table 3 (*Cancer Incidence 2016–2020, 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 527.1 cases per 100,000 person-years per year during 2016–2020. Comparing this crude rate with the crude rate for the remainder of Idaho (519.9) 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 481.6 cases per 100,000 persons per year during 2016–2020. There were fewer cases of cancer in Owyhee County (309) than expected (333.6) 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 2017–2021

During 2017–2021, cancer was the second leading cause of death in Idaho; 15,121 Idaho residents and 112 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, 2017–2021

Mortality 2017–2021	Owyhee County	State of Idaho
All Deaths	**591**	**77,431**
Cancer Deaths	**112**	**15,121**
% of All Deaths	*19.0%*	*19.5%*
Lung & Bronchus	**16**	**2,961**
Colorectal	**14**	**1,319**
Pancreas	**16**	**1,190**
Female Breast	**5**	**1,086**
Prostate	**9**	**949**

Table 4 (*Cancer Mortality 2017–2021, 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 170.3 deaths per 100,000 persons per year during 2017–2021, compared with 168.1 for the remainder of the state. There were more cancer deaths in Owyhee County (112) than expected (110.5) 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 2016–2020
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	309	58,620	527.1	481.6	333.6	0.185	45,301	8,713,208	519.9
All Sites Combined	Male	163	29,887	545.4	474.1	190.0	0.051	24,126	4,367,023	552.5
All Sites Combined	Female	146	28,733	508.1	483.4	147.1	0.968	21,175	4,346,185	487.2
Bladder	Total	9	58,620	15.4	13.8	16.3	0.074	2,175	8,713,208	25.0
Bladder	Male	9	29,887	30.1	25.5	14.1	0.210	1,742	4,367,023	39.9
Bladder	Female	-	28,733	-	-	3.0	0.096	433	4,346,185	10.0
Brain - malignant	Total	2	58,620	3.4	3.2	4.5	0.356	623	8,713,208	7.2
Brain - malignant	Male	1	29,887	3.3	3.1	2.8	0.464	374	4,367,023	8.6
Brain - malignant	Female	1	28,733	3.5	3.4	1.7	0.981	249	4,346,185	5.7
Brain and other CNS - non-malignant	Total	7	58,620	11.9	11.1	10.2	0.397	1,417	8,713,208	16.3
Brain and other CNS - non-malignant	Male	2	29,887	6.7	6.1	3.6	0.602	478	4,367,023	10.9
Brain and other CNS - non-malignant	Female	5	28,733	17.4	16.6	6.5	0.740	939	4,346,185	21.6
Breast	Total	56	58,620	95.5	88.1	48.8	0.338	6,690	8,713,208	76.8
Breast	Male	-	29,887	-	-	0.5	1.000	59	4,367,023	1.4
Breast	Female	56	28,733	194.9	184.7	46.3	0.180	6,631	4,346,185	152.6
Breast - in situ	Total	9	58,620	15.4	14.2	9.0	1.000	1,230	8,713,208	14.1
Breast - in situ	Male	-	29,887	-	-	0.0	1.000	5	4,367,023	0.1
Breast - in situ	Female	9	28,733	31.3	29.5	8.6	0.980	1,225	4,346,185	28.2
Cervix	Female	2	28,733	7.0	7.0	2.0	1.000	302	4,346,185	6.9
Colorectal	Total	22	58,620	37.5	34.2	25.3	0.596	3,429	8,713,208	39.4
Colorectal	Male	15	29,887	50.2	43.9	14.8	1.000	1,888	4,367,023	43.2
Colorectal	Female	7	28,733	24.4	23.1	10.7	0.323	1,541	4,346,185	35.5
Corpus Uteri	Female	12	28,733	41.8	39.6	9.2	0.434	1,318	4,346,185	30.3
Esophagus	Total	1	58,620	1.7	1.5	3.8	0.220	505	8,713,208	5.8
Esophagus	Male	1	29,887	3.3	2.9	3.4	0.299	423	4,367,023	9.7
Esophagus	Female	-	28,733	-	-	0.6	1.000	82	4,346,185	1.9
Hodgkin Lymphoma	Total	2	58,620	3.4	3.4	1.4	0.824	208	8,713,208	2.4
Hodgkin Lymphoma	Male	2	29,887	6.7	6.6	0.8	0.388	116	4,367,023	2.7
Hodgkin Lymphoma	Female	-	28,733	-	-	0.6	1.000	92	4,346,185	2.1
Kidney and Renal Pelvis	Total	15	58,620	25.6	23.4	13.2	0.698	1,800	8,713,208	20.7
Kidney and Renal Pelvis	Male	12	29,887	40.2	35.4	9.1	0.409	1,170	4,367,023	26.8
Kidney and Renal Pelvis	Female	3	28,733	10.4	9.9	4.4	0.717	630	4,346,185	14.5
Larynx	Total	3	58,620	5.1	4.6	1.6	0.426	212	8,713,208	2.4
Larynx	Male	3	29,887	10.0	8.5	1.3	0.269	157	4,367,023	3.6
Larynx	Female	-	28,733	-	-	0.4	1.000	55	4,346,185	1.3
Leukemia	Total	7	58,620	11.9	10.9	12.0	0.183	1,624	8,713,208	18.6
Leukemia	Male	5	29,887	16.7	14.6	7.7	0.442	984	4,367,023	22.5
Leukemia	Female	2	28,733	7.0	6.6	4.5	0.355	640	4,346,185	14.7
Liver and Bile Duct	Total	7	58,620	11.9	10.8	6.1	0.822	822	8,713,208	9.4
Liver and Bile Duct	Male	4	29,887	13.4	11.6	4.6	1.000	586	4,367,023	13.4
Liver and Bile Duct	Female	3	28,733	10.4	9.8	1.7	0.462	236	4,346,185	5.4
Lung and Bronchus	Total	30	58,620	51.2	45.8	36.5	0.319	4,857	8,713,208	55.7
Lung and Bronchus	Male	17	29,887	56.9	48.4	19.6	0.659	2,435	4,367,023	55.8
Lung and Bronchus	Female	13	28,733	45.2	42.3	17.1	0.387	2,422	4,346,185	55.7
Melanoma of the Skin	Total	12	58,620	20.5	19.0	21.3	0.043 <<	2,930	8,713,208	33.6
Melanoma of the Skin	Male	8	29,887	26.8	23.5	13.7	0.144	1,757	4,367,023	40.2
Melanoma of the Skin	Female	4	28,733	13.9	13.5	8.0	0.200	1,173	4,346,185	27.0
Myeloma	Total	2	58,620	3.4	3.1	5.3	0.205	706	8,713,208	8.1
Myeloma	Male	2	29,887	6.7	5.7	3.5	0.640	439	4,367,023	10.1
Myeloma	Female	-	28,733	-	-	1.9	0.308	267	4,346,185	6.1
Non-Hodgkin Lymphoma	Total	21	58,620	35.8	32.7	14.1	0.103	1,919	8,713,208	22.0
Non-Hodgkin Lymphoma	Male	8	29,887	26.8	23.6	8.7	0.995	1,121	4,367,023	25.7
Non-Hodgkin Lymphoma	Female	13	28,733	45.2	42.9	5.6	0.010 >>	798	4,346,185	18.4
Oral Cavity and Pharynx	Total	10	58,620	17.1	15.5	9.5	0.955	1,285	8,713,208	14.7
Oral Cavity and Pharynx	Male	8	29,887	26.8	23.4	7.3	0.881	928	4,367,023	21.3
Oral Cavity and Pharynx	Female	2	28,733	7.0	6.6	2.5	1.000	357	4,346,185	8.2
Ovary	Female	8	28,733	27.8	26.4	3.7	0.066	525	4,346,185	12.1
Pancreas	Total	17	58,620	29.0	26.1	10.5	0.079	1,406	8,713,208	16.1
Pancreas	Male	9	29,887	30.1	25.7	6.2	0.349	775	4,367,023	17.7
Pancreas	Female	8	28,733	27.8	26.3	4.4	0.159	631	4,346,185	14.5
Prostate	Male	42	29,887	140.5	121.4	50.5	0.257	6,375	4,367,023	146.0
Stomach	Total	4	58,620	6.8	6.2	3.4	0.897	463	8,713,208	5.3
Stomach	Male	4	29,887	13.4	11.5	2.4	0.457	305	4,367,023	7.0
Stomach	Female	-	28,733	-	-	1.1	0.680	158	4,346,185	3.6
Testis	Male	1	29,887	3.3	3.6	1.7	1.000	264	4,367,023	6.0
Thyroid	Total	5	58,620	8.5	8.4	8.3	0.334	1,215	8,713,208	13.9
Thyroid	Male	3	29,887	10.0	9.5	2.5	0.932	352	4,367,023	8.1
Thyroid	Female	2	28,733	7.0	7.0	5.7	0.154	863	4,346,185	19.9
Pediatric Age 0 to 19	Total	2	16,664	12.0	12.0	2.9	0.913	419	2,443,859	17.1
Pediatric Age 0 to 19	Male	1	8,485	11.8	11.8	1.5	1.000	222	1,248,025	17.8
Pediatric Age 0 to 19	Female	1	8,179	12.2	12.2	1.3	1.000	197	1,195,834	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 2017–2021
COMPARISON BETWEEN OWYHEE COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cause of Death Cancer Site/Type	Sex	Owyhee County Observed Deaths	Person Years	Crude Rate (1)	A.A.M. Rate (1,2)	Expected Deaths (3)	P-Value (4)	Remainder of Idaho Observed Deaths	Person Years	Crude Rate (1)
All Causes of Death	Total	591	59,588	991.8	906.6	561.0	0.214	76,839	8,929,127	860.5
All Causes of Death	Male	350	30,387	1,151.8	986.7	322.2	0.131	40,706	4,481,481	908.3
All Causes of Death	Female	241	29,201	825.3	805.3	243.1	0.925	36,133	4,447,646	812.4
All Malignant Cancers	Total	112	59,588	188.0	170.3	110.5	0.914	15,009	8,929,127	168.1
All Malignant Cancers	Male	68	30,387	223.8	190.6	64.5	0.700	8,108	4,481,481	180.9
All Malignant Cancers	Female	44	29,201	150.7	143.8	47.5	0.679	6,901	4,447,646	155.2
Bladder	Total	2	59,588	3.4	3.0	3.6	0.602	487	8,929,127	5.5
Bladder	Male	1	30,387	3.3	2.7	3.1	0.368	377	4,481,481	8.4
Bladder	Female	1	29,201	3.4	3.3	0.7	1.000	110	4,447,646	2.5
Brain and Other Nervous System	Total	-	59,588	-	-	3.6	0.052	504	8,929,127	5.6
Brain and Other Nervous System	Male	-	30,387	-	-	2.3	0.206	298	4,481,481	6.6
Brain and Other Nervous System	Female	-	29,201	-	-	1.4	0.486	206	4,447,646	4.6
Breast	Total	5	59,588	8.4	7.7	8.0	0.382	1,097	8,929,127	12.3
Breast	Male	-	30,387	-	-	0.1	1.000	16	4,481,481	0.4
Breast	Female	5	29,201	17.1	16.4	7.4	0.503	1,081	4,447,646	24.3
Cervix	Female	-	29,201	-	-	0.6	1.000	83	4,447,646	1.9
Colorectal	Total	14	59,588	23.5	21.4	9.6	0.213	1,305	8,929,127	14.6
Colorectal	Male	11	30,387	36.2	31.3	5.6	0.054	708	4,481,481	15.8
Colorectal	Female	3	29,201	10.3	9.8	4.1	0.829	597	4,447,646	13.4
Corpus Uteri	Female	2	29,201	6.8	6.5	1.2	0.660	171	4,447,646	3.8
Esophagus	Total	3	59,588	5.0	4.6	3.5	1.000	474	8,929,127	5.3
Esophagus	Male	3	30,387	9.9	8.5	3.1	1.000	398	4,481,481	8.9
Esophagus	Female	-	29,201	-	-	0.5	1.000	76	4,447,646	1.7
Hodgkin Lymphoma	Total	-	59,588	-	-	0.2	1.000	29	8,929,127	0.3
Hodgkin Lymphoma	Male	-	30,387	-	-	0.1	1.000	14	4,481,481	0.3
Hodgkin Lymphoma	Female	-	29,201	-	-	0.1	1.000	15	4,447,646	0.3
Kidney	Total	5	59,588	8.4	7.6	2.8	0.306	380	8,929,127	4.3
Kidney	Male	2	30,387	6.6	5.6	1.9	1.000	240	4,481,481	5.4
Kidney	Female	3	29,201	10.3	9.8	1.0	0.147	140	4,447,646	3.1
Larynx	Total	-	59,588	-	-	0.5	1.000	71	8,929,127	0.8
Larynx	Male	-	30,387	-	-	0.5	1.000	58	4,481,481	1.3
Larynx	Female	-	29,201	-	-	0.1	1.000	13	4,447,646	0.3
Leukemia	Total	2	59,588	3.4	3.0	4.8	0.278	658	8,929,127	7.4
Leukemia	Male	1	30,387	3.3	2.8	3.1	0.379	385	4,481,481	8.6
Leukemia	Female	1	29,201	3.4	3.3	1.9	0.885	273	4,447,646	6.1
Liver and Bile Duct	Total	4	59,588	6.7	6.1	4.4	1.000	599	8,929,127	6.7
Liver and Bile Duct	Male	3	30,387	9.9	8.5	3.2	1.000	405	4,481,481	9.0
Liver and Bile Duct	Female	1	29,201	3.4	3.2	1.3	1.000	194	4,447,646	4.4
Lung and Bronchus	Total	16	59,588	26.9	24.2	21.8	0.249	2,945	8,929,127	33.0
Lung and Bronchus	Male	6	30,387	19.7	16.9	12.3	0.077	1,550	4,481,481	34.6
Lung and Bronchus	Female	10	29,201	34.2	32.4	9.7	1.000	1,395	4,447,646	31.4
Melanoma of the Skin	Total	2	59,588	3.4	3.1	2.1	1.000	287	8,929,127	3.2
Melanoma of the Skin	Male	1	30,387	3.3	2.8	1.5	1.000	191	4,481,481	4.3
Melanoma of the Skin	Female	1	29,201	3.4	3.3	0.7	0.966	96	4,447,646	2.2
Myeloma	Total	3	59,588	5.0	4.5	2.4	0.884	328	8,929,127	3.7
Myeloma	Male	3	30,387	9.9	8.3	1.6	0.411	193	4,481,481	4.3
Myeloma	Female	-	29,201	-	-	0.9	0.781	135	4,447,646	3.0
Non-Hodgkin Lymphoma	Total	4	59,588	6.7	6.0	4.2	1.000	565	8,929,127	6.3
Non-Hodgkin Lymphoma	Male	2	30,387	6.6	5.6	2.4	1.000	305	4,481,481	6.8
Non-Hodgkin Lymphoma	Female	2	29,201	6.8	6.5	1.8	1.000	260	4,447,646	5.8
Oral Cavity and Pharynx	Total	2	59,588	3.4	3.0	1.9	1.000	264	8,929,127	3.0
Oral Cavity and Pharynx	Male	1	30,387	3.3	2.8	1.5	1.000	186	4,481,481	4.2
Oral Cavity and Pharynx	Female	1	29,201	3.4	3.3	0.5	0.829	78	4,447,646	1.8
Ovary	Female	1	29,201	3.4	3.3	2.4	0.611	349	4,447,646	7.8
Pancreas	Total	16	59,588	26.9	24.3	8.7	0.032 >>	1,174	8,929,127	13.1
Pancreas	Male	10	30,387	32.9	28.3	5.0	0.063	632	4,481,481	14.1
Pancreas	Female	6	29,201	20.5	19.5	3.7	0.352	542	4,447,646	12.2
Prostate	Male	9	30,387	29.6	24.4	7.7	0.741	940	4,481,481	21.0
Stomach	Total	4	59,588	6.7	6.1	1.4	0.112	194	8,929,127	2.2
Stomach	Male	4	30,387	13.2	11.3	0.9	0.030 >>	117	4,481,481	2.6
Stomach	Female	-	29,201	-	-	0.5	1.000	77	4,447,646	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, 2020.

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 (BRFS) since 1984. These surveys are conducted with randomly selected adult Idahoans to measure population prevalences of risk factors for the major causes of death, including cancer. DPH provided data sets containing Behavioral Risk Factor Surveillance System (BRFSS) data from 2011 through 2021 to CDRI staff, who performed the analyses reported in these *County Profiles*. Analysis weights were poststratified to 2020 population estimates by age group, sex, and county, beginning with the BRFSS raked weights. Not all questions were asked in all years. 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* 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, 2011–2021

Measure	State of Idaho	HD 1	HD 2	HD 3	HD 4	HD 5	HD 6	HD 7	Owyhee County
Access to Care									
Have Health Insurance, Age <65 (2015–2021)	83.1%	82.8%	85.1%	77.2%	85.8%	78.9%	85.4%	85.4%	69.1%
Not See Doctor Due to Cost in Past Year (2015–2021)	12.6%	11.4%	11.8%	14.5%	12.4%	12.3%	11.8%	12.9%	12.2%
Cancer Screening									
Mammogram Past 2 Years, Age 50–74 (2014, 2016, 2018, 2020)	69.1%	67.0%	73.8%	68.2%	73.2%	64.8%	64.5%	67.1%	.
Pap Test Past 3 Years, Cervix Intact Age 21–65 (2018, 2020)	71.2%	73.6%	73.6%	70.8%	72.9%	69.1%	69.5%	65.9%	.
Colorectal Cancer Screening, Age 50–75 (2018, 2020)	67.9%	66.9%	73.6%	71.4%	70.6%	61.7%	61.5%	64.7%	.
Tobacco Use									
Current Tobacco User (2016–2021)	22.3%	26.7%	23.1%	23.6%	21.8%	21.4%	22.7%	16.9%	22.1%
Other Cancer-Related									
Healthy Weight by Body Mass Index, Age 20+ (2015–2021)	32.1%	32.8%	31.7%	27.9%	36.1%	29.8%	27.9%	31.9%	23.4%
Any Physical Activity Besides Job Past 30 Days (2015-2021)	78.7%	79.2%	78.1%	74.5%	83.2%	73.4%	76.3%	79.7%	71.5%
Meet Physical Activity Guidelines (2011, 2013, 2015, 2017, 2019)	21.9%	22.8%	19.4%	20.0%	25.2%	19.5%	20.4%	20.2%	25.9%
Home Ever Tested for Radon (2016, 2018, 2020)	23.0%	30.9%	18.2%	16.9%	25.1%	19.9%	23.0%	21.8%	16.7%

Access to Care

Have Health Insurance – 2015–2021
Statewide, 83.1% of adults aged 18–64 reported having health care coverage. Health care coverage differed significantly by race/ethnicity, with 86.0% of white non-Hispanics, compared to 64.8% of Hispanics and 83.3% of Native Americans, having health insurance. Spanish-speaking respondents were significantly less likely to be insured (33.3%) than English-speaking respondents (84.2%). Health care coverage differed significantly by age of respondent, with 79.8% of persons aged 18–29, and 87.8% of persons aged 50–64, having health insurance. Health care coverage differed significantly by county, with a range of 62.1% in Adams County to 91.6% in Oneida County having health insurance.

Not See Doctor Due to Cost in Past Year – 2015–2021
Statewide, 12.6% 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 (11.5% of white non-Hispanics, 19.2% of Hispanics, and 21.0% of Native Americans). Inability to see a doctor due to cost differed significantly by annual household income (24.9% for less than $15,000, 6.1% for greater than $50,000). Inability to see a doctor due to cost differed significantly by county, with a range of 7.4% in Franklin County to 17.5% in Power County.

Cancer Screening

Mammogram – 2014, 2016, 2018, 2020
Statewide, 69.1% of women aged 50–74 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 (72.1% versus 36.7%). Mammography rates differed significantly by county, with a range in screening of 45.9% in Benewah County to 77.0% in Nez Perce County. In 2020, Idaho ranked 48th among states and the District of Columbia for mammography screening rates among women aged 50–74 and also 48th among ages 40+.

Pap Test – 2018, 2020
Statewide, 71.2% 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 (75.1% versus 52.6% screened in the past 3 years). Pap screening differed significantly by county, with a range of 50.7% 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 – 2018, 2020
Statewide, 67.9% of adults aged 50–75 reported being current for colorectal cancer screening.** Persons with health insurance were over twice as likely to be current for colorectal cancer screening. In 2020, Idaho ranked 47th among states and the District of Columbia in the percentage of adults aged 50–75 and older who reported being up-to-date for colorectal cancer screening.

** 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, or a colonoscopy in the past 10 years.

Cancer Screening and Risk Factors

Tobacco Use

Current Tobacco Use – 2016–2021
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, 22.3% of adults aged 18 and older were current tobacco users. Tobacco use differed significantly by age of respondent, with 29.9% of persons aged 18-29, and 11.1% of persons aged 65 and older reporting current tobacco use. Tobacco use was lower among white non-Hispanics (22.4%) than among Native Americans (40.0%). Tobacco use differed significantly by county, with a range of 5.4% in Madison County to 41.6% 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 – 2015–2021
Statewide, 32.1% 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 32.5% of white non-Hispanics, compared to 28.2% of Hispanics and 24.6% of Native Americans, being in the healthy weight range. Males (25.5%) were significantly less likely to be in the healthy weight range than females (38.6%). BMI differed significantly by age of respondent, with 43.3% of persons aged 18–29, and 26.0% of persons aged 50–64, being in the healthy weight range. BMI differed significantly by county, with a range of 19.8% in Power County to 47.4% in Blaine County of adults being in the healthy weight range.

Any Physical Activity – 2015-2021
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, 78.7% 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 83.3% of persons aged 18–29, and 72.3% 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 64.3% in Clark County to 84.6% in Teton County.

Physical Activity Guidelines – 2011, 2013, 2015, 2017, 2019
Statewide, 21.9% 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 26.3% 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 9.6% in Franklin County to 30.6% in Blaine County.

Home Radon Testing – 2016, 2018, 2020
Statewide, 23.0% of adults have ever tested their house for radon. Radon test usage varied significantly by race/ethnicity, with 25.1% of white non-Hispanics, 7.4% 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 8.5% in Cassia County to 54.4% in Blaine County.

This project has been funded in whole or in part with Federal funds from the National Cancer Institute, National Institutes of Health, Department of Health and Human Services, under Contract No. HHSN261201800006I and the Centers for Disease Control and Prevention, Department of Health and Human Services, under Cooperative Agreement NU58DP007160. The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention or the National Cancer Institute.

PAYETTE COUNTY CANCER PROFILE

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

Cancer Incidence 2016–2020
Cancer Mortality 2017–2021
BRFSS 2011–2021

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.2016.3332). 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 2016–2020

Nearly one in two Idahoans are estimated to develop cancer during their lifetime. During 2016–2020, 45,610 cases of invasive cancer were diagnosed among Idaho residents, and 737 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, 2016–2020

Cancer Incidence 2016–2020	Payette County	State of Idaho
All Sites/Types	**737**	**45,610**
Female Breast	**98**	**6,687**
Prostate	**92**	**6,417**
Lung & Bronchus	**116**	**4,887**
Colorectal	**68**	**3,451**

Table 3 (*Cancer Incidence 2016–2020, 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 621.8 cases per 100,000 person-years per year during 2016–2020. Comparing this crude rate with the crude rate for the remainder of Idaho (518.6) 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 558.3 cases per 100,000 persons per year during 2016–2020. There were statistically significantly more cases of cancer in Payette County (737) than expected (684.6) based upon rates in the remainder of the state (p=.049).

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 2017–2021

During 2017–2021, cancer was the second leading cause of death in Idaho; 15,121 Idaho residents and 287 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, 2017–2021

Mortality 2017–2021	Payette County	State of Idaho
All Deaths	**1,346**	**77,431**
Cancer Deaths	**287**	**15,121**
% of All Deaths	*21.3%*	*19.5%*
Lung & Bronchus	**73**	**2,961**
Colorectal	**29**	**1,319**
Pancreas	**17**	**1,190**
Female Breast	**26**	**1,086**
Prostate	**18**	**949**

Table 4 (*Cancer Mortality 2017–2021, 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 204.6 deaths per 100,000 persons per year during 2017–2021, compared with 167.3 for the remainder of the state. There were statistically significantly more cancer deaths in Payette County (287) than expected (234.7) 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 2016–2020
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	737	118,527	621.8	558.3	684.6	0.049 >>	44,873	8,653,301	518.6
All Sites Combined	Male	403	59,188	680.9	596.3	372.2	0.119	23,886	4,337,722	550.7
All Sites Combined	Female	334	59,339	562.9	515.5	315.1	0.300	20,987	4,315,579	486.3
Bladder	Total	27	118,527	22.8	19.7	34.2	0.247	2,157	8,653,301	24.9
Bladder	Male	20	59,188	33.8	28.3	28.2	0.133	1,731	4,337,722	39.9
Bladder	Female	7	59,339	11.8	10.5	6.6	0.964	426	4,315,579	9.9
Brain - malignant	Total	8	118,527	6.7	6.3	9.1	0.890	617	8,653,301	7.1
Brain - malignant	Male	4	59,188	6.8	6.3	5.5	0.726	371	4,337,722	8.6
Brain - malignant	Female	4	59,339	6.7	6.3	3.6	0.974	246	4,315,579	5.7
Brain and other CNS - non-malignant	Total	16	118,527	13.5	12.3	21.1	0.315	1,408	8,653,301	16.3
Brain and other CNS - non-malignant	Male	5	59,188	8.4	7.7	7.1	0.569	475	4,337,722	11.0
Brain and other CNS - non-malignant	Female	11	59,339	18.5	17.1	13.9	0.531	933	4,315,579	21.6
Breast	Total	99	118,527	83.5	76.3	99.6	1.000	6,647	8,653,301	76.8
Breast	Male	1	59,188	1.7	1.4	0.9	1.000	58	4,337,722	1.3
Breast	Female	98	59,339	165.2	151.8	98.6	1.000	6,589	4,315,579	152.7
Breast - in situ	Total	16	118,527	13.5	12.5	18.1	0.726	1,223	8,653,301	14.1
Breast - in situ	Male	-	59,188	-	-	0.1	1.000	5	4,337,722	0.1
Breast - in situ	Female	16	59,339	27.0	24.9	18.1	0.724	1,218	4,315,579	28.2
Cervix	Female	9	59,339	15.2	15.0	4.1	0.049 >>	295	4,315,579	6.8
Colorectal	Total	68	118,527	57.4	51.3	51.8	0.035 >>	3,383	8,653,301	39.1
Colorectal	Male	45	59,188	76.0	67.0	28.8	0.006 >>	1,858	4,337,722	42.8
Colorectal	Female	23	59,339	38.8	35.2	23.1	1.000	1,525	4,315,579	35.3
Corpus Uteri	Female	12	59,339	20.2	18.7	19.6	0.095	1,318	4,315,579	30.5
Esophagus	Total	7	118,527	5.9	5.2	7.7	0.982	499	8,653,301	5.8
Esophagus	Male	6	59,188	10.1	8.8	6.6	1.000	418	4,337,722	9.6
Esophagus	Female	1	59,339	1.7	1.5	1.2	1.000	81	4,315,579	1.9
Hodgkin Lymphoma	Total	2	118,527	1.7	1.7	2.9	0.909	208	8,653,301	2.4
Hodgkin Lymphoma	Male	1	59,188	1.7	1.7	1.6	1.000	117	4,337,722	2.7
Hodgkin Lymphoma	Female	1	59,339	1.7	1.7	1.3	1.000	91	4,315,579	2.1
Kidney and Renal Pelvis	Total	32	118,527	27.0	24.3	27.2	0.398	1,783	8,653,301	20.6
Kidney and Renal Pelvis	Male	25	59,188	42.2	37.6	17.7	0.119	1,157	4,337,722	26.7
Kidney and Renal Pelvis	Female	7	59,339	11.8	10.7	9.5	0.536	626	4,315,579	14.5
Larynx	Total	6	118,527	5.1	4.5	3.2	0.212	209	8,653,301	2.4
Larynx	Male	6	59,188	10.1	8.8	2.4	0.073	154	4,337,722	3.6
Larynx	Female	-	59,339	-	-	0.8	0.876	55	4,315,579	1.3
Leukemia	Total	27	118,527	22.8	20.2	24.8	0.712	1,604	8,653,301	18.5
Leukemia	Male	18	59,188	30.4	26.4	15.3	0.550	971	4,337,722	22.4
Leukemia	Female	9	59,339	15.2	13.7	9.7	1.000	633	4,315,579	14.7
Liver and Bile Duct	Total	19	118,527	16.0	14.4	12.3	0.093	810	8,653,301	9.4
Liver and Bile Duct	Male	14	59,188	23.7	21.1	8.8	0.130	576	4,337,722	13.3
Liver and Bile Duct	Female	5	59,339	8.4	7.6	3.6	0.572	234	4,315,579	5.4
Lung and Bronchus	Total	116	118,527	97.9	84.7	75.5	0.000 >>	4,771	8,653,301	55.1
Lung and Bronchus	Male	58	59,188	98.0	82.8	38.7	0.004 >>	2,394	4,337,722	55.2
Lung and Bronchus	Female	58	59,339	97.7	86.3	37.0	0.002 >>	2,377	4,315,579	55.1
Melanoma of the Skin	Total	26	118,527	21.9	20.0	43.8	0.005 <<	2,916	8,653,301	33.7
Melanoma of the Skin	Male	19	59,188	32.1	28.3	27.1	0.134	1,746	4,337,722	40.3
Melanoma of the Skin	Female	7	59,339	11.8	11.1	17.1	0.010 <<	1,170	4,315,579	27.1
Myeloma	Total	10	118,527	8.4	7.3	11.0	0.918	698	8,653,301	8.1
Myeloma	Male	6	59,188	10.1	8.6	7.0	0.897	435	4,337,722	10.0
Myeloma	Female	4	59,339	6.7	6.0	4.1	1.000	263	4,315,579	6.1
Non-Hodgkin Lymphoma	Total	38	118,527	32.1	28.7	29.1	0.128	1,902	8,653,301	22.0
Non-Hodgkin Lymphoma	Male	14	59,188	23.7	21.0	17.2	0.535	1,115	4,337,722	25.7
Non-Hodgkin Lymphoma	Female	24	59,339	40.4	36.7	11.9	0.003 >>	787	4,315,579	18.2
Oral Cavity and Pharynx	Total	19	118,527	16.0	14.6	19.2	1.000	1,276	8,653,301	14.7
Oral Cavity and Pharynx	Male	13	59,188	22.0	19.7	14.0	0.927	923	4,337,722	21.3
Oral Cavity and Pharynx	Female	6	59,339	10.1	9.3	5.3	0.872	353	4,315,579	8.2
Ovary	Female	9	59,339	15.2	14.0	7.8	0.756	524	4,315,579	12.1
Pancreas	Total	21	118,527	17.7	15.5	21.9	0.952	1,402	8,653,301	16.2
Pancreas	Male	13	59,188	22.0	18.8	12.3	0.920	771	4,337,722	17.8
Pancreas	Female	8	59,339	13.5	12.1	9.7	0.735	631	4,315,579	14.6
Prostate	Male	92	59,188	155.4	137.4	97.6	0.614	6,325	4,337,722	145.8
Stomach	Total	3	118,527	2.5	2.2	7.2	0.146	464	8,653,301	5.4
Stomach	Male	3	59,188	5.1	4.4	4.9	0.572	306	4,337,722	7.1
Stomach	Female	-	59,339	-	-	2.4	0.188	158	4,315,579	3.7
Testis	Male	2	59,188	3.4	3.7	3.3	0.738	263	4,337,722	6.1
Thyroid	Total	22	118,527	18.6	18.3	16.6	0.236	1,198	8,653,301	13.8
Thyroid	Male	9	59,188	15.2	14.6	4.9	0.124	346	4,337,722	8.0
Thyroid	Female	13	59,339	21.9	21.7	11.8	0.810	852	4,315,579	19.7
Pediatric Age 0 to 19	Total	9	33,858	26.6	26.8	5.7	0.249	412	2,426,665	17.0
Pediatric Age 0 to 19	Male	4	17,594	22.7	22.9	3.1	0.747	219	1,238,916	17.7
Pediatric Age 0 to 19	Female	5	16,264	30.7	31.0	2.6	0.250	193	1,187,749	16.2

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 2017–2021
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	1,346	121,950	1,103.7	965.1	1,196.7	0.000 >>	76,084	8,866,765	858.1
All Causes of Death	Male	768	61,008	1,258.9	1,055.9	658.4	0.000 >>	40,288	4,450,860	905.2
All Causes of Death	Female	578	60,942	948.4	867.0	540.4	0.113	35,796	4,415,905	810.6
All Malignant Cancers	Total	287	121,950	235.3	204.6	234.7	0.001 >>	14,834	8,866,765	167.3
All Malignant Cancers	Male	162	61,008	265.5	222.3	131.2	0.010 >>	8,014	4,450,860	180.1
All Malignant Cancers	Female	125	60,942	205.1	183.6	105.1	0.064	6,820	4,415,905	154.4
Bladder	Total	10	121,950	8.2	6.9	7.8	0.512	479	8,866,765	5.4
Bladder	Male	9	61,008	14.8	11.7	6.4	0.386	369	4,450,860	8.3
Bladder	Female	1	60,942	1.6	1.4	1.7	0.973	110	4,415,905	2.5
Brain and Other Nervous System	Total	8	121,950	6.6	6.0	7.5	0.951	496	8,866,765	5.6
Brain and Other Nervous System	Male	2	61,008	3.3	2.9	4.5	0.341	296	4,450,860	6.7
Brain and Other Nervous System	Female	6	60,942	9.8	9.1	3.0	0.167	200	4,415,905	4.5
Breast	Total	26	121,950	21.3	19.0	16.6	0.040 >>	1,076	8,866,765	12.1
Breast	Male	-	61,008	-	-	0.3	1.000	16	4,450,860	0.4
Breast	Female	26	60,942	42.7	38.9	16.1	0.027 >>	1,060	4,415,905	24.0
Cervix	Female	-	60,942	-	-	1.2	0.612	83	4,415,905	1.9
Colorectal	Total	29	121,950	23.8	20.9	20.2	0.075	1,290	8,866,765	14.5
Colorectal	Male	19	61,008	31.1	26.8	11.1	0.039 >>	700	4,450,860	15.7
Colorectal	Female	10	60,942	16.4	14.8	9.0	0.836	590	4,415,905	13.4
Corpus Uteri	Female	2	60,942	3.3	3.0	2.6	1.000	171	4,415,905	3.9
Esophagus	Total	8	121,950	6.6	5.7	7.4	0.913	469	8,866,765	5.3
Esophagus	Male	8	61,008	13.1	11.2	6.3	0.592	393	4,450,860	8.8
Esophagus	Female	-	60,942	-	-	1.2	0.617	76	4,415,905	1.7
Hodgkin Lymphoma	Total	-	121,950	-	-	0.4	1.000	29	8,866,765	0.3
Hodgkin Lymphoma	Male	-	61,008	-	-	0.2	1.000	14	4,450,860	0.3
Hodgkin Lymphoma	Female	-	60,942	-	-	0.2	1.000	15	4,415,905	0.3
Kidney	Total	4	121,950	3.3	2.8	6.0	0.559	381	8,866,765	4.3
Kidney	Male	4	61,008	6.6	5.6	3.9	1.000	238	4,450,860	5.3
Kidney	Female	-	60,942	-	-	2.2	0.219	143	4,415,905	3.2
Larynx	Total	-	121,950	-	-	1.1	0.653	71	8,866,765	0.8
Larynx	Male	-	61,008	-	-	1.0	0.772	58	4,450,860	1.3
Larynx	Female	-	60,942	-	-	0.2	1.000	13	4,415,905	0.3
Leukemia	Total	11	121,950	9.0	7.7	10.4	0.943	649	8,866,765	7.3
Leukemia	Male	9	61,008	14.8	12.2	6.3	0.364	377	4,450,860	8.5
Leukemia	Female	2	60,942	3.3	2.9	4.2	0.408	272	4,415,905	6.2
Liver and Bile Duct	Total	10	121,950	8.2	7.2	9.2	0.887	593	8,866,765	6.7
Liver and Bile Duct	Male	8	61,008	13.1	11.4	6.3	0.598	400	4,450,860	9.0
Liver and Bile Duct	Female	2	60,942	3.3	2.9	3.0	0.856	193	4,415,905	4.4
Lung and Bronchus	Total	73	121,950	59.9	51.5	46.2	0.000 >>	2,888	8,866,765	32.6
Lung and Bronchus	Male	40	61,008	65.6	55.0	24.8	0.006 >>	1,516	4,450,860	34.1
Lung and Bronchus	Female	33	60,942	54.1	47.6	21.6	0.026 >>	1,372	4,415,905	31.1
Melanoma of the Skin	Total	4	121,950	3.3	2.9	4.5	1.000	285	8,866,765	3.2
Melanoma of the Skin	Male	2	61,008	3.3	2.8	3.1	0.820	190	4,450,860	4.3
Melanoma of the Skin	Female	2	60,942	3.3	2.9	1.5	0.858	95	4,415,905	2.2
Myeloma	Total	4	121,950	3.3	2.8	5.4	0.760	327	8,866,765	3.7
Myeloma	Male	3	61,008	4.9	4.0	3.3	1.000	193	4,450,860	4.3
Myeloma	Female	1	60,942	1.6	1.4	2.2	0.733	134	4,415,905	3.0
Non-Hodgkin Lymphoma	Total	12	121,950	9.8	8.4	9.0	0.392	557	8,866,765	6.3
Non-Hodgkin Lymphoma	Male	4	61,008	6.6	5.4	5.0	0.879	303	4,450,860	6.8
Non-Hodgkin Lymphoma	Female	8	60,942	13.1	11.5	4.0	0.102	254	4,415,905	5.8
Oral Cavity and Pharynx	Total	7	121,950	5.7	5.0	4.1	0.234	259	8,866,765	2.9
Oral Cavity and Pharynx	Male	5	61,008	8.2	7.1	2.9	0.336	182	4,450,860	4.1
Oral Cavity and Pharynx	Female	2	60,942	3.3	3.0	1.2	0.660	77	4,415,905	1.7
Ovary	Female	8	60,942	13.1	11.8	5.3	0.324	342	4,415,905	7.7
Pancreas	Total	17	121,950	13.9	12.1	18.6	0.829	1,173	8,866,765	13.2
Pancreas	Male	11	61,008	18.0	15.3	10.2	0.887	631	4,450,860	14.2
Pancreas	Female	6	60,942	9.8	8.7	8.4	0.528	542	4,415,905	12.3
Prostate	Male	18	61,008	29.5	23.4	16.1	0.703	931	4,450,860	20.9
Stomach	Total	1	121,950	0.8	0.7	3.1	0.376	197	8,866,765	2.2
Stomach	Male	1	61,008	1.6	1.4	1.9	0.844	120	4,450,860	2.7
Stomach	Female	-	60,942	-	-	1.2	0.631	77	4,415,905	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, 2020.

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 (BRFS) since 1984. These surveys are conducted with randomly selected adult Idahoans to measure population prevalences of risk factors for the major causes of death, including cancer. DPH provided data sets containing Behavioral Risk Factor Surveillance System (BRFSS) data from 2011 through 2021 to CDRI staff, who performed the analyses reported in these *County Profiles*. Analysis weights were poststratified to 2020 population estimates by age group, sex, and county, beginning with the BRFSS raked weights. Not all questions were asked in all years. 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* 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, 2011–2021

Measure	State of Idaho	HD 1	HD 2	HD 3	HD 4	HD 5	HD 6	HD 7	Payette County
Access to Care									
Have Health Insurance, Age <65 (2015–2021)	83.1%	82.8%	85.1%	77.2%	85.8%	78.9%	85.4%	85.4%	78.4%
Not See Doctor Due to Cost in Past Year (2015–2021)	12.6%	11.4%	11.8%	14.5%	12.4%	12.3%	11.8%	12.9%	15.8%
Cancer Screening									
Mammogram Past 2 Years, Age 50–74 (2014, 2016, 2018, 2020)	69.1%	67.0%	73.8%	68.2%	73.2%	64.8%	64.5%	67.1%	75.3%
Pap Test Past 3 Years, Cervix Intact Age 21–65 (2018, 2020)	71.2%	73.6%	73.6%	70.8%	72.9%	69.1%	69.5%	65.9%	.
Colorectal Cancer Screening, Age 50–75 (2018, 2020)	67.9%	66.9%	73.6%	71.4%	70.6%	61.7%	61.5%	64.7%	77.9%
Tobacco Use									
Current Tobacco User (2016–2021)	22.3%	26.7%	23.1%	23.6%	21.8%	21.4%	22.7%	16.9%	28.6%
Other Cancer-Related									
Healthy Weight by Body Mass Index, Age 20+ (2015–2021)	32.1%	32.8%	31.7%	27.9%	36.1%	29.8%	27.9%	31.9%	26.7%
Any Physical Activity Besides Job Past 30 Days (2015-2021)	78.7%	79.2%	78.1%	74.5%	83.2%	73.4%	76.3%	79.7%	73.3%
Meet Physical Activity Guidelines (2011, 2013, 2015, 2017, 2019)	21.9%	22.8%	19.4%	20.0%	25.2%	19.5%	20.4%	20.2%	14.1%
Home Ever Tested for Radon (2016, 2018, 2020)	23.0%	30.9%	18.2%	16.9%	25.1%	19.9%	23.0%	21.8%	14.8%

Access to Care

Have Health Insurance – 2015–2021
Statewide, 83.1% of adults aged 18–64 reported having health care coverage. Health care coverage differed significantly by race/ethnicity, with 86.0% of white non-Hispanics, compared to 64.8% of Hispanics and 83.3% of Native Americans, having health insurance. Spanish-speaking respondents were significantly less likely to be insured (33.3%) than English-speaking respondents (84.2%). Health care coverage differed significantly by age of respondent, with 79.8% of persons aged 18–29, and 87.8% of persons aged 50–64, having health insurance. Health care coverage differed significantly by county, with a range of 62.1% in Adams County to 91.6% in Oneida County having health insurance.

Not See Doctor Due to Cost in Past Year – 2015–2021
Statewide, 12.6% 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 (11.5% of white non-Hispanics, 19.2% of Hispanics, and 21.0% of Native Americans). Inability to see a doctor due to cost differed significantly by annual household income (24.9% for less than $15,000, 6.1% for greater than $50,000). Inability to see a doctor due to cost differed significantly by county, with a range of 7.4% in Franklin County to 17.5% in Power County.

Cancer Screening

Mammogram – 2014, 2016, 2018, 2020
Statewide, 69.1% of women aged 50–74 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 (72.1% versus 36.7%). Mammography rates differed significantly by county, with a range in screening of 45.9% in Benewah County to 77.0% in Nez Perce County. In 2020, Idaho ranked 48th among states and the District of Columbia for mammography screening rates among women aged 50–74 and also 48th among ages 40+.

Pap Test – 2018, 2020
Statewide, 71.2% 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 (75.1% versus 52.6% screened in the past 3 years). Pap screening differed significantly by county, with a range of 50.7% 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 – 2018, 2020
Statewide, 67.9% of adults aged 50–75 reported being current for colorectal cancer screening.** Persons with health insurance were over twice as likely to be current for colorectal cancer screening. In 2020, Idaho ranked 47th among states and the District of Columbia in the percentage of adults aged 50–75 and older who reported being up-to-date for colorectal cancer screening.

** 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, or a colonoscopy in the past 10 years.

Cancer Screening and Risk Factors

Tobacco Use

Current Tobacco Use – 2016–2021
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, 22.3% of adults aged 18 and older were current tobacco users. Tobacco use differed significantly by age of respondent, with 29.9% of persons aged 18-29, and 11.1% of persons aged 65 and older reporting current tobacco use. Tobacco use was lower among white non-Hispanics (22.4%) than among Native Americans (40.0%). Tobacco use differed significantly by county, with a range of 5.4% in Madison County to 41.6% 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 – 2015–2021
Statewide, 32.1% 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 32.5% of white non-Hispanics, compared to 28.2% of Hispanics and 24.6% of Native Americans, being in the healthy weight range. Males (25.5%) were significantly less likely to be in the healthy weight range than females (38.6%). BMI differed significantly by age of respondent, with 43.3% of persons aged 18–29, and 26.0% of persons aged 50–64, being in the healthy weight range. BMI differed significantly by county, with a range of 19.8% in Power County to 47.4% in Blaine County of adults being in the healthy weight range.

Any Physical Activity – 2015-2021
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, 78.7% 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 83.3% of persons aged 18–29, and 72.3% 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 64.3% in Clark County to 84.6% in Teton County.

Physical Activity Guidelines – 2011, 2013, 2015, 2017, 2019
Statewide, 21.9% 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 26.3% 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 9.6% in Franklin County to 30.6% in Blaine County.

Home Radon Testing – 2016, 2018, 2020
Statewide, 23.0% of adults have ever tested their house for radon. Radon test usage varied significantly by race/ethnicity, with 25.1% of white non-Hispanics, 7.4% 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 8.5% in Cassia County to 54.4% in Blaine County.

This project has been funded in whole or in part with Federal funds from the National Cancer Institute, National Institutes of Health, Department of Health and Human Services, under Contract No. HHSN261201800006I and the Centers for Disease Control and Prevention, Department of Health and Human Services, under Cooperative Agreement NU58DP007160. The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention or the National Cancer Institute.

POWER COUNTY CANCER PROFILE

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

Cancer Incidence 2016–2020
Cancer Mortality 2017–2021
BRFSS 2011–2021

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.2016.3332). 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 2016–2020

Nearly one in two Idahoans are estimated to develop cancer during their lifetime. During 2016–2020, 45,610 cases of invasive cancer were diagnosed among Idaho residents, and 160 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, 2016–2020

Cancer Incidence 2016–2020	Power County	State of Idaho
All Sites/Types	**160**	**45,610**
Female Breast	**24**	**6,687**
Prostate	**20**	**6,417**
Lung & Bronchus	**15**	**4,887**
Colorectal	**15**	**3,451**

Table 3 (*Cancer Incidence 2016–2020, 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 419.1 cases per 100,000 person-years per year during 2016–2020. Comparing this crude rate with the crude rate for the remainder of Idaho (520.4) 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 429.1 cases per 100,000 persons per year during 2016–2020. There were statistically significantly fewer cases of cancer in Power County (160) than expected (194.1) based upon rates in the remainder of the state (p=.013).

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 2017–2021

During 2017–2021, cancer was the second leading cause of death in Idaho; 15,121 Idaho residents and 58 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, 2017–2021

Mortality 2017–2021	Power County	State of Idaho
All Deaths	**344**	**77,431**
Cancer Deaths	**58**	**15,121**
% of All Deaths	*16.9%*	*19.5%*
Lung & Bronchus	**9**	**2,961**
Colorectal	**7**	**1,319**
Pancreas	**3**	**1,190**
Female Breast	**5**	**1,086**
Prostate	**4**	**949**

Table 4 (*Cancer Mortality 2017–2021, 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 152.4 deaths per 100,000 persons per year during 2017–2021, compared with 168.3 for the remainder of the state. There were fewer cancer deaths in Power County (58) than expected (64.1) 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 2016–2020
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	160	38,173	419.1	429.1	194.1	0.013 <<	45,450	8,733,655	520.4
All Sites Combined	Male	82	19,348	423.8	420.2	107.9	0.011 <<	24,207	4,377,562	553.0
All Sites Combined	Female	78	18,825	414.3	436.1	87.2	0.351	21,243	4,356,093	487.7
Bladder	Total	5	38,173	13.1	13.2	9.4	0.183	2,179	8,733,655	24.9
Bladder	Male	4	19,348	20.7	20.3	7.9	0.214	1,747	4,377,562	39.9
Bladder	Female	1	18,825	5.3	5.5	1.8	0.926	432	4,356,093	9.9
Brain - malignant	Total	1	38,173	2.6	2.7	2.7	0.507	624	8,733,655	7.1
Brain - malignant	Male	-	19,348	-	-	1.6	0.386	375	4,377,562	8.6
Brain - malignant	Female	1	18,825	5.3	5.4	1.1	1.000	249	4,356,093	5.7
Brain and other CNS - non-malignant	Total	7	38,173	18.3	18.9	6.0	0.788	1,417	8,733,655	16.2
Brain and other CNS - non-malignant	Male	2	19,348	10.3	10.5	2.1	1.000	478	4,377,562	10.9
Brain and other CNS - non-malignant	Female	5	18,825	26.6	28.0	3.9	0.686	939	4,356,093	21.6
Breast	Total	24	38,173	62.9	65.3	28.3	0.487	6,722	8,733,655	77.0
Breast	Male	-	19,348	-	-	0.3	1.000	59	4,377,562	1.3
Breast	Female	24	18,825	127.5	135.3	27.1	0.630	6,663	4,356,093	153.0
Breast - in situ	Total	7	38,173	18.3	19.2	5.1	0.520	1,232	8,733,655	14.1
Breast - in situ	Male	-	19,348	-	-	0.0	1.000	5	4,377,562	0.1
Breast - in situ	Female	7	18,825	37.2	39.7	5.0	0.468	1,227	4,356,093	28.2
Cervix	Female	1	18,825	5.3	5.9	1.2	1.000	303	4,356,093	7.0
Colorectal	Total	15	38,173	39.3	40.3	14.7	0.998	3,436	8,733,655	39.3
Colorectal	Male	13	19,348	67.2	67.0	8.4	0.168	1,890	4,377,562	43.2
Colorectal	Female	2	18,825	10.6	11.1	6.4	0.095	1,546	4,356,093	35.5
Corpus Uteri	Female	6	18,825	31.9	33.6	5.4	0.918	1,324	4,356,093	30.4
Esophagus	Total	2	38,173	5.2	5.3	2.2	1.000	504	8,733,655	5.8
Esophagus	Male	2	19,348	10.3	10.2	1.9	1.000	422	4,377,562	9.6
Esophagus	Female	-	18,825	-	-	0.3	1.000	82	4,356,093	1.9
Hodgkin Lymphoma	Total	1	38,173	2.6	2.7	0.9	1.000	209	8,733,655	2.4
Hodgkin Lymphoma	Male	1	19,348	5.2	5.4	0.5	0.783	117	4,377,562	2.7
Hodgkin Lymphoma	Female	-	18,825	-	-	0.4	1.000	92	4,356,093	2.1
Kidney and Renal Pelvis	Total	11	38,173	28.8	29.6	7.7	0.308	1,804	8,733,655	20.7
Kidney and Renal Pelvis	Male	8	19,348	41.3	41.5	5.2	0.303	1,174	4,377,562	26.8
Kidney and Renal Pelvis	Female	3	18,825	15.9	16.6	2.6	0.968	630	4,356,093	14.5
Larynx	Total	1	38,173	2.6	2.7	0.9	1.000	214	8,733,655	2.5
Larynx	Male	1	19,348	5.2	5.1	0.7	1.000	159	4,377,562	3.6
Larynx	Female	-	18,825	-	-	0.2	1.000	55	4,356,093	1.3
Leukemia	Total	9	38,173	23.6	23.7	7.0	0.554	1,622	8,733,655	18.6
Leukemia	Male	1	19,348	5.2	5.1	4.4	0.128	988	4,377,562	22.6
Leukemia	Female	8	18,825	42.5	43.7	2.7	0.012 >>	634	4,356,093	14.6
Liver and Bile Duct	Total	-	38,173	-	-	3.6	0.056	829	8,733,655	9.5
Liver and Bile Duct	Male	-	19,348	-	-	2.6	0.143	590	4,377,562	13.5
Liver and Bile Duct	Female	-	18,825	-	-	1.0	0.740	239	4,356,093	5.5
Lung and Bronchus	Total	15	38,173	39.3	39.6	21.1	0.214	4,872	8,733,655	55.8
Lung and Bronchus	Male	8	19,348	41.3	40.5	11.0	0.460	2,444	4,377,562	55.8
Lung and Bronchus	Female	7	18,825	37.2	38.5	10.1	0.418	2,428	4,356,093	55.7
Melanoma of the Skin	Total	9	38,173	23.6	24.5	12.4	0.425	2,933	8,733,655	33.6
Melanoma of the Skin	Male	5	19,348	25.8	25.9	7.7	0.431	1,760	4,377,562	40.2
Melanoma of the Skin	Female	4	18,825	21.2	22.7	4.7	0.972	1,173	4,356,093	26.9
Myeloma	Total	1	38,173	2.6	2.7	3.0	0.385	707	8,733,655	8.1
Myeloma	Male	1	19,348	5.2	5.1	2.0	0.825	440	4,377,562	10.1
Myeloma	Female	-	18,825	-	-	1.1	0.665	267	4,356,093	6.1
Non-Hodgkin Lymphoma	Total	2	38,173	5.2	5.3	8.3	0.022 <<	1,938	8,733,655	22.2
Non-Hodgkin Lymphoma	Male	-	19,348	-	-	5.0	0.013 <<	1,129	4,377,562	25.8
Non-Hodgkin Lymphoma	Female	2	18,825	10.6	11.1	3.3	0.700	809	4,356,093	18.6
Oral Cavity and Pharynx	Total	3	38,173	7.9	8.0	5.5	0.399	1,292	8,733,655	14.8
Oral Cavity and Pharynx	Male	1	19,348	5.2	5.1	4.2	0.161	935	4,377,562	21.4
Oral Cavity and Pharynx	Female	2	18,825	10.6	11.2	1.5	0.863	357	4,356,093	8.2
Ovary	Female	2	18,825	10.6	11.2	2.2	1.000	531	4,356,093	12.2
Pancreas	Total	6	38,173	15.7	16.0	6.1	1.000	1,417	8,733,655	16.2
Pancreas	Male	4	19,348	20.7	20.4	3.5	0.923	780	4,377,562	17.8
Pancreas	Female	2	18,825	10.6	11.0	2.6	1.000	637	4,356,093	14.6
Prostate	Male	20	19,348	103.4	101.9	28.7	0.115	6,397	4,377,562	146.1
Stomach	Total	3	38,173	7.9	8.0	2.0	0.640	464	8,733,655	5.3
Stomach	Male	1	19,348	5.2	5.1	1.4	1.000	308	4,377,562	7.0
Stomach	Female	2	18,825	10.6	11.2	0.6	0.269	156	4,356,093	3.6
Testis	Male	-	19,348	-	-	1.1	0.699	265	4,377,562	6.1
Thyroid	Total	4	38,173	10.5	11.3	4.9	0.902	1,216	8,733,655	13.9
Thyroid	Male	1	19,348	5.2	5.4	1.5	1.000	354	4,377,562	8.1
Thyroid	Female	3	18,825	15.9	17.4	3.4	1.000	862	4,356,093	19.8
Pediatric Age 0 to 19	Total	3	12,818	23.4	23.7	2.2	0.736	418	2,447,705	17.1
Pediatric Age 0 to 19	Male	-	6,525	-	-	1.2	0.628	223	1,249,985	17.8
Pediatric Age 0 to 19	Female	3	6,293	47.7	48.7	1.0	0.161	195	1,197,720	16.3

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 2017–2021
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	344	38,470	894.2	901.5	328.7	0.411	77,086	8,950,245	861.3
All Causes of Death	Male	177	19,514	907.0	898.6	179.2	0.906	40,879	4,492,354	910.0
All Causes of Death	Female	167	18,956	881.0	899.1	150.9	0.206	36,207	4,457,891	812.2
All Malignant Cancers	Total	58	38,470	150.8	152.4	64.1	0.493	15,063	8,950,245	168.3
All Malignant Cancers	Male	34	19,514	174.2	171.8	35.9	0.841	8,142	4,492,354	181.2
All Malignant Cancers	Female	24	18,956	126.6	130.6	28.5	0.458	6,921	4,457,891	155.3
Bladder	Total	1	38,470	2.6	2.6	2.1	0.760	488	8,950,245	5.5
Bladder	Male	1	19,514	5.1	5.0	1.7	0.998	377	4,492,354	8.4
Bladder	Female	-	18,956	-	-	0.5	1.000	111	4,457,891	2.5
Brain and Other Nervous System	Total	1	38,470	2.6	2.7	2.1	0.750	503	8,950,245	5.6
Brain and Other Nervous System	Male	-	19,514	-	-	1.3	0.549	298	4,492,354	6.6
Brain and Other Nervous System	Female	1	18,956	5.3	5.5	0.8	1.000	205	4,457,891	4.6
Breast	Total	5	38,470	13.0	13.3	4.6	0.980	1,097	8,950,245	12.3
Breast	Male	-	19,514	-	-	0.1	1.000	16	4,492,354	0.4
Breast	Female	5	18,956	26.4	27.4	4.4	0.905	1,081	4,457,891	24.2
Cervix	Female	1	18,956	5.3	5.7	0.3	0.548	82	4,457,891	1.8
Colorectal	Total	7	38,470	18.2	18.5	5.5	0.643	1,312	8,950,245	14.7
Colorectal	Male	5	19,514	25.6	25.5	3.1	0.410	714	4,492,354	15.9
Colorectal	Female	2	18,956	10.6	10.9	2.5	1.000	598	4,457,891	13.4
Corpus Uteri	Female	-	18,956	-	-	0.7	0.987	173	4,457,891	3.9
Esophagus	Total	1	38,470	2.6	2.6	2.0	0.801	476	8,950,245	5.3
Esophagus	Male	1	19,514	5.1	5.1	1.8	0.954	400	4,492,354	8.9
Esophagus	Female	-	18,956	-	-	0.3	1.000	76	4,457,891	1.7
Hodgkin Lymphoma	Total	-	38,470	-	-	0.1	1.000	29	8,950,245	0.3
Hodgkin Lymphoma	Male	-	19,514	-	-	0.1	1.000	14	4,492,354	0.3
Hodgkin Lymphoma	Female	-	18,956	-	-	0.1	1.000	15	4,457,891	0.3
Kidney	Total	1	38,470	2.6	2.6	1.6	1.000	384	8,950,245	4.3
Kidney	Male	1	19,514	5.1	5.1	1.1	1.000	241	4,492,354	5.4
Kidney	Female	-	18,956	-	-	0.6	1.000	143	4,457,891	3.2
Larynx	Total	-	38,470	-	-	0.3	1.000	71	8,950,245	0.8
Larynx	Male	-	19,514	-	-	0.3	1.000	58	4,492,354	1.3
Larynx	Female	-	18,956	-	-	0.1	1.000	13	4,457,891	0.3
Leukemia	Total	3	38,470	7.8	7.8	2.8	1.000	657	8,950,245	7.3
Leukemia	Male	1	19,514	5.1	5.0	1.7	0.987	385	4,492,354	8.6
Leukemia	Female	2	18,956	10.6	10.8	1.1	0.628	272	4,457,891	6.1
Liver and Bile Duct	Total	-	38,470	-	-	2.6	0.155	603	8,950,245	6.7
Liver and Bile Duct	Male	-	19,514	-	-	1.8	0.335	408	4,492,354	9.1
Liver and Bile Duct	Female	-	18,956	-	-	0.8	0.894	195	4,457,891	4.4
Lung and Bronchus	Total	9	38,470	23.4	23.5	12.6	0.387	2,952	8,950,245	33.0
Lung and Bronchus	Male	6	19,514	30.7	30.3	6.8	0.948	1,550	4,492,354	34.5
Lung and Bronchus	Female	3	18,956	15.8	16.2	5.8	0.338	1,402	4,457,891	31.4
Melanoma of the Skin	Total	1	38,470	2.6	2.7	1.2	1.000	288	8,950,245	3.2
Melanoma of the Skin	Male	-	19,514	-	-	0.8	0.866	192	4,492,354	4.3
Melanoma of the Skin	Female	1	18,956	5.3	5.5	0.4	0.646	96	4,457,891	2.2
Myeloma	Total	-	38,470	-	-	1.4	0.481	331	8,950,245	3.7
Myeloma	Male	-	19,514	-	-	0.9	0.835	196	4,492,354	4.4
Myeloma	Female	-	18,956	-	-	0.6	1.000	135	4,457,891	3.0
Non-Hodgkin Lymphoma	Total	3	38,470	7.8	7.8	2.4	0.874	566	8,950,245	6.3
Non-Hodgkin Lymphoma	Male	-	19,514	-	-	1.4	0.515	307	4,492,354	6.8
Non-Hodgkin Lymphoma	Female	3	18,956	15.8	16.2	1.1	0.191	259	4,457,891	5.8
Oral Cavity and Pharynx	Total	-	38,470	-	-	1.1	0.649	266	8,950,245	3.0
Oral Cavity and Pharynx	Male	-	19,514	-	-	0.8	0.883	187	4,492,354	4.2
Oral Cavity and Pharynx	Female	-	18,956	-	-	0.3	1.000	79	4,457,891	1.8
Ovary	Female	4	18,956	21.1	21.9	1.4	0.112	346	4,457,891	7.8
Pancreas	Total	3	38,470	7.8	7.9	5.0	0.520	1,187	8,950,245	13.3
Pancreas	Male	3	19,514	15.4	15.3	2.8	1.000	639	4,492,354	14.2
Pancreas	Female	-	18,956	-	-	2.3	0.208	548	4,457,891	12.3
Prostate	Male	4	19,514	20.5	20.0	4.2	1.000	945	4,492,354	21.0
Stomach	Total	1	38,470	2.6	2.7	0.8	1.000	197	8,950,245	2.2
Stomach	Male	-	19,514	-	-	0.5	1.000	121	4,492,354	2.7
Stomach	Female	1	18,956	5.3	5.5	0.3	0.531	76	4,457,891	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, 2020.

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 (BRFS) since 1984. These surveys are conducted with randomly selected adult Idahoans to measure population prevalences of risk factors for the major causes of death, including cancer. DPH provided data sets containing Behavioral Risk Factor Surveillance System (BRFSS) data from 2011 through 2021 to CDRI staff, who performed the analyses reported in these *County Profiles*. Analysis weights were poststratified to 2020 population estimates by age group, sex, and county, beginning with the BRFSS raked weights. Not all questions were asked in all years. 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* 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, 2011–2021

Measure	State of Idaho	HD 1	HD 2	HD 3	HD 4	HD 5	HD 6	HD 7	Power County
Access to Care									
Have Health Insurance, Age <65 (2015–2021)	83.1%	82.8%	85.1%	77.2%	85.8%	78.9%	85.4%	85.4%	75.7%
Not See Doctor Due to Cost in Past Year (2015–2021)	12.6%	11.4%	11.8%	14.5%	12.4%	12.3%	11.8%	12.9%	17.5%
Cancer Screening									
Mammogram Past 2 Years, Age 50–74 (2014, 2016, 2018, 2020)	69.1%	67.0%	73.8%	68.2%	73.2%	64.8%	64.5%	67.1%	.
Pap Test Past 3 Years, Cervix Intact Age 21–65 (2018, 2020)	71.2%	73.6%	73.6%	70.8%	72.9%	69.1%	69.5%	65.9%	.
Colorectal Cancer Screening, Age 50–75 (2018, 2020)	67.9%	66.9%	73.6%	71.4%	70.6%	61.7%	61.5%	64.7%	.
Tobacco Use									
Current Tobacco User (2016–2021)	22.3%	26.7%	23.1%	23.6%	21.8%	21.4%	22.7%	16.9%	22.5%
Other Cancer-Related									
Healthy Weight by Body Mass Index, Age 20+ (2015–2021)	32.1%	32.8%	31.7%	27.9%	36.1%	29.8%	27.9%	31.9%	19.8%
Any Physical Activity Besides Job Past 30 Days (2015-2021)	78.7%	79.2%	78.1%	74.5%	83.2%	73.4%	76.3%	79.7%	69.5%
Meet Physical Activity Guidelines (2011, 2013, 2015, 2017, 2019)	21.9%	22.8%	19.4%	20.0%	25.2%	19.5%	20.4%	20.2%	16.2%
Home Ever Tested for Radon (2016, 2018, 2020)	23.0%	30.9%	18.2%	16.9%	25.1%	19.9%	23.0%	21.8%	21.0%

Access to Care

Have Health Insurance – 2015–2021
Statewide, 83.1% of adults aged 18–64 reported having health care coverage. Health care coverage differed significantly by race/ethnicity, with 86.0% of white non-Hispanics, compared to 64.8% of Hispanics and 83.3% of Native Americans, having health insurance. Spanish-speaking respondents were significantly less likely to be insured (33.3%) than English-speaking respondents (84.2%). Health care coverage differed significantly by age of respondent, with 79.8% of persons aged 18–29, and 87.8% of persons aged 50–64, having health insurance. Health care coverage differed significantly by county, with a range of 62.1% in Adams County to 91.6% in Oneida County having health insurance.

Not See Doctor Due to Cost in Past Year – 2015–2021
Statewide, 12.6% 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 (11.5% of white non-Hispanics, 19.2% of Hispanics, and 21.0% of Native Americans). Inability to see a doctor due to cost differed significantly by annual household income (24.9% for less than $15,000, 6.1% for greater than $50,000). Inability to see a doctor due to cost differed significantly by county, with a range of 7.4% in Franklin County to 17.5% in Power County.

Cancer Screening

Mammogram – 2014, 2016, 2018, 2020
Statewide, 69.1% of women aged 50–74 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 (72.1% versus 36.7%). Mammography rates differed significantly by county, with a range in screening of 45.9% in Benewah County to 77.0% in Nez Perce County. In 2020, Idaho ranked 48th among states and the District of Columbia for mammography screening rates among women aged 50–74 and also 48th among ages 40+.

Pap Test – 2018, 2020
Statewide, 71.2% 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 (75.1% versus 52.6% screened in the past 3 years). Pap screening differed significantly by county, with a range of 50.7% 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 – 2018, 2020
Statewide, 67.9% of adults aged 50–75 reported being current for colorectal cancer screening.** Persons with health insurance were over twice as likely to be current for colorectal cancer screening. In 2020, Idaho ranked 47th among states and the District of Columbia in the percentage of adults aged 50–75 and older who reported being up-to-date for colorectal cancer screening.

** 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, or a colonoscopy in the past 10 years.

Cancer Screening and Risk Factors

Tobacco Use

Current Tobacco Use – 2016–2021
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, 22.3% of adults aged 18 and older were current tobacco users. Tobacco use differed significantly by age of respondent, with 29.9% of persons aged 18-29, and 11.1% of persons aged 65 and older reporting current tobacco use. Tobacco use was lower among white non-Hispanics (22.4%) than among Native Americans (40.0%). Tobacco use differed significantly by county, with a range of 5.4% in Madison County to 41.6% 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 – 2015–2021
Statewide, 32.1% 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 32.5% of white non-Hispanics, compared to 28.2% of Hispanics and 24.6% of Native Americans, being in the healthy weight range. Males (25.5%) were significantly less likely to be in the healthy weight range than females (38.6%). BMI differed significantly by age of respondent, with 43.3% of persons aged 18–29, and 26.0% of persons aged 50–64, being in the healthy weight range. BMI differed significantly by county, with a range of 19.8% in Power County to 47.4% in Blaine County of adults being in the healthy weight range.

Any Physical Activity – 2015-2021
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, 78.7% 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 83.3% of persons aged 18–29, and 72.3% 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 64.3% in Clark County to 84.6% in Teton County.

Physical Activity Guidelines – 2011, 2013, 2015, 2017, 2019
Statewide, 21.9% 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 26.3% 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 9.6% in Franklin County to 30.6% in Blaine County.

Home Radon Testing – 2016, 2018, 2020
Statewide, 23.0% of adults have ever tested their house for radon. Radon test usage varied significantly by race/ethnicity, with 25.1% of white non-Hispanics, 7.4% 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 8.5% in Cassia County to 54.4% in Blaine County.

This project has been funded in whole or in part with Federal funds from the National Cancer Institute, National Institutes of Health, Department of Health and Human Services, under Contract No. HHSN261201800006I and the Centers for Disease Control and Prevention, Department of Health and Human Services, under Cooperative Agreement NU58DP007160. The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention or the National Cancer Institute.

SHOSHONE COUNTY CANCER PROFILE

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

Cancer Incidence 2016–2020
Cancer Mortality 2017–2021
BRFSS 2011–2021

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.2016.3332). 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 2016–2020

Nearly one in two Idahoans are estimated to develop cancer during their lifetime. During 2016–2020, 45,610 cases of invasive cancer were diagnosed among Idaho residents, and 500 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, 2016–2020

Cancer Incidence 2016–2020	Shoshone County	State of Idaho
All Sites/Types	**500**	**45,610**
Female Breast	**49**	**6,687**
Prostate	**72**	**6,417**
Lung & Bronchus	**93**	**4,887**
Colorectal	**52**	**3,451**

Table 3 (*Cancer Incidence 2016–2020, 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 787.4 cases per 100,000 person-years per year during 2016–2020. Comparing this crude rate with the crude rate for the remainder of Idaho (518.0) 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 582.1 cases per 100,000 persons per year during 2016–2020. There were statistically significantly more cases of cancer in Shoshone County (500) than expected (444.9) based upon rates in the remainder of the state (p=.011).

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 2017–2021

During 2017–2021, cancer was the second leading cause of death in Idaho; 15,121 Idaho residents and 171 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, 2017–2021

Mortality 2017–2021	Shoshone County	State of Idaho
All Deaths	**998**	**77,431**
Cancer Deaths	**171**	**15,121**
% of All Deaths	*17.1%*	*19.5%*
Lung & Bronchus	**53**	**2,961**
Colorectal	**19**	**1,319**
Pancreas	**14**	**1,190**
Female Breast	**6**	**1,086**
Prostate	**12**	**949**

Table 4 (*Cancer Mortality 2017–2021, 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 190.1 deaths per 100,000 persons per year during 2017–2021, compared with 167.5 for the remainder of the state. There were more cancer deaths in Shoshone County (171) than expected (150.7) 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 2016–2020
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	500	63,499	787.4	582.1	444.9	0.011 >>	45,110	8,708,329	518.0
All Sites Combined	Male	295	31,957	923.1	666.9	243.2	0.001 >>	23,994	4,364,953	549.7
All Sites Combined	Female	205	31,542	649.9	492.9	202.2	0.862	21,116	4,343,376	486.2
Bladder	Total	21	63,499	33.1	23.2	22.5	0.867	2,163	8,708,329	24.8
Bladder	Male	17	31,957	53.2	37.4	18.1	0.927	1,734	4,364,953	39.7
Bladder	Female	4	31,542	12.7	9.0	4.4	1.000	429	4,343,376	9.9
Brain - malignant	Total	4	63,499	6.3	5.1	5.6	0.671	621	8,708,329	7.1
Brain - malignant	Male	2	31,957	6.3	5.0	3.4	0.673	373	4,364,953	8.5
Brain - malignant	Female	2	31,542	6.3	5.1	2.3	1.000	248	4,343,376	5.7
Brain and other CNS - non-malignant	Total	11	63,499	17.3	13.5	13.2	0.664	1,413	8,708,329	16.2
Brain and other CNS - non-malignant	Male	3	31,957	9.4	7.5	4.4	0.719	477	4,364,953	10.9
Brain and other CNS - non-malignant	Female	8	31,542	25.4	19.7	8.8	0.976	936	4,343,376	21.6
Breast	Total	50	63,499	78.7	59.8	64.3	0.077	6,696	8,708,329	76.9
Breast	Male	1	31,957	3.1	2.3	0.6	0.884	58	4,364,953	1.3
Breast	Female	49	31,542	155.3	119.2	62.8	0.084	6,638	4,343,376	152.8
Breast - in situ	Total	7	63,499	11.0	8.4	11.7	0.204	1,232	8,708,329	14.1
Breast - in situ	Male	-	31,957	-	-	0.0	1.000	5	4,364,953	0.1
Breast - in situ	Female	7	31,542	22.2	17.3	11.4	0.233	1,227	4,343,376	28.2
Cervix	Female	4	31,542	12.7	11.8	2.3	0.415	300	4,343,376	6.9
Colorectal	Total	52	63,499	81.9	60.9	33.3	0.003 >>	3,399	8,708,329	39.0
Colorectal	Male	31	31,957	97.0	71.9	18.5	0.010 >>	1,872	4,364,953	42.9
Colorectal	Female	21	31,542	66.6	49.6	14.9	0.157	1,527	4,343,376	35.2
Corpus Uteri	Female	16	31,542	50.7	38.5	12.6	0.402	1,314	4,343,376	30.3
Esophagus	Total	4	63,499	6.3	4.5	5.1	0.840	502	8,708,329	5.8
Esophagus	Male	4	31,957	12.5	8.9	4.3	1.000	420	4,364,953	9.6
Esophagus	Female	-	31,542	-	-	0.8	0.867	82	4,343,376	1.9
Hodgkin Lymphoma	Total	-	63,499	-	-	1.6	0.394	210	8,708,329	2.4
Hodgkin Lymphoma	Male	-	31,957	-	-	0.9	0.779	118	4,364,953	2.7
Hodgkin Lymphoma	Female	-	31,542	-	-	0.7	1.000	92	4,343,376	2.1
Kidney and Renal Pelvis	Total	18	63,499	28.3	21.2	17.6	0.978	1,797	8,708,329	20.6
Kidney and Renal Pelvis	Male	11	31,957	34.4	25.5	11.6	1.000	1,171	4,364,953	26.8
Kidney and Renal Pelvis	Female	7	31,542	22.2	16.7	6.0	0.796	626	4,343,376	14.4
Larynx	Total	2	63,499	3.1	2.3	2.2	1.000	213	8,708,329	2.4
Larynx	Male	1	31,957	3.1	2.2	1.6	1.000	159	4,364,953	3.6
Larynx	Female	1	31,542	3.2	2.3	0.5	0.822	54	4,343,376	1.2
Leukemia	Total	18	63,499	28.3	21.2	15.7	0.628	1,613	8,708,329	18.5
Leukemia	Male	13	31,957	40.7	30.5	9.5	0.332	976	4,364,953	22.4
Leukemia	Female	5	31,542	15.9	11.9	6.2	0.833	637	4,343,376	14.7
Liver and Bile Duct	Total	12	63,499	18.9	13.6	8.3	0.266	817	8,708,329	9.4
Liver and Bile Duct	Male	8	31,957	25.0	17.8	6.0	0.510	582	4,364,953	13.3
Liver and Bile Duct	Female	4	31,542	12.7	9.3	2.3	0.415	235	4,343,376	5.4
Lung and Bronchus	Total	93	63,499	146.5	102.6	49.9	0.000 >>	4,794	8,708,329	55.1
Lung and Bronchus	Male	54	31,957	169.0	117.5	25.3	0.000 >>	2,398	4,364,953	54.9
Lung and Bronchus	Female	39	31,542	123.6	87.4	24.6	0.009 >>	2,396	4,343,376	55.2
Melanoma of the Skin	Total	16	63,499	25.2	19.3	27.9	0.021 <<	2,926	8,708,329	33.6
Melanoma of the Skin	Male	13	31,957	40.7	30.2	17.3	0.367	1,752	4,364,953	40.1
Melanoma of the Skin	Female	3	31,542	9.5	7.6	10.6	0.013 <<	1,174	4,343,376	27.0
Myeloma	Total	5	63,499	7.9	5.6	7.2	0.549	703	8,708,329	8.1
Myeloma	Male	1	31,957	3.1	2.2	4.6	0.117	440	4,364,953	10.1
Myeloma	Female	4	31,542	12.7	9.1	2.7	0.557	263	4,343,376	6.1
Non-Hodgkin Lymphoma	Total	16	63,499	25.2	18.7	18.9	0.600	1,924	8,708,329	22.1
Non-Hodgkin Lymphoma	Male	7	31,957	21.9	16.3	11.1	0.279	1,122	4,364,953	25.7
Non-Hodgkin Lymphoma	Female	9	31,542	28.5	21.1	7.9	0.784	802	4,343,376	18.5
Oral Cavity and Pharynx	Total	16	63,499	25.2	18.5	12.7	0.425	1,279	8,708,329	14.7
Oral Cavity and Pharynx	Male	14	31,957	43.8	31.7	9.3	0.183	922	4,364,953	21.1
Oral Cavity and Pharynx	Female	2	31,542	6.3	4.7	3.5	0.653	357	4,343,376	8.2
Ovary	Female	5	31,542	15.9	12.1	5.0	1.000	528	4,343,376	12.2
Pancreas	Total	16	63,499	25.2	18.0	14.4	0.738	1,407	8,708,329	16.2
Pancreas	Male	7	31,957	21.9	15.6	8.0	0.911	777	4,364,953	17.8
Pancreas	Female	9	31,542	28.5	20.4	6.4	0.392	630	4,343,376	14.5
Prostate	Male	72	31,957	225.3	156.5	66.9	0.564	6,345	4,364,953	145.4
Stomach	Total	4	63,499	6.3	4.6	4.6	1.000	463	8,708,329	5.3
Stomach	Male	4	31,957	12.5	9.0	3.1	0.752	305	4,364,953	7.0
Stomach	Female	-	31,542	-	-	1.5	0.429	158	4,343,376	3.6
Testis	Male	5	31,957	15.6	17.4	1.7	0.061	260	4,364,953	6.0
Thyroid	Total	7	63,499	11.0	9.9	9.8	0.469	1,213	8,708,329	13.9
Thyroid	Male	5	31,957	15.6	13.2	3.0	0.383	350	4,364,953	8.0
Thyroid	Female	2	31,542	6.3	5.9	6.7	0.072	863	4,343,376	19.9
Pediatric Age 0 to 19	Total	3	14,059	21.3	21.0	2.4	0.882	418	2,446,464	17.1
Pediatric Age 0 to 19	Male	3	7,242	41.4	40.4	1.3	0.289	220	1,249,268	17.6
Pediatric Age 0 to 19	Female	-	6,817	-	-	1.1	0.642	198	1,197,196	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 2017–2021
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	998	64,683	1,542.9	1,131.9	755.2	0.000 >>	76,432	8,924,032	856.5
All Causes of Death	Male	553	32,642	1,694.1	1,303.0	383.8	0.000 >>	40,503	4,479,226	904.2
All Causes of Death	Female	445	32,041	1,388.8	966.1	372.3	0.000 >>	35,929	4,444,806	808.3
All Malignant Cancers	Total	171	64,683	264.4	190.1	150.7	0.111	14,950	8,924,032	167.5
All Malignant Cancers	Male	100	32,642	306.4	223.8	80.6	0.040 >>	8,076	4,479,226	180.3
All Malignant Cancers	Female	71	32,041	221.6	158.1	69.4	0.884	6,874	4,444,806	154.7
Bladder	Total	2	64,683	3.1	2.2	5.0	0.245	487	8,924,032	5.5
Bladder	Male	2	32,642	6.1	4.6	3.7	0.577	376	4,479,226	8.4
Bladder	Female	-	32,041	-	-	1.2	0.619	111	4,444,806	2.5
Brain and Other Nervous System	Total	3	64,683	4.6	3.5	4.8	0.600	501	8,924,032	5.6
Brain and Other Nervous System	Male	1	32,642	3.1	2.3	2.9	0.444	297	4,479,226	6.6
Brain and Other Nervous System	Female	2	32,041	6.2	4.8	1.9	1.000	204	4,444,806	4.6
Breast	Total	7	64,683	10.8	8.0	10.8	0.320	1,095	8,924,032	12.3
Breast	Male	1	32,642	3.1	2.3	0.1	0.276	15	4,479,226	0.3
Breast	Female	6	32,041	18.7	13.6	10.7	0.185	1,080	4,444,806	24.3
Cervix	Female	-	32,041	-	-	0.7	0.988	83	4,444,806	1.9
Colorectal	Total	19	64,683	29.4	21.5	12.9	0.131	1,300	8,924,032	14.6
Colorectal	Male	11	32,642	33.7	25.1	6.9	0.185	708	4,479,226	15.8
Colorectal	Female	8	32,041	25.0	17.7	6.0	0.516	592	4,444,806	13.3
Corpus Uteri	Female	2	32,041	6.2	4.5	1.7	1.000	171	4,444,806	3.8
Esophagus	Total	6	64,683	9.3	6.7	4.8	0.681	471	8,924,032	5.3
Esophagus	Male	6	32,642	18.4	13.3	4.0	0.426	395	4,479,226	8.8
Esophagus	Female	-	32,041	-	-	0.8	0.921	76	4,444,806	1.7
Hodgkin Lymphoma	Total	-	64,683	-	-	0.3	1.000	29	8,924,032	0.3
Hodgkin Lymphoma	Male	-	32,642	-	-	0.1	1.000	14	4,479,226	0.3
Hodgkin Lymphoma	Female	-	32,041	-	-	0.1	1.000	15	4,444,806	0.3
Kidney	Total	7	64,683	10.8	7.7	3.9	0.193	378	8,924,032	4.2
Kidney	Male	4	32,642	12.3	8.9	2.4	0.442	238	4,479,226	5.3
Kidney	Female	3	32,041	9.4	6.4	1.5	0.365	140	4,444,806	3.1
Larynx	Total	-	64,683	-	-	0.7	0.966	71	8,924,032	0.8
Larynx	Male	-	32,642	-	-	0.6	1.000	58	4,479,226	1.3
Larynx	Female	-	32,041	-	-	0.1	1.000	13	4,444,806	0.3
Leukemia	Total	3	64,683	4.6	3.3	6.6	0.210	657	8,924,032	7.4
Leukemia	Male	3	32,642	9.2	6.8	3.8	0.964	383	4,479,226	8.6
Leukemia	Female	-	32,041	-	-	2.8	0.119	274	4,444,806	6.2
Liver and Bile Duct	Total	10	64,683	15.5	11.1	6.0	0.167	593	8,924,032	6.6
Liver and Bile Duct	Male	8	32,642	24.5	17.5	4.1	0.112	400	4,479,226	8.9
Liver and Bile Duct	Female	2	32,041	6.2	4.5	1.9	1.000	193	4,444,806	4.3
Lung and Bronchus	Total	53	64,683	81.9	57.9	29.8	0.000 >>	2,908	8,924,032	32.6
Lung and Bronchus	Male	29	32,642	88.8	63.1	15.7	0.003 >>	1,527	4,479,226	34.1
Lung and Bronchus	Female	24	32,041	74.9	52.6	14.2	0.021 >>	1,381	4,444,806	31.1
Melanoma of the Skin	Total	6	64,683	9.3	6.8	2.8	0.130	283	8,924,032	3.2
Melanoma of the Skin	Male	3	32,642	9.2	6.9	1.8	0.563	189	4,479,226	4.2
Melanoma of the Skin	Female	3	32,041	9.4	6.9	0.9	0.131	94	4,444,806	2.1
Myeloma	Total	2	64,683	3.1	2.2	3.4	0.675	329	8,924,032	3.7
Myeloma	Male	-	32,642	-	-	2.0	0.270	196	4,479,226	4.4
Myeloma	Female	2	32,041	6.2	4.3	1.4	0.806	133	4,444,806	3.0
Non-Hodgkin Lymphoma	Total	2	64,683	3.1	2.2	5.8	0.144	567	8,924,032	6.4
Non-Hodgkin Lymphoma	Male	1	32,642	3.1	2.2	3.0	0.386	306	4,479,226	6.8
Non-Hodgkin Lymphoma	Female	1	32,041	3.1	2.1	2.7	0.482	261	4,444,806	5.9
Oral Cavity and Pharynx	Total	3	64,683	4.6	3.3	2.6	0.987	263	8,924,032	2.9
Oral Cavity and Pharynx	Male	3	32,642	9.2	6.6	1.9	0.572	184	4,479,226	4.1
Oral Cavity and Pharynx	Female	-	32,041	-	-	0.8	0.902	79	4,444,806	1.8
Ovary	Female	3	32,041	9.4	6.7	3.5	1.000	347	4,444,806	7.8
Pancreas	Total	14	64,683	21.6	15.4	11.9	0.625	1,176	8,924,032	13.2
Pancreas	Male	7	32,642	21.4	15.4	6.5	0.932	635	4,479,226	14.2
Pancreas	Female	7	32,041	21.8	15.5	5.5	0.622	541	4,444,806	12.2
Prostate	Male	12	32,642	36.8	27.2	9.2	0.441	937	4,479,226	20.9
Stomach	Total	1	64,683	1.5	1.1	1.9	0.851	197	8,924,032	2.2
Stomach	Male	1	32,642	3.1	2.3	1.2	1.000	120	4,479,226	2.7
Stomach	Female	-	32,041	-	-	0.7	0.948	77	4,444,806	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, 2020.

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 (BRFS) since 1984. These surveys are conducted with randomly selected adult Idahoans to measure population prevalences of risk factors for the major causes of death, including cancer. DPH provided data sets containing Behavioral Risk Factor Surveillance System (BRFSS) data from 2011 through 2021 to CDRI staff, who performed the analyses reported in these *County Profiles*. Analysis weights were poststratified to 2020 population estimates by age group, sex, and county, beginning with the BRFSS raked weights. Not all questions were asked in all years. 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* 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, 2011–2021

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 (2015–2021)	83.1%	82.8%	85.1%	77.2%	85.8%	78.9%	85.4%	85.4%	87.0%
Not See Doctor Due to Cost in Past Year (2015–2021)	12.6%	11.4%	11.8%	14.5%	12.4%	12.3%	11.8%	12.9%	11.6%
Cancer Screening									
Mammogram Past 2 Years, Age 50–74 (2014, 2016, 2018, 2020)	69.1%	67.0%	73.8%	68.2%	73.2%	64.8%	64.5%	67.1%	52.2%
Pap Test Past 3 Years, Cervix Intact Age 21–65 (2018, 2020)	71.2%	73.6%	73.6%	70.8%	72.9%	69.1%	69.5%	65.9%	.
Colorectal Cancer Screening, Age 50–75 (2018, 2020)	67.9%	66.9%	73.6%	71.4%	70.6%	61.7%	61.5%	64.7%	58.3%
Tobacco Use									
Current Tobacco User (2016–2021)	22.3%	26.7%	23.1%	23.6%	21.8%	21.4%	22.7%	16.9%	29.0%
Other Cancer-Related									
Healthy Weight by Body Mass Index, Age 20+ (2015–2021)	32.1%	32.8%	31.7%	27.9%	36.1%	29.8%	27.9%	31.9%	28.5%
Any Physical Activity Besides Job Past 30 Days (2015-2021)	78.7%	79.2%	78.1%	74.5%	83.2%	73.4%	76.3%	79.7%	75.5%
Meet Physical Activity Guidelines (2011, 2013, 2015, 2017, 2019)	21.9%	22.8%	19.4%	20.0%	25.2%	19.5%	20.4%	20.2%	19.0%
Home Ever Tested for Radon (2016, 2018, 2020)	23.0%	30.9%	18.2%	16.9%	25.1%	19.9%	23.0%	21.8%	29.2%

Access to Care

Have Health Insurance – 2015–2021
Statewide, 83.1% of adults aged 18–64 reported having health care coverage. Health care coverage differed significantly by race/ethnicity, with 86.0% of white non-Hispanics, compared to 64.8% of Hispanics and 83.3% of Native Americans, having health insurance. Spanish-speaking respondents were significantly less likely to be insured (33.3%) than English-speaking respondents (84.2%). Health care coverage differed significantly by age of respondent, with 79.8% of persons aged 18–29, and 87.8% of persons aged 50–64, having health insurance. Health care coverage differed significantly by county, with a range of 62.1% in Adams County to 91.6% in Oneida County having health insurance.

Not See Doctor Due to Cost in Past Year – 2015–2021
Statewide, 12.6% 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 (11.5% of white non-Hispanics, 19.2% of Hispanics, and 21.0% of Native Americans). Inability to see a doctor due to cost differed significantly by annual household income (24.9% for less than $15,000, 6.1% for greater than $50,000). Inability to see a doctor due to cost differed significantly by county, with a range of 7.4% in Franklin County to 17.5% in Power County.

Cancer Screening

Mammogram – 2014, 2016, 2018, 2020
Statewide, 69.1% of women aged 50–74 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 (72.1% versus 36.7%). Mammography rates differed significantly by county, with a range in screening of 45.9% in Benewah County to 77.0% in Nez Perce County. In 2020, Idaho ranked 48th among states and the District of Columbia for mammography screening rates among women aged 50–74 and also 48th among ages 40+.

Pap Test – 2018, 2020
Statewide, 71.2% 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 (75.1% versus 52.6% screened in the past 3 years). Pap screening differed significantly by county, with a range of 50.7% 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 – 2018, 2020
Statewide, 67.9% of adults aged 50–75 reported being current for colorectal cancer screening.** Persons with health insurance were over twice as likely to be current for colorectal cancer screening. In 2020, Idaho ranked 47th among states and the District of Columbia in the percentage of adults aged 50–75 and older who reported being up-to-date for colorectal cancer screening.

** 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, or a colonoscopy in the past 10 years.

Cancer Screening and Risk Factors

Tobacco Use

Current Tobacco Use – 2016–2021
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, 22.3% of adults aged 18 and older were current tobacco users. Tobacco use differed significantly by age of respondent, with 29.9% of persons aged 18-29, and 11.1% of persons aged 65 and older reporting current tobacco use. Tobacco use was lower among white non-Hispanics (22.4%) than among Native Americans (40.0%). Tobacco use differed significantly by county, with a range of 5.4% in Madison County to 41.6% 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 – 2015–2021
Statewide, 32.1% 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 32.5% of white non-Hispanics, compared to 28.2% of Hispanics and 24.6% of Native Americans, being in the healthy weight range. Males (25.5%) were significantly less likely to be in the healthy weight range than females (38.6%). BMI differed significantly by age of respondent, with 43.3% of persons aged 18–29, and 26.0% of persons aged 50–64, being in the healthy weight range. BMI differed significantly by county, with a range of 19.8% in Power County to 47.4% in Blaine County of adults being in the healthy weight range.

Any Physical Activity – 2015-2021
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, 78.7% 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 83.3% of persons aged 18–29, and 72.3% 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 64.3% in Clark County to 84.6% in Teton County.

Physical Activity Guidelines – 2011, 2013, 2015, 2017, 2019
Statewide, 21.9% 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 26.3% 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 9.6% in Franklin County to 30.6% in Blaine County.

Home Radon Testing – 2016, 2018, 2020
Statewide, 23.0% of adults have ever tested their house for radon. Radon test usage varied significantly by race/ethnicity, with 25.1% of white non-Hispanics, 7.4% 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 8.5% in Cassia County to 54.4% in Blaine County.

This project has been funded in whole or in part with Federal funds from the National Cancer Institute, National Institutes of Health, Department of Health and Human Services, under Contract No. HHSN261201800006I and the Centers for Disease Control and Prevention, Department of Health and Human Services, under Cooperative Agreement NU58DP007160. The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention or the National Cancer Institute.

TETON COUNTY CANCER PROFILE

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

Cancer Incidence 2016–2020
Cancer Mortality 2017–2021
BRFSS 2011–2021

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.2016.3332). 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 2016–2020

Nearly one in two Idahoans are estimated to develop cancer during their lifetime. During 2016–2020, 45,610 cases of invasive cancer were diagnosed among Idaho residents, and 220 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, 2016–2020

Cancer Incidence 2016–2020	Teton County	State of Idaho
All Sites/Types	**220**	**45,610**
Female Breast	**35**	**6,687**
Prostate	**35**	**6,417**
Lung & Bronchus	**15**	**4,887**
Colorectal	**11**	**3,451**

Table 3 (*Cancer Incidence 2016–2020, 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 373.6 cases per 100,000 person-years per year during 2016–2020. Comparing this crude rate with the crude rate for the remainder of Idaho (520.9) 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 427.9 cases per 100,000 persons per year during 2016–2020. There were statistically significantly fewer cases of cancer in Teton County (220) than expected (267.8) based upon rates in the remainder of the state (p=.003).

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 2017–2021

During 2017–2021, cancer was the second leading cause of death in Idaho; 15,121 Idaho residents and 70 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, 2017–2021

Mortality 2017–2021	Teton County	State of Idaho
All Deaths	**264**	**77,431**
Cancer Deaths	**70**	**15,121**
% of All Deaths	*26.5%*	*19.5%*
Lung & Bronchus	**13**	**2,961**
Colorectal	**8**	**1,319**
Pancreas	**9**	**1,190**
Female Breast	**4**	**1,086**
Prostate	**0**	**949**

Table 4 (*Cancer Mortality 2017–2021, 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 147.8 deaths per 100,000 persons per year during 2017–2021, compared with 168.6 for the remainder of the state. There were fewer cancer deaths in Teton County (70) than expected (79.8) 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 2016–2020
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	220	58,879	373.6	427.9	267.8	0.003 <<	45,390	8,712,949	520.9
All Sites Combined	Male	135	30,793	438.4	497.1	150.2	0.226	24,154	4,366,117	553.2
All Sites Combined	Female	85	28,086	302.6	346.3	119.9	0.001 <<	21,236	4,346,832	488.5
Bladder	Total	6	58,879	10.2	13.2	11.4	0.130	2,178	8,712,949	25.0
Bladder	Male	6	30,793	19.5	24.3	9.9	0.277	1,745	4,366,117	40.0
Bladder	Female	-	28,086	-	-	2.1	0.235	433	4,346,832	10.0
Brain - malignant	Total	4	58,879	6.8	7.3	3.9	1.000	621	8,712,949	7.1
Brain - malignant	Male	4	30,793	13.0	13.6	2.5	0.486	371	4,366,117	8.5
Brain - malignant	Female	-	28,086	-	-	1.5	0.466	250	4,346,832	5.8
Brain and other CNS - non-malignant	Total	6	58,879	10.2	11.2	8.7	0.470	1,418	8,712,949	16.3
Brain and other CNS - non-malignant	Male	3	30,793	9.7	10.3	3.2	1.000	477	4,366,117	10.9
Brain and other CNS - non-malignant	Female	3	28,086	10.7	12.1	5.3	0.439	941	4,346,832	21.6
Breast	Total	36	58,879	61.1	64.9	42.7	0.343	6,710	8,712,949	77.0
Breast	Male	1	30,793	3.2	3.9	0.3	0.576	58	4,366,117	1.3
Breast	Female	35	28,086	124.6	135.3	39.6	0.527	6,652	4,346,832	153.0
Breast - in situ	Total	8	58,879	13.6	13.7	8.2	1.000	1,231	8,712,949	14.1
Breast - in situ	Male	-	30,793	-	-	0.0	1.000	5	4,366,117	0.1
Breast - in situ	Female	8	28,086	28.5	29.5	7.6	0.991	1,226	4,346,832	28.2
Cervix	Female	-	28,086	-	-	2.2	0.217	304	4,346,832	7.0
Colorectal	Total	11	58,879	18.7	21.3	20.4	0.035 <<	3,440	8,712,949	39.5
Colorectal	Male	7	30,793	22.7	24.9	12.2	0.161	1,896	4,366,117	43.4
Colorectal	Female	4	28,086	14.2	17.0	8.4	0.160	1,544	4,346,832	35.5
Corpus Uteri	Female	5	28,086	17.8	19.3	7.9	0.401	1,325	4,346,832	30.5
Esophagus	Total	3	58,879	5.1	6.1	2.8	1.000	503	8,712,949	5.8
Esophagus	Male	3	30,793	9.7	11.2	2.6	0.950	421	4,366,117	9.6
Esophagus	Female	-	28,086	-	-	0.4	1.000	82	4,346,832	1.9
Hodgkin Lymphoma	Total	1	58,879	1.7	1.8	1.4	1.000	209	8,712,949	2.4
Hodgkin Lymphoma	Male	1	30,793	3.2	3.3	0.8	1.000	117	4,366,117	2.7
Hodgkin Lymphoma	Female	-	28,086	-	-	0.5	1.000	92	4,346,832	2.1
Kidney and Renal Pelvis	Total	5	58,879	8.5	9.4	11.0	0.074	1,810	8,712,949	20.8
Kidney and Renal Pelvis	Male	3	30,793	9.7	10.4	7.8	0.099	1,179	4,366,117	27.0
Kidney and Renal Pelvis	Female	2	28,086	7.1	8.3	3.5	0.636	631	4,346,832	14.5
Larynx	Total	2	58,879	3.4	4.0	1.2	0.695	213	8,712,949	2.4
Larynx	Male	2	30,793	6.5	7.4	1.0	0.514	158	4,366,117	3.6
Larynx	Female	-	28,086	-	-	0.3	1.000	55	4,346,832	1.3
Leukemia	Total	12	58,879	20.4	24.4	9.1	0.418	1,619	8,712,949	18.6
Leukemia	Male	11	30,793	35.7	41.3	6.0	0.082	978	4,366,117	22.4
Leukemia	Female	1	28,086	3.6	4.4	3.3	0.311	641	4,346,832	14.7
Liver and Bile Duct	Total	2	58,879	3.4	3.9	4.9	0.273	827	8,712,949	9.5
Liver and Bile Duct	Male	1	30,793	3.2	3.6	3.8	0.217	589	4,366,117	13.5
Liver and Bile Duct	Female	1	28,086	3.6	4.4	1.3	1.000	238	4,346,832	5.5
Lung and Bronchus	Total	15	58,879	25.5	32.3	26.0	0.029 <<	4,872	8,712,949	55.9
Lung and Bronchus	Male	6	30,793	19.5	23.7	14.2	0.025 <<	2,446	4,366,117	56.0
Lung and Bronchus	Female	9	28,086	32.0	42.2	11.9	0.503	2,426	4,346,832	55.8
Melanoma of the Skin	Total	28	58,879	47.6	52.4	17.9	0.032 >>	2,914	8,712,949	33.4
Melanoma of the Skin	Male	17	30,793	55.2	61.1	11.1	0.122	1,748	4,366,117	40.0
Melanoma of the Skin	Female	11	28,086	39.2	41.8	7.1	0.206	1,166	4,346,832	26.8
Myeloma	Total	3	58,879	5.1	6.3	3.8	0.929	705	8,712,949	8.1
Myeloma	Male	1	30,793	3.2	3.9	2.6	0.537	440	4,366,117	10.1
Myeloma	Female	2	28,086	7.1	9.1	1.3	0.778	265	4,346,832	6.1
Non-Hodgkin Lymphoma	Total	8	58,879	13.6	15.8	11.2	0.422	1,932	8,712,949	22.2
Non-Hodgkin Lymphoma	Male	7	30,793	22.7	25.4	7.1	1.000	1,122	4,366,117	25.7
Non-Hodgkin Lymphoma	Female	1	28,086	3.6	4.3	4.3	0.141	810	4,346,832	18.6
Oral Cavity and Pharynx	Total	9	58,879	15.3	16.9	7.9	0.779	1,286	8,712,949	14.8
Oral Cavity and Pharynx	Male	7	30,793	22.7	24.3	6.1	0.831	929	4,366,117	21.3
Oral Cavity and Pharynx	Female	2	28,086	7.1	8.2	2.0	1.000	357	4,346,832	8.2
Ovary	Female	2	28,086	7.1	7.9	3.1	0.813	531	4,346,832	12.2
Pancreas	Total	9	58,879	15.3	18.9	7.7	0.734	1,414	8,712,949	16.2
Pancreas	Male	6	30,793	19.5	23.0	4.7	0.647	778	4,366,117	17.8
Pancreas	Female	3	28,086	10.7	13.9	3.2	1.000	636	4,346,832	14.6
Prostate	Male	35	30,793	113.7	127.5	40.1	0.474	6,382	4,366,117	146.2
Stomach	Total	-	58,879	-	-	2.6	0.141	467	8,712,949	5.4
Stomach	Male	-	30,793	-	-	1.9	0.303	309	4,366,117	7.1
Stomach	Female	-	28,086	-	-	0.8	0.857	158	4,346,832	3.6
Testis	Male	1	30,793	3.2	3.1	2.0	0.837	264	4,366,117	6.0
Thyroid	Total	4	58,879	6.8	6.5	8.6	0.144	1,216	8,712,949	14.0
Thyroid	Male	2	30,793	6.5	6.3	2.6	1.000	353	4,366,117	8.1
Thyroid	Female	2	28,086	7.1	6.8	5.8	0.139	863	4,346,832	19.9
Pediatric Age 0 to 19	Total	3	15,658	19.2	19.6	2.6	0.974	418	2,444,865	17.1
Pediatric Age 0 to 19	Male	1	8,086	12.4	12.5	1.4	1.000	222	1,248,424	17.8
Pediatric Age 0 to 19	Female	2	7,572	26.4	27.3	1.2	0.675	196	1,196,441	16.4

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 2017–2021
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	264	59,967	440.2	583.0	391.4	0.000 <<	77,166	8,928,748	864.2
All Causes of Death	Male	143	31,343	456.2	558.8	233.7	0.000 <<	40,913	4,480,525	913.1
All Causes of Death	Female	121	28,624	422.7	607.1	162.4	0.001 <<	36,253	4,448,223	815.0
All Malignant Cancers	Total	70	59,967	116.7	147.8	79.8	0.295	15,051	8,928,748	168.6
All Malignant Cancers	Male	39	31,343	124.4	151.3	46.8	0.283	8,137	4,480,525	181.6
All Malignant Cancers	Female	31	28,624	108.3	141.6	34.0	0.682	6,914	4,448,223	155.4
Bladder	Total	2	59,967	3.3	4.9	2.2	1.000	487	8,928,748	5.5
Bladder	Male	2	31,343	6.4	8.7	1.9	1.000	376	4,480,525	8.4
Bladder	Female	-	28,624	-	-	0.5	1.000	111	4,448,223	2.5
Brain and Other Nervous System	Total	1	59,967	1.7	1.8	3.1	0.379	503	8,928,748	5.6
Brain and Other Nervous System	Male	1	31,343	3.2	3.4	1.9	0.845	297	4,480,525	6.6
Brain and Other Nervous System	Female	-	28,624	-	-	1.2	0.619	206	4,448,223	4.6
Breast	Total	6	59,967	10.0	11.8	6.2	1.000	1,096	8,928,748	12.3
Breast	Male	2	31,343	6.4	7.3	0.1	0.007 >>	14	4,480,525	0.3
Breast	Female	4	28,624	14.0	17.1	5.7	0.654	1,082	4,448,223	24.3
Cervix	Female	1	28,624	3.5	3.3	0.6	0.847	82	4,448,223	1.8
Colorectal	Total	8	59,967	13.3	16.2	7.3	0.883	1,311	8,928,748	14.7
Colorectal	Male	4	31,343	12.8	14.4	4.4	1.000	715	4,480,525	16.0
Colorectal	Female	4	28,624	14.0	18.4	2.9	0.666	596	4,448,223	13.4
Corpus Uteri	Female	-	28,624	-	-	0.9	0.814	173	4,448,223	3.9
Esophagus	Total	1	59,967	1.7	2.0	2.6	0.522	476	8,928,748	5.3
Esophagus	Male	1	31,343	3.2	3.7	2.4	0.607	400	4,480,525	8.9
Esophagus	Female	-	28,624	-	-	0.4	1.000	76	4,448,223	1.7
Hodgkin Lymphoma	Total	-	59,967	-	-	0.2	1.000	29	8,928,748	0.3
Hodgkin Lymphoma	Male	-	31,343	-	-	0.1	1.000	14	4,480,525	0.3
Hodgkin Lymphoma	Female	-	28,624	-	-	0.1	1.000	15	4,448,223	0.3
Kidney	Total	2	59,967	3.3	4.3	2.0	1.000	383	8,928,748	4.3
Kidney	Male	-	31,343	-	-	1.4	0.483	242	4,480,525	5.4
Kidney	Female	2	28,624	7.0	10.0	0.6	0.266	141	4,448,223	3.2
Larynx	Total	-	59,967	-	-	0.4	1.000	71	8,928,748	0.8
Larynx	Male	-	31,343	-	-	0.3	1.000	58	4,480,525	1.3
Larynx	Female	-	28,624	-	-	0.1	1.000	13	4,448,223	0.3
Leukemia	Total	3	59,967	5.0	6.8	3.2	1.000	657	8,928,748	7.4
Leukemia	Male	3	31,343	9.6	12.2	2.1	0.702	383	4,480,525	8.5
Leukemia	Female	-	28,624	-	-	1.2	0.595	274	4,448,223	6.2
Liver and Bile Duct	Total	2	59,967	3.3	4.0	3.4	0.687	601	8,928,748	6.7
Liver and Bile Duct	Male	1	31,343	3.2	3.6	2.5	0.569	407	4,480,525	9.1
Liver and Bile Duct	Female	1	28,624	3.5	4.5	1.0	1.000	194	4,448,223	4.4
Lung and Bronchus	Total	13	59,967	21.7	27.9	15.4	0.658	2,948	8,928,748	33.0
Lung and Bronchus	Male	8	31,343	25.5	31.0	8.9	0.937	1,548	4,480,525	34.5
Lung and Bronchus	Female	5	28,624	17.5	23.8	6.6	0.705	1,400	4,448,223	31.5
Melanoma of the Skin	Total	2	59,967	3.3	4.0	1.6	0.942	287	8,928,748	3.2
Melanoma of the Skin	Male	-	31,343	-	-	1.1	0.644	192	4,480,525	4.3
Melanoma of the Skin	Female	2	28,624	7.0	8.5	0.5	0.183	95	4,448,223	2.1
Myeloma	Total	3	59,967	5.0	7.0	1.6	0.425	328	8,928,748	3.7
Myeloma	Male	-	31,343	-	-	1.0	0.705	196	4,480,525	4.4
Myeloma	Female	3	28,624	10.5	15.4	0.6	0.042 >>	132	4,448,223	3.0
Non-Hodgkin Lymphoma	Total	2	59,967	3.3	4.5	2.8	0.921	567	8,928,748	6.4
Non-Hodgkin Lymphoma	Male	2	31,343	6.4	7.9	1.7	1.000	305	4,480,525	6.8
Non-Hodgkin Lymphoma	Female	-	28,624	-	-	1.1	0.638	262	4,448,223	5.9
Oral Cavity and Pharynx	Total	3	59,967	5.0	6.0	1.5	0.369	263	8,928,748	2.9
Oral Cavity and Pharynx	Male	2	31,343	6.4	7.3	1.1	0.623	185	4,480,525	4.1
Oral Cavity and Pharynx	Female	1	28,624	3.5	4.4	0.4	0.658	78	4,448,223	1.8
Ovary	Female	1	28,624	3.5	4.4	1.8	0.927	349	4,448,223	7.8
Pancreas	Total	9	59,967	15.0	18.8	6.3	0.378	1,181	8,928,748	13.2
Pancreas	Male	7	31,343	22.3	26.5	3.7	0.172	635	4,480,525	14.2
Pancreas	Female	2	28,624	7.0	9.2	2.7	1.000	546	4,448,223	12.3
Prostate	Male	-	31,343	-	-	4.8	0.016 <<	949	4,480,525	21.2
Stomach	Total	-	59,967	-	-	1.1	0.656	198	8,928,748	2.2
Stomach	Male	-	31,343	-	-	0.7	0.959	121	4,480,525	2.7
Stomach	Female	-	28,624	-	-	0.4	1.000	77	4,448,223	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, 2020.

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 (BRFS) since 1984. These surveys are conducted with randomly selected adult Idahoans to measure population prevalences of risk factors for the major causes of death, including cancer. DPH provided data sets containing Behavioral Risk Factor Surveillance System (BRFSS) data from 2011 through 2021 to CDRI staff, who performed the analyses reported in these *County Profiles*. Analysis weights were poststratified to 2020 population estimates by age group, sex, and county, beginning with the BRFSS raked weights. Not all questions were asked in all years. 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* 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, 2011–2021

Measure	State of Idaho	HD 1	HD 2	HD 3	HD 4	HD 5	HD 6	HD 7	Teton County
Access to Care									
Have Health Insurance, Age <65 (2015–2021)	83.1%	82.8%	85.1%	77.2%	85.8%	78.9%	85.4%	85.4%	79.8%
Not See Doctor Due to Cost in Past Year (2015–2021)	12.6%	11.4%	11.8%	14.5%	12.4%	12.3%	11.8%	12.9%	9.6%
Cancer Screening									
Mammogram Past 2 Years, Age 50–74 (2014, 2016, 2018, 2020)	69.1%	67.0%	73.8%	68.2%	73.2%	64.8%	64.5%	67.1%	.
Pap Test Past 3 Years, Cervix Intact Age 21–65 (2018, 2020)	71.2%	73.6%	73.6%	70.8%	72.9%	69.1%	69.5%	65.9%	.
Colorectal Cancer Screening, Age 50–75 (2018, 2020)	67.9%	66.9%	73.6%	71.4%	70.6%	61.7%	61.5%	64.7%	.
Tobacco Use									
Current Tobacco User (2016–2021)	22.3%	26.7%	23.1%	23.6%	21.8%	21.4%	22.7%	16.9%	21.4%
Other Cancer-Related									
Healthy Weight by Body Mass Index, Age 20+ (2015–2021)	32.1%	32.8%	31.7%	27.9%	36.1%	29.8%	27.9%	31.9%	46.9%
Any Physical Activity Besides Job Past 30 Days (2015-2021)	78.7%	79.2%	78.1%	74.5%	83.2%	73.4%	76.3%	79.7%	84.6%
Meet Physical Activity Guidelines (2011, 2013, 2015, 2017, 2019)	21.9%	22.8%	19.4%	20.0%	25.2%	19.5%	20.4%	20.2%	20.5%
Home Ever Tested for Radon (2016, 2018, 2020)	23.0%	30.9%	18.2%	16.9%	25.1%	19.9%	23.0%	21.8%	40.6%

Access to Care

Have Health Insurance – 2015–2021
Statewide, 83.1% of adults aged 18–64 reported having health care coverage. Health care coverage differed significantly by race/ethnicity, with 86.0% of white non-Hispanics, compared to 64.8% of Hispanics and 83.3% of Native Americans, having health insurance. Spanish-speaking respondents were significantly less likely to be insured (33.3%) than English-speaking respondents (84.2%). Health care coverage differed significantly by age of respondent, with 79.8% of persons aged 18–29, and 87.8% of persons aged 50–64, having health insurance. Health care coverage differed significantly by county, with a range of 62.1% in Adams County to 91.6% in Oneida County having health insurance.

Not See Doctor Due to Cost in Past Year – 2015–2021
Statewide, 12.6% 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 (11.5% of white non-Hispanics, 19.2% of Hispanics, and 21.0% of Native Americans). Inability to see a doctor due to cost differed significantly by annual household income (24.9% for less than $15,000, 6.1% for greater than $50,000). Inability to see a doctor due to cost differed significantly by county, with a range of 7.4% in Franklin County to 17.5% in Power County.

Cancer Screening

Mammogram – 2014, 2016, 2018, 2020
Statewide, 69.1% of women aged 50–74 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 (72.1% versus 36.7%). Mammography rates differed significantly by county, with a range in screening of 45.9% in Benewah County to 77.0% in Nez Perce County. In 2020, Idaho ranked 48th among states and the District of Columbia for mammography screening rates among women aged 50–74 and also 48th among ages 40+.

Pap Test – 2018, 2020
Statewide, 71.2% 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 (75.1% versus 52.6% screened in the past 3 years). Pap screening differed significantly by county, with a range of 50.7% 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 – 2018, 2020
Statewide, 67.9% of adults aged 50–75 reported being current for colorectal cancer screening.** Persons with health insurance were over twice as likely to be current for colorectal cancer screening. In 2020, Idaho ranked 47th among states and the District of Columbia in the percentage of adults aged 50–75 and older who reported being up-to-date for colorectal cancer screening.

** 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, or a colonoscopy in the past 10 years.

Cancer Screening and Risk Factors

Tobacco Use

Current Tobacco Use – 2016–2021
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, 22.3% of adults aged 18 and older were current tobacco users. Tobacco use differed significantly by age of respondent, with 29.9% of persons aged 18-29, and 11.1% of persons aged 65 and older reporting current tobacco use. Tobacco use was lower among white non-Hispanics (22.4%) than among Native Americans (40.0%). Tobacco use differed significantly by county, with a range of 5.4% in Madison County to 41.6% 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 – 2015–2021
Statewide, 32.1% 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 32.5% of white non-Hispanics, compared to 28.2% of Hispanics and 24.6% of Native Americans, being in the healthy weight range. Males (25.5%) were significantly less likely to be in the healthy weight range than females (38.6%). BMI differed significantly by age of respondent, with 43.3% of persons aged 18–29, and 26.0% of persons aged 50–64, being in the healthy weight range. BMI differed significantly by county, with a range of 19.8% in Power County to 47.4% in Blaine County of adults being in the healthy weight range.

Any Physical Activity – 2015-2021
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, 78.7% 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 83.3% of persons aged 18–29, and 72.3% 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 64.3% in Clark County to 84.6% in Teton County.

Physical Activity Guidelines – 2011, 2013, 2015, 2017, 2019
Statewide, 21.9% 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 26.3% 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 9.6% in Franklin County to 30.6% in Blaine County.

Home Radon Testing – 2016, 2018, 2020
Statewide, 23.0% of adults have ever tested their house for radon. Radon test usage varied significantly by race/ethnicity, with 25.1% of white non-Hispanics, 7.4% 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 8.5% in Cassia County to 54.4% in Blaine County.

This project has been funded in whole or in part with Federal funds from the National Cancer Institute, National Institutes of Health, Department of Health and Human Services, under Contract No. HHSN261201800006I and the Centers for Disease Control and Prevention, Department of Health and Human Services, under Cooperative Agreement NU58DP007160. The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention or the National Cancer Institute.

TWIN FALLS COUNTY CANCER PROFILE

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

Cancer Incidence 2016–2020
Cancer Mortality 2017–2021
BRFSS 2011–2021

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.2016.3332). 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 2016–2020

Nearly one in two Idahoans are estimated to develop cancer during their lifetime. During 2016–2020, 45,610 cases of invasive cancer were diagnosed among Idaho residents, and 2,116 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, 2016–2020

Cancer Incidence 2016–2020	Twin Falls County	State of Idaho
All Sites/Types	**2,116**	**45,610**
Female Breast	**266**	**6,687**
Prostate	**222**	**6,417**
Lung & Bronchus	**243**	**4,887**
Colorectal	**166**	**3,451**

Table 3 (*Cancer Incidence 2016–2020, 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 491.0 cases per 100,000 person-years per year during 2016–2020. Comparing this crude rate with the crude rate for the remainder of Idaho (521.5) 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 507.0 cases per 100,000 persons per year during 2016–2020. There were fewer cases of cancer in Twin Falls County (2,116) than expected (2,176.2) 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 2017–2021

During 2017–2021, cancer was the second leading cause of death in Idaho; 15,121 Idaho residents and 772 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, 2017–2021

Mortality 2017–2021	Twin Falls County	State of Idaho
All Deaths	**4,315**	**77,431**
Cancer Deaths	**772**	**15,121**
% of All Deaths	*17.9%*	*19.5%*
Lung & Bronchus	**156**	**2,961**
Colorectal	**62**	**1,319**
Pancreas	**53**	**1,190**
Female Breast	**44**	**1,086**
Prostate	**57**	**949**

Table 4 (*Cancer Mortality 2017–2021, 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 177.3 deaths per 100,000 persons per year during 2017–2021, compared with 167.8 for the remainder of the state. There were more cancer deaths in Twin Falls County (772) than expected (731.0) 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 2016–2020
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	2,116	430,990	491.0	507.0	2,176.2	0.199	43,494	8,340,838	521.5
All Sites Combined	Male	1,125	212,388	529.7	553.7	1,124.7	1.000	23,164	4,184,522	553.6
All Sites Combined	Female	991	218,602	453.3	465.8	1,040.6	0.126	20,330	4,156,316	489.1
Bladder	Total	124	430,990	28.8	29.2	104.9	0.074	2,060	8,340,838	24.7
Bladder	Male	108	212,388	50.9	52.6	80.6	0.004 >>	1,643	4,184,522	39.3
Bladder	Female	16	218,602	7.3	7.4	21.8	0.254	417	4,156,316	10.0
Brain - malignant	Total	29	430,990	6.7	6.9	30.1	0.937	596	8,340,838	7.1
Brain - malignant	Male	16	212,388	7.5	7.8	17.7	0.813	359	4,184,522	8.6
Brain - malignant	Female	13	218,602	5.9	6.0	12.3	0.913	237	4,156,316	5.7
Brain and other CNS - non-malignant	Total	66	430,990	15.3	15.7	68.5	0.827	1,358	8,340,838	16.3
Brain and other CNS - non-malignant	Male	20	212,388	9.4	9.7	22.6	0.679	460	4,184,522	11.0
Brain and other CNS - non-malignant	Female	46	218,602	21.0	21.4	46.3	1.000	898	4,156,316	21.6
Breast	Total	268	430,990	62.2	65.0	320.1	0.003 <<	6,478	8,340,838	77.7
Breast	Male	2	212,388	0.9	1.0	2.8	0.934	57	4,184,522	1.4
Breast	Female	266	218,602	121.7	127.2	323.1	0.001 <<	6,421	4,156,316	154.5
Breast - in situ	Total	32	430,990	7.4	7.9	58.7	0.000 <<	1,207	8,340,838	14.5
Breast - in situ	Male	-	212,388	-	-	0.2	1.000	5	4,184,522	0.1
Breast - in situ	Female	32	218,602	14.6	15.6	59.2	0.000 <<	1,202	4,156,316	28.9
Cervix	Female	10	218,602	4.6	4.7	14.9	0.245	294	4,156,316	7.1
Colorectal	Total	166	430,990	38.5	39.6	165.2	0.968	3,285	8,340,838	39.4
Colorectal	Male	94	212,388	44.3	46.1	88.2	0.562	1,809	4,184,522	43.2
Colorectal	Female	72	218,602	32.9	33.4	76.5	0.658	1,476	4,156,316	35.5
Corpus Uteri	Female	77	218,602	35.2	37.2	62.5	0.083	1,253	4,156,316	30.1
Esophagus	Total	27	430,990	6.3	6.4	24.0	0.599	479	8,340,838	5.7
Esophagus	Male	21	212,388	9.9	10.3	19.6	0.811	403	4,184,522	9.6
Esophagus	Female	6	218,602	2.7	2.8	3.9	0.400	76	4,156,316	1.8
Hodgkin Lymphoma	Total	16	430,990	3.7	3.8	9.8	0.086	194	8,340,838	2.3
Hodgkin Lymphoma	Male	13	212,388	6.1	6.3	5.2	0.006 >>	105	4,184,522	2.5
Hodgkin Lymphoma	Female	3	218,602	1.4	1.4	4.6	0.647	89	4,156,316	2.1
Kidney and Renal Pelvis	Total	74	430,990	17.2	17.8	86.8	0.181	1,741	8,340,838	20.9
Kidney and Renal Pelvis	Male	51	212,388	24.0	25.1	54.9	0.664	1,131	4,184,522	27.0
Kidney and Renal Pelvis	Female	23	218,602	10.5	10.8	31.3	0.151	610	4,156,316	14.7
Larynx	Total	13	430,990	3.0	3.1	10.1	0.430	202	8,340,838	2.4
Larynx	Male	8	212,388	3.8	3.9	7.4	0.911	152	4,184,522	3.6
Larynx	Female	5	218,602	2.3	2.4	2.5	0.228	50	4,156,316	1.2
Leukemia	Total	88	430,990	20.4	20.7	78.8	0.326	1,543	8,340,838	18.5
Leukemia	Male	46	212,388	21.7	22.2	46.7	0.997	943	4,184,522	22.5
Leukemia	Female	42	218,602	19.2	19.3	31.5	0.084	600	4,156,316	14.4
Liver and Bile Duct	Total	21	430,990	4.9	5.1	40.0	0.001 <<	808	8,340,838	9.7
Liver and Bile Duct	Male	12	212,388	5.7	6.0	27.7	0.001 <<	578	4,184,522	13.8
Liver and Bile Duct	Female	9	218,602	4.1	4.2	11.9	0.509	230	4,156,316	5.5
Lung and Bronchus	Total	243	430,990	56.4	57.7	234.5	0.597	4,644	8,340,838	55.7
Lung and Bronchus	Male	131	212,388	61.7	64.3	113.0	0.106	2,321	4,184,522	55.5
Lung and Bronchus	Female	112	218,602	51.2	51.8	120.9	0.449	2,323	4,156,316	55.9
Melanoma of the Skin	Total	152	430,990	35.3	36.3	140.3	0.341	2,790	8,340,838	33.4
Melanoma of the Skin	Male	90	212,388	42.4	44.0	81.9	0.397	1,675	4,184,522	40.0
Melanoma of the Skin	Female	62	218,602	28.4	29.1	57.1	0.550	1,115	4,156,316	26.8
Myeloma	Total	30	430,990	7.0	7.1	34.3	0.527	678	8,340,838	8.1
Myeloma	Male	22	212,388	10.4	10.8	20.5	0.796	419	4,184,522	10.0
Myeloma	Female	8	218,602	3.7	3.7	13.5	0.159	259	4,156,316	6.2
Non-Hodgkin Lymphoma	Total	110	430,990	25.5	26.3	91.9	0.073	1,830	8,340,838	21.9
Non-Hodgkin Lymphoma	Male	59	212,388	27.8	28.9	52.1	0.374	1,070	4,184,522	25.6
Non-Hodgkin Lymphoma	Female	51	218,602	23.3	23.7	39.3	0.083	760	4,156,316	18.3
Oral Cavity and Pharynx	Total	67	430,990	15.5	16.3	60.5	0.439	1,228	8,340,838	14.7
Oral Cavity and Pharynx	Male	49	212,388	23.1	24.4	42.6	0.361	887	4,184,522	21.2
Oral Cavity and Pharynx	Female	18	218,602	8.2	8.5	17.3	0.939	341	4,156,316	8.2
Ovary	Female	31	218,602	14.2	14.7	25.4	0.316	502	4,156,316	12.1
Pancreas	Total	70	430,990	16.2	16.6	68.5	0.890	1,353	8,340,838	16.2
Pancreas	Male	44	212,388	20.7	21.6	36.1	0.222	740	4,184,522	17.7
Pancreas	Female	26	218,602	11.9	11.9	32.1	0.321	613	4,156,316	14.7
Prostate	Male	222	212,388	104.5	111.1	295.7	0.000 <<	6,195	4,184,522	148.0
Stomach	Total	22	430,990	5.1	5.2	22.6	1.000	445	8,340,838	5.3
Stomach	Male	12	212,388	5.7	5.9	14.5	0.623	297	4,184,522	7.1
Stomach	Female	10	218,602	4.6	4.6	7.8	0.516	148	4,156,316	3.6
Testis	Male	20	212,388	9.4	9.5	12.3	0.054	245	4,184,522	5.9
Thyroid	Total	46	430,990	10.7	11.0	58.7	0.103	1,174	8,340,838	14.1
Thyroid	Male	11	212,388	5.2	5.4	16.9	0.178	344	4,184,522	8.2
Thyroid	Female	35	218,602	16.0	16.6	42.2	0.302	830	4,156,316	20.0
Pediatric Age 0 to 19	Total	29	128,767	22.5	22.8	21.4	0.136	392	2,331,756	16.8
Pediatric Age 0 to 19	Male	17	65,255	26.1	26.1	11.3	0.131	206	1,191,255	17.3
Pediatric Age 0 to 19	Female	12	63,512	18.9	19.3	10.1	0.640	186	1,140,501	16.3

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 2017–2021
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	4,315	439,386	982.1	966.9	3,816.6	0.000 >>	73,115	8,549,329	855.2
All Causes of Death	Male	2,208	216,870	1,018.1	1,037.8	1,924.4	0.000 >>	38,848	4,294,998	904.5
All Causes of Death	Female	2,107	222,516	946.9	904.4	1,876.5	0.000 >>	34,267	4,254,331	805.5
All Malignant Cancers	Total	772	439,386	175.7	177.3	731.0	0.136	14,349	8,549,329	167.8
All Malignant Cancers	Male	418	216,870	192.7	198.8	379.7	0.055	7,758	4,294,998	180.6
All Malignant Cancers	Female	354	222,516	159.1	158.3	346.4	0.697	6,591	4,254,331	154.9
Bladder	Total	28	439,386	6.4	6.2	24.3	0.502	461	8,549,329	5.4
Bladder	Male	21	216,870	9.7	9.8	17.9	0.516	357	4,294,998	8.3
Bladder	Female	7	222,516	3.1	3.0	5.7	0.678	104	4,254,331	2.4
Brain and Other Nervous System	Total	23	439,386	5.2	5.4	23.9	0.955	481	8,549,329	5.6
Brain and Other Nervous System	Male	9	216,870	4.1	4.3	14.0	0.219	289	4,294,998	6.7
Brain and Other Nervous System	Female	14	222,516	6.3	6.4	9.8	0.243	192	4,254,331	4.5
Breast	Total	44	439,386	10.0	10.2	53.6	0.210	1,058	8,549,329	12.4
Breast	Male	-	216,870	-	-	0.8	0.920	16	4,294,998	0.4
Breast	Female	44	222,516	19.8	19.9	54.2	0.183	1,042	4,254,331	24.5
Cervix	Female	5	222,516	2.2	2.3	3.9	0.707	78	4,254,331	1.8
Colorectal	Total	62	439,386	14.1	14.3	63.9	0.882	1,257	8,549,329	14.7
Colorectal	Male	36	216,870	16.6	17.2	33.3	0.680	683	4,294,998	15.9
Colorectal	Female	26	222,516	11.7	11.5	30.4	0.485	574	4,254,331	13.5
Corpus Uteri	Female	10	222,516	4.5	4.6	8.3	0.648	163	4,254,331	3.8
Esophagus	Total	20	439,386	4.6	4.7	22.9	0.631	457	8,549,329	5.3
Esophagus	Male	13	216,870	6.0	6.3	18.8	0.213	388	4,294,998	9.0
Esophagus	Female	7	222,516	3.1	3.2	3.6	0.147	69	4,254,331	1.6
Hodgkin Lymphoma	Total	-	439,386	-	-	1.5	0.456	29	8,549,329	0.3
Hodgkin Lymphoma	Male	-	216,870	-	-	0.7	1.000	14	4,294,998	0.3
Hodgkin Lymphoma	Female	-	222,516	-	-	0.8	0.908	15	4,254,331	0.4
Kidney	Total	21	439,386	4.8	4.8	18.5	0.626	364	8,549,329	4.3
Kidney	Male	16	216,870	7.4	7.7	11.0	0.183	226	4,294,998	5.3
Kidney	Female	5	222,516	2.2	2.2	7.4	0.504	138	4,254,331	3.2
Larynx	Total	4	439,386	0.9	0.9	3.4	0.876	67	8,549,329	0.8
Larynx	Male	3	216,870	1.4	1.4	2.7	1.000	55	4,294,998	1.3
Larynx	Female	1	222,516	0.4	0.5	0.6	0.902	12	4,254,331	0.3
Leukemia	Total	40	439,386	9.1	9.0	32.2	0.205	620	8,549,329	7.3
Leukemia	Male	24	216,870	11.1	11.3	17.9	0.197	362	4,294,998	8.4
Leukemia	Female	16	222,516	7.2	6.9	14.0	0.656	258	4,254,331	6.1
Liver and Bile Duct	Total	27	439,386	6.1	6.3	28.7	0.843	576	8,549,329	6.7
Liver and Bile Duct	Male	19	216,870	8.8	9.2	18.7	1.000	389	4,294,998	9.1
Liver and Bile Duct	Female	8	222,516	3.6	3.6	9.7	0.737	187	4,254,331	4.4
Lung and Bronchus	Total	156	439,386	35.5	36.0	142.2	0.265	2,805	8,549,329	32.8
Lung and Bronchus	Male	86	216,870	39.7	41.2	71.4	0.102	1,470	4,294,998	34.2
Lung and Bronchus	Female	70	222,516	31.5	31.3	70.2	1.000	1,335	4,254,331	31.4
Melanoma of the Skin	Total	13	439,386	3.0	3.0	14.1	0.918	276	8,549,329	3.2
Melanoma of the Skin	Male	6	216,870	2.8	2.8	9.1	0.390	186	4,294,998	4.3
Melanoma of the Skin	Female	7	222,516	3.1	3.2	4.7	0.390	90	4,254,331	2.1
Myeloma	Total	21	439,386	4.8	4.8	16.0	0.264	310	8,549,329	3.6
Myeloma	Male	12	216,870	5.5	5.7	9.1	0.407	184	4,294,998	4.3
Myeloma	Female	9	222,516	4.0	4.0	6.7	0.476	126	4,254,331	3.0
Non-Hodgkin Lymphoma	Total	33	439,386	7.5	7.5	27.6	0.352	536	8,549,329	6.3
Non-Hodgkin Lymphoma	Male	19	216,870	8.8	9.0	14.1	0.250	288	4,294,998	6.7
Non-Hodgkin Lymphoma	Female	14	222,516	6.3	6.1	13.4	0.944	248	4,254,331	5.8
Oral Cavity and Pharynx	Total	20	439,386	4.6	4.7	12.3	0.054	246	8,549,329	2.9
Oral Cavity and Pharynx	Male	11	216,870	5.1	5.3	8.5	0.475	176	4,294,998	4.1
Oral Cavity and Pharynx	Female	9	222,516	4.0	4.1	3.6	0.025 >>	70	4,254,331	1.6
Ovary	Female	19	222,516	8.5	8.6	17.1	0.707	331	4,254,331	7.8
Pancreas	Total	53	439,386	12.1	12.3	57.3	0.626	1,137	8,549,329	13.3
Pancreas	Male	34	216,870	15.7	16.3	29.5	0.453	608	4,294,998	14.2
Pancreas	Female	19	222,516	8.5	8.6	27.6	0.111	529	4,254,331	12.4
Prostate	Male	57	216,870	26.3	26.6	44.6	0.082	892	4,294,998	20.8
Stomach	Total	7	439,386	1.6	1.6	9.7	0.495	191	8,549,329	2.2
Stomach	Male	4	216,870	1.8	1.9	5.7	0.652	117	4,294,998	2.7
Stomach	Female	3	222,516	1.3	1.3	3.9	0.898	74	4,254,331	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, 2020.

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 (BRFS) since 1984. These surveys are conducted with randomly selected adult Idahoans to measure population prevalences of risk factors for the major causes of death, including cancer. DPH provided data sets containing Behavioral Risk Factor Surveillance System (BRFSS) data from 2011 through 2021 to CDRI staff, who performed the analyses reported in these *County Profiles*. Analysis weights were poststratified to 2020 population estimates by age group, sex, and county, beginning with the BRFSS raked weights. Not all questions were asked in all years. 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* 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, 2011–2021

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 (2015–2021)	83.1%	82.8%	85.1%	77.2%	85.8%	78.9%	85.4%	85.4%	81.7%
Not See Doctor Due to Cost in Past Year (2015–2021)	12.6%	11.4%	11.8%	14.5%	12.4%	12.3%	11.8%	12.9%	12.0%
Cancer Screening									
Mammogram Past 2 Years, Age 50–74 (2014, 2016, 2018, 2020)	69.1%	67.0%	73.8%	68.2%	73.2%	64.8%	64.5%	67.1%	65.7%
Pap Test Past 3 Years, Cervix Intact Age 21–65 (2018, 2020)	71.2%	73.6%	73.6%	70.8%	72.9%	69.1%	69.5%	65.9%	66.1%
Colorectal Cancer Screening, Age 50–75 (2018, 2020)	67.9%	66.9%	73.6%	71.4%	70.6%	61.7%	61.5%	64.7%	62.1%
Tobacco Use									
Current Tobacco User (2016–2021)	22.3%	26.7%	23.1%	23.6%	21.8%	21.4%	22.7%	16.9%	22.3%
Other Cancer-Related									
Healthy Weight by Body Mass Index, Age 20+ (2015–2021)	32.1%	32.8%	31.7%	27.9%	36.1%	29.8%	27.9%	31.9%	27.3%
Any Physical Activity Besides Job Past 30 Days (2015-2021)	78.7%	79.2%	78.1%	74.5%	83.2%	73.4%	76.3%	79.7%	75.2%
Meet Physical Activity Guidelines (2011, 2013, 2015, 2017, 2019)	21.9%	22.8%	19.4%	20.0%	25.2%	19.5%	20.4%	20.2%	20.8%
Home Ever Tested for Radon (2016, 2018, 2020)	23.0%	30.9%	18.2%	16.9%	25.1%	19.9%	23.0%	21.8%	16.8%

Access to Care

Have Health Insurance – 2015–2021
Statewide, 83.1% of adults aged 18–64 reported having health care coverage. Health care coverage differed significantly by race/ethnicity, with 86.0% of white non-Hispanics, compared to 64.8% of Hispanics and 83.3% of Native Americans, having health insurance. Spanish-speaking respondents were significantly less likely to be insured (33.3%) than English-speaking respondents (84.2%). Health care coverage differed significantly by age of respondent, with 79.8% of persons aged 18–29, and 87.8% of persons aged 50–64, having health insurance. Health care coverage differed significantly by county, with a range of 62.1% in Adams County to 91.6% in Oneida County having health insurance.

Not See Doctor Due to Cost in Past Year – 2015–2021
Statewide, 12.6% 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 (11.5% of white non-Hispanics, 19.2% of Hispanics, and 21.0% of Native Americans). Inability to see a doctor due to cost differed significantly by annual household income (24.9% for less than $15,000, 6.1% for greater than $50,000). Inability to see a doctor due to cost differed significantly by county, with a range of 7.4% in Franklin County to 17.5% in Power County.

Cancer Screening

Mammogram – 2014, 2016, 2018, 2020
Statewide, 69.1% of women aged 50–74 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 (72.1% versus 36.7%). Mammography rates differed significantly by county, with a range in screening of 45.9% in Benewah County to 77.0% in Nez Perce County. In 2020, Idaho ranked 48th among states and the District of Columbia for mammography screening rates among women aged 50–74 and also 48th among ages 40+.

Pap Test – 2018, 2020
Statewide, 71.2% 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 (75.1% versus 52.6% screened in the past 3 years). Pap screening differed significantly by county, with a range of 50.7% 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 – 2018, 2020
Statewide, 67.9% of adults aged 50–75 reported being current for colorectal cancer screening.** Persons with health insurance were over twice as likely to be current for colorectal cancer screening. In 2020, Idaho ranked 47th among states and the District of Columbia in the percentage of adults aged 50–75 and older who reported being up-to-date for colorectal cancer screening.

** 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, or a colonoscopy in the past 10 years.

Cancer Screening and Risk Factors

Tobacco Use

Current Tobacco Use – 2016–2021
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, 22.3% of adults aged 18 and older were current tobacco users. Tobacco use differed significantly by age of respondent, with 29.9% of persons aged 18-29, and 11.1% of persons aged 65 and older reporting current tobacco use. Tobacco use was lower among white non-Hispanics (22.4%) than among Native Americans (40.0%). Tobacco use differed significantly by county, with a range of 5.4% in Madison County to 41.6% 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 – 2015–2021
Statewide, 32.1% 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 32.5% of white non-Hispanics, compared to 28.2% of Hispanics and 24.6% of Native Americans, being in the healthy weight range. Males (25.5%) were significantly less likely to be in the healthy weight range than females (38.6%). BMI differed significantly by age of respondent, with 43.3% of persons aged 18–29, and 26.0% of persons aged 50–64, being in the healthy weight range. BMI differed significantly by county, with a range of 19.8% in Power County to 47.4% in Blaine County of adults being in the healthy weight range.

Any Physical Activity – 2015-2021
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, 78.7% 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 83.3% of persons aged 18–29, and 72.3% 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 64.3% in Clark County to 84.6% in Teton County.

Physical Activity Guidelines – 2011, 2013, 2015, 2017, 2019
Statewide, 21.9% 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 26.3% 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 9.6% in Franklin County to 30.6% in Blaine County.

Home Radon Testing – 2016, 2018, 2020
Statewide, 23.0% of adults have ever tested their house for radon. Radon test usage varied significantly by race/ethnicity, with 25.1% of white non-Hispanics, 7.4% 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 8.5% in Cassia County to 54.4% in Blaine County.

This project has been funded in whole or in part with Federal funds from the National Cancer Institute, National Institutes of Health, Department of Health and Human Services, under Contract No. HHSN261201800006I and the Centers for Disease Control and Prevention, Department of Health and Human Services, under Cooperative Agreement NU58DP007160. The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention or the National Cancer Institute.

VALLEY COUNTY CANCER PROFILE

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

Cancer Incidence 2016–2020
Cancer Mortality 2017–2021
BRFSS 2011–2021

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.2016.3332). 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 2016–2020

Nearly one in two Idahoans are estimated to develop cancer during their lifetime. During 2016–2020, 45,610 cases of invasive cancer were diagnosed among Idaho residents, and 379 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, 2016–2020

Cancer Incidence 2016–2020	Valley County	State of Idaho
All Sites/Types	**379**	**45,610**
Female Breast	**53**	**6,687**
Prostate	**73**	**6,417**
Lung & Bronchus	**28**	**4,887**
Colorectal	**26**	**3,451**

Table 3 (*Cancer Incidence 2016–2020, 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 683.8 cases per 100,000 person-years per year during 2016–2020. Comparing this crude rate with the crude rate for the remainder of Idaho (518.9) 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 478.1 cases per 100,000 persons per year during 2016–2020. There were fewer cases of cancer in Valley County (379) than expected (411.3) 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 2017–2021

During 2017–2021, cancer was the second leading cause of death in Idaho; 15,121 Idaho residents and 104 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, 2017–2021

Mortality 2017–2021	Valley County	State of Idaho
All Deaths	**414**	**77,431**
Cancer Deaths	**104**	**15,121**
% of All Deaths	*25.1%*	*19.5%*
Lung & Bronchus	**16**	**2,961**
Colorectal	**7**	**1,319**
Pancreas	**7**	**1,190**
Female Breast	**7**	**1,086**
Prostate	**7**	**949**

Table 4 (*Cancer Mortality 2017–2021, 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 128.0 deaths per 100,000 persons per year during 2017–2021, compared with 168.1 for the remainder of the state. There were statistically significantly fewer cancer deaths in Valley County (104) than expected (136.6) 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 2016–2020
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	379	55,427	683.8	478.1	411.3	0.114	45,231	8,716,401	518.9
All Sites Combined	Male	231	28,610	807.4	519.1	245.1	0.386	24,058	4,368,300	550.7
All Sites Combined	Female	148	26,817	551.9	416.3	173.1	0.057	21,173	4,348,101	486.9
Bladder	Total	20	55,427	36.1	24.5	20.2	1.000	2,164	8,716,401	24.8
Bladder	Male	17	28,610	59.4	37.0	18.2	0.896	1,734	4,368,300	39.7
Bladder	Female	3	26,817	11.2	8.2	3.6	1.000	430	4,348,101	9.9
Brain - malignant	Total	3	55,427	5.4	4.1	5.2	0.486	622	8,716,401	7.1
Brain - malignant	Male	2	28,610	7.0	5.1	3.4	0.697	373	4,368,300	8.5
Brain - malignant	Female	1	26,817	3.7	3.0	1.9	0.867	249	4,348,101	5.7
Brain and other CNS - non-malignant	Total	1	55,427	1.8	1.4	12.1	0.000 <<	1,423	8,716,401	16.3
Brain and other CNS - non-malignant	Male	-	28,610	-	-	4.3	0.026 <<	480	4,368,300	11.0
Brain and other CNS - non-malignant	Female	1	26,817	3.7	2.9	7.4	0.010 <<	943	4,348,101	21.7
Breast	Total	53	55,427	95.6	67.7	60.1	0.398	6,693	8,716,401	76.8
Breast	Male	-	28,610	-	-	0.6	1.000	59	4,368,300	1.4
Breast	Female	53	26,817	197.6	146.2	55.3	0.825	6,634	4,348,101	152.6
Breast - in situ	Total	9	55,427	16.2	11.4	11.2	0.643	1,230	8,716,401	14.1
Breast - in situ	Male	-	28,610	-	-	0.0	1.000	5	4,368,300	0.1
Breast - in situ	Female	9	26,817	33.6	24.3	10.4	0.810	1,225	4,348,101	28.2
Cervix	Female	3	26,817	11.2	9.8	2.1	0.716	301	4,348,101	6.9
Colorectal	Total	26	55,427	46.9	33.7	30.3	0.499	3,425	8,716,401	39.3
Colorectal	Male	18	28,610	62.9	42.4	18.3	1.000	1,885	4,368,300	43.2
Colorectal	Female	8	26,817	29.8	23.0	12.3	0.269	1,540	4,348,101	35.4
Corpus Uteri	Female	7	26,817	26.1	18.7	11.4	0.240	1,323	4,348,101	30.4
Esophagus	Total	4	55,427	7.2	4.9	4.7	0.994	502	8,716,401	5.8
Esophagus	Male	3	28,610	10.5	6.7	4.3	0.743	421	4,368,300	9.6
Esophagus	Female	1	26,817	3.7	2.7	0.7	0.994	81	4,348,101	1.9
Hodgkin Lymphoma	Total	3	55,427	5.4	5.0	1.4	0.347	207	8,716,401	2.4
Hodgkin Lymphoma	Male	3	28,610	10.5	9.1	0.9	0.116	115	4,368,300	2.6
Hodgkin Lymphoma	Female	-	26,817	-	-	0.6	1.000	92	4,348,101	2.1
Kidney and Renal Pelvis	Total	15	55,427	27.1	19.1	16.2	0.896	1,800	8,716,401	20.7
Kidney and Renal Pelvis	Male	11	28,610	38.4	25.7	11.5	1.000	1,171	4,368,300	26.8
Kidney and Renal Pelvis	Female	4	26,817	14.9	11.2	5.2	0.819	629	4,348,101	14.5
Larynx	Total	1	55,427	1.8	1.2	2.0	0.810	214	8,716,401	2.5
Larynx	Male	1	28,610	3.5	2.2	1.6	1.000	159	4,368,300	3.6
Larynx	Female	-	26,817	-	-	0.5	1.000	55	4,348,101	1.3
Leukemia	Total	13	55,427	23.5	17.2	14.0	0.920	1,618	8,716,401	18.6
Leukemia	Male	8	28,610	28.0	19.1	9.4	0.813	981	4,368,300	22.5
Leukemia	Female	5	26,817	18.6	14.6	5.0	1.000	637	4,348,101	14.7
Liver and Bile Duct	Total	6	55,427	10.8	7.2	7.9	0.662	823	8,716,401	9.4
Liver and Bile Duct	Male	5	28,610	17.5	10.9	6.1	0.849	585	4,368,300	13.4
Liver and Bile Duct	Female	1	26,817	3.7	2.7	2.0	0.797	238	4,348,101	5.5
Lung and Bronchus	Total	28	55,427	50.5	33.7	46.3	0.005 <<	4,859	8,716,401	55.7
Lung and Bronchus	Male	11	28,610	38.4	23.6	26.1	0.002 <<	2,441	4,368,300	55.9
Lung and Bronchus	Female	17	26,817	63.4	45.8	20.6	0.501	2,418	4,348,101	55.6
Melanoma of the Skin	Total	36	55,427	65.0	47.3	25.3	0.053	2,906	8,716,401	33.3
Melanoma of the Skin	Male	21	28,610	73.4	49.1	17.1	0.401	1,744	4,368,300	39.9
Melanoma of the Skin	Female	15	26,817	55.9	44.1	9.1	0.089	1,162	4,348,101	26.7
Myeloma	Total	10	55,427	18.0	12.3	6.5	0.247	698	8,716,401	8.0
Myeloma	Male	6	28,610	21.0	13.3	4.5	0.596	435	4,368,300	10.0
Myeloma	Female	4	26,817	14.9	10.9	2.2	0.367	263	4,348,101	6.0
Non-Hodgkin Lymphoma	Total	16	55,427	28.9	20.4	17.3	0.882	1,924	8,716,401	22.1
Non-Hodgkin Lymphoma	Male	12	28,610	41.9	27.9	11.0	0.839	1,117	4,368,300	25.6
Non-Hodgkin Lymphoma	Female	4	26,817	14.9	11.2	6.6	0.425	807	4,348,101	18.6
Oral Cavity and Pharynx	Total	19	55,427	34.3	23.4	11.9	0.070	1,276	8,716,401	14.6
Oral Cavity and Pharynx	Male	17	28,610	59.4	38.4	9.3	0.030 >>	919	4,368,300	21.0
Oral Cavity and Pharynx	Female	2	26,817	7.5	5.4	3.0	0.837	357	4,348,101	8.2
Ovary	Female	4	26,817	14.9	11.3	4.3	1.000	529	4,348,101	12.2
Pancreas	Total	6	55,427	10.8	7.4	13.1	0.049 <<	1,417	8,716,401	16.3
Pancreas	Male	2	28,610	7.0	4.4	8.1	0.026 <<	782	4,368,300	17.9
Pancreas	Female	4	26,817	14.9	11.2	5.2	0.800	635	4,348,101	14.6
Prostate	Male	73	28,610	255.2	154.1	68.8	0.646	6,344	4,368,300	145.2
Stomach	Total	1	55,427	1.8	1.3	4.2	0.160	466	8,716,401	5.3
Stomach	Male	1	28,610	3.5	2.3	3.1	0.370	308	4,368,300	7.1
Stomach	Female	-	26,817	-	-	1.2	0.587	158	4,348,101	3.6
Testis	Male	2	28,610	7.0	7.9	1.5	0.898	263	4,368,300	6.0
Thyroid	Total	4	55,427	7.2	6.1	9.1	0.103	1,216	8,716,401	14.0
Thyroid	Male	1	28,610	3.5	2.7	3.0	0.398	354	4,368,300	8.1
Thyroid	Female	3	26,817	11.2	9.9	6.0	0.297	862	4,348,101	19.8
Pediatric Age 0 to 19	Total	1	10,886	9.2	9.3	1.8	0.898	420	2,449,637	17.1
Pediatric Age 0 to 19	Male	1	5,599	17.9	17.9	1.0	1.000	222	1,250,911	17.7
Pediatric Age 0 to 19	Female	-	5,287	-	-	0.9	0.852	198	1,198,726	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 2017–2021
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	414	57,230	723.4	549.4	649.8	0.000 <<	77,016	8,931,485	862.3
All Causes of Death	Male	234	29,499	793.2	542.0	393.2	0.000 <<	40,822	4,482,369	910.7
All Causes of Death	Female	180	27,731	649.1	552.0	265.3	0.000 <<	36,194	4,449,116	813.5
All Malignant Cancers	Total	104	57,230	181.7	128.0	136.6	0.004 <<	15,017	8,931,485	168.1
All Malignant Cancers	Male	56	29,499	189.8	121.7	83.3	0.002 <<	8,120	4,482,369	181.2
All Malignant Cancers	Female	48	27,731	173.1	132.8	56.0	0.315	6,897	4,449,116	155.0
Bladder	Total	5	57,230	8.7	6.4	4.2	0.829	484	8,931,485	5.4
Bladder	Male	3	29,499	10.2	6.6	3.8	0.955	375	4,482,369	8.4
Bladder	Female	2	27,731	7.2	5.8	0.8	0.413	109	4,449,116	2.4
Brain and Other Nervous System	Total	5	57,230	8.7	6.2	4.5	0.925	499	8,931,485	5.6
Brain and Other Nervous System	Male	4	29,499	13.6	9.2	2.9	0.645	294	4,482,369	6.6
Brain and Other Nervous System	Female	1	27,731	3.6	2.7	1.7	0.990	205	4,449,116	4.6
Breast	Total	7	57,230	12.2	8.8	9.7	0.489	1,095	8,931,485	12.3
Breast	Male	-	29,499	-	-	0.2	1.000	16	4,482,369	0.4
Breast	Female	7	27,731	25.2	19.5	8.7	0.718	1,079	4,449,116	24.3
Cervix	Female	1	27,731	3.6	2.9	0.6	0.936	82	4,449,116	1.8
Colorectal	Total	7	57,230	12.2	8.8	11.7	0.209	1,312	8,931,485	14.7
Colorectal	Male	3	29,499	10.2	6.7	7.1	0.152	716	4,482,369	16.0
Colorectal	Female	4	27,731	14.4	11.4	4.7	0.992	596	4,449,116	13.4
Corpus Uteri	Female	1	27,731	3.6	2.6	1.5	1.000	172	4,449,116	3.9
Esophagus	Total	-	57,230	-	-	4.4	0.023 <<	477	8,931,485	5.3
Esophagus	Male	-	29,499	-	-	4.2	0.031 <<	401	4,482,369	8.9
Esophagus	Female	-	27,731	-	-	0.6	1.000	76	4,449,116	1.7
Hodgkin Lymphoma	Total	-	57,230	-	-	0.2	1.000	29	8,931,485	0.3
Hodgkin Lymphoma	Male	-	29,499	-	-	0.1	1.000	14	4,482,369	0.3
Hodgkin Lymphoma	Female	-	27,731	-	-	0.1	1.000	15	4,449,116	0.3
Kidney	Total	1	57,230	1.7	1.2	3.5	0.262	384	8,931,485	4.3
Kidney	Male	1	29,499	3.4	2.1	2.5	0.569	241	4,482,369	5.4
Kidney	Female	-	27,731	-	-	1.1	0.633	143	4,449,116	3.2
Larynx	Total	1	57,230	1.7	1.2	0.6	0.951	70	8,931,485	0.8
Larynx	Male	-	29,499	-	-	0.6	1.000	58	4,482,369	1.3
Larynx	Female	1	27,731	3.6	2.5	0.1	0.203	12	4,449,116	0.3
Leukemia	Total	7	57,230	12.2	9.0	5.7	0.689	653	8,931,485	7.3
Leukemia	Male	5	29,499	16.9	11.2	3.8	0.658	381	4,482,369	8.5
Leukemia	Female	2	27,731	7.2	5.9	2.1	1.000	272	4,449,116	6.1
Liver and Bile Duct	Total	5	57,230	8.7	5.8	5.7	0.977	598	8,931,485	6.7
Liver and Bile Duct	Male	4	29,499	13.6	8.4	4.3	1.000	404	4,482,369	9.0
Liver and Bile Duct	Female	1	27,731	3.6	2.6	1.7	1.000	194	4,449,116	4.4
Lung and Bronchus	Total	16	57,230	28.0	19.0	27.8	0.023 <<	2,945	8,931,485	33.0
Lung and Bronchus	Male	6	29,499	20.3	12.6	16.5	0.006 <<	1,550	4,482,369	34.6
Lung and Bronchus	Female	10	27,731	36.1	27.0	11.6	0.775	1,395	4,449,116	31.4
Melanoma of the Skin	Total	3	57,230	5.2	3.8	2.6	0.942	286	8,931,485	3.2
Melanoma of the Skin	Male	1	29,499	3.4	2.2	1.9	0.858	191	4,482,369	4.3
Melanoma of the Skin	Female	2	27,731	7.2	5.6	0.8	0.358	95	4,449,116	2.1
Myeloma	Total	5	57,230	8.7	6.1	3.0	0.367	326	8,931,485	3.7
Myeloma	Male	2	29,499	6.8	4.3	2.0	1.000	194	4,482,369	4.3
Myeloma	Female	3	27,731	10.8	8.4	1.1	0.184	132	4,449,116	3.0
Non-Hodgkin Lymphoma	Total	5	57,230	8.7	6.3	5.0	1.000	564	8,931,485	6.3
Non-Hodgkin Lymphoma	Male	4	29,499	13.6	8.8	3.1	0.731	303	4,482,369	6.8
Non-Hodgkin Lymphoma	Female	1	27,731	3.6	2.9	2.1	0.784	261	4,449,116	5.9
Oral Cavity and Pharynx	Total	1	57,230	1.7	1.2	2.5	0.584	265	8,931,485	3.0
Oral Cavity and Pharynx	Male	1	29,499	3.4	2.1	1.9	0.846	186	4,482,369	4.1
Oral Cavity and Pharynx	Female	-	27,731	-	-	0.6	1.000	79	4,449,116	1.8
Ovary	Female	-	27,731	-	-	2.9	0.105	350	4,449,116	7.9
Pancreas	Total	7	57,230	12.2	8.3	11.1	0.270	1,183	8,931,485	13.2
Pancreas	Male	3	29,499	10.2	6.4	6.7	0.197	639	4,482,369	14.3
Pancreas	Female	4	27,731	14.4	10.7	4.6	1.000	544	4,449,116	12.2
Prostate	Male	7	29,499	23.7	15.3	9.6	0.517	942	4,482,369	21.0
Stomach	Total	1	57,230	1.7	1.3	1.7	0.984	197	8,931,485	2.2
Stomach	Male	1	29,499	3.4	2.3	1.2	1.000	120	4,482,369	2.7
Stomach	Female	-	27,731	-	-	0.6	1.000	77	4,449,116	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, 2020.

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 (BRFS) since 1984. These surveys are conducted with randomly selected adult Idahoans to measure population prevalences of risk factors for the major causes of death, including cancer. DPH provided data sets containing Behavioral Risk Factor Surveillance System (BRFSS) data from 2011 through 2021 to CDRI staff, who performed the analyses reported in these *County Profiles*. Analysis weights were poststratified to 2020 population estimates by age group, sex, and county, beginning with the BRFSS raked weights. Not all questions were asked in all years. 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* 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, 2011–2021

Measure	State of Idaho	HD 1	HD 2	HD 3	HD 4	HD 5	HD 6	HD 7	Valley County
Access to Care									
Have Health Insurance, Age <65 (2015–2021)	83.1%	82.8%	85.1%	77.2%	85.8%	78.9%	85.4%	85.4%	78.0%
Not See Doctor Due to Cost in Past Year (2015–2021)	12.6%	11.4%	11.8%	14.5%	12.4%	12.3%	11.8%	12.9%	13.4%
Cancer Screening									
Mammogram Past 2 Years, Age 50–74 (2014, 2016, 2018, 2020)	69.1%	67.0%	73.8%	68.2%	73.2%	64.8%	64.5%	67.1%	.
Pap Test Past 3 Years, Cervix Intact Age 21–65 (2018, 2020)	71.2%	73.6%	73.6%	70.8%	72.9%	69.1%	69.5%	65.9%	.
Colorectal Cancer Screening, Age 50–75 (2018, 2020)	67.9%	66.9%	73.6%	71.4%	70.6%	61.7%	61.5%	64.7%	.
Tobacco Use									
Current Tobacco User (2016–2021)	22.3%	26.7%	23.1%	23.6%	21.8%	21.4%	22.7%	16.9%	25.5%
Other Cancer-Related									
Healthy Weight by Body Mass Index, Age 20+ (2015–2021)	32.1%	32.8%	31.7%	27.9%	36.1%	29.8%	27.9%	31.9%	46.7%
Any Physical Activity Besides Job Past 30 Days (2015-2021)	78.7%	79.2%	78.1%	74.5%	83.2%	73.4%	76.3%	79.7%	83.5%
Meet Physical Activity Guidelines (2011, 2013, 2015, 2017, 2019)	21.9%	22.8%	19.4%	20.0%	25.2%	19.5%	20.4%	20.2%	26.1%
Home Ever Tested for Radon (2016, 2018, 2020)	23.0%	30.9%	18.2%	16.9%	25.1%	19.9%	23.0%	21.8%	29.5%

Access to Care

Have Health Insurance – 2015–2021
Statewide, 83.1% of adults aged 18–64 reported having health care coverage. Health care coverage differed significantly by race/ethnicity, with 86.0% of white non-Hispanics, compared to 64.8% of Hispanics and 83.3% of Native Americans, having health insurance. Spanish-speaking respondents were significantly less likely to be insured (33.3%) than English-speaking respondents (84.2%). Health care coverage differed significantly by age of respondent, with 79.8% of persons aged 18–29, and 87.8% of persons aged 50–64, having health insurance. Health care coverage differed significantly by county, with a range of 62.1% in Adams County to 91.6% in Oneida County having health insurance.

Not See Doctor Due to Cost in Past Year – 2015–2021
Statewide, 12.6% 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 (11.5% of white non-Hispanics, 19.2% of Hispanics, and 21.0% of Native Americans). Inability to see a doctor due to cost differed significantly by annual household income (24.9% for less than $15,000, 6.1% for greater than $50,000). Inability to see a doctor due to cost differed significantly by county, with a range of 7.4% in Franklin County to 17.5% in Power County.

Cancer Screening

Mammogram – 2014, 2016, 2018, 2020
Statewide, 69.1% of women aged 50–74 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 (72.1% versus 36.7%). Mammography rates differed significantly by county, with a range in screening of 45.9% in Benewah County to 77.0% in Nez Perce County. In 2020, Idaho ranked 48th among states and the District of Columbia for mammography screening rates among women aged 50–74 and also 48th among ages 40+.

Pap Test – 2018, 2020
Statewide, 71.2% 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 (75.1% versus 52.6% screened in the past 3 years). Pap screening differed significantly by county, with a range of 50.7% 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 – 2018, 2020
Statewide, 67.9% of adults aged 50–75 reported being current for colorectal cancer screening.** Persons with health insurance were over twice as likely to be current for colorectal cancer screening. In 2020, Idaho ranked 47th among states and the District of Columbia in the percentage of adults aged 50–75 and older who reported being up-to-date for colorectal cancer screening.

** 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, or a colonoscopy in the past 10 years.

Cancer Screening and Risk Factors

Tobacco Use

Current Tobacco Use – 2016–2021
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, 22.3% of adults aged 18 and older were current tobacco users. Tobacco use differed significantly by age of respondent, with 29.9% of persons aged 18-29, and 11.1% of persons aged 65 and older reporting current tobacco use. Tobacco use was lower among white non-Hispanics (22.4%) than among Native Americans (40.0%). Tobacco use differed significantly by county, with a range of 5.4% in Madison County to 41.6% 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 – 2015–2021
Statewide, 32.1% 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 32.5% of white non-Hispanics, compared to 28.2% of Hispanics and 24.6% of Native Americans, being in the healthy weight range. Males (25.5%) were significantly less likely to be in the healthy weight range than females (38.6%). BMI differed significantly by age of respondent, with 43.3% of persons aged 18–29, and 26.0% of persons aged 50–64, being in the healthy weight range. BMI differed significantly by county, with a range of 19.8% in Power County to 47.4% in Blaine County of adults being in the healthy weight range.

Any Physical Activity – 2015-2021
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, 78.7% 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 83.3% of persons aged 18–29, and 72.3% 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 64.3% in Clark County to 84.6% in Teton County.

Physical Activity Guidelines – 2011, 2013, 2015, 2017, 2019
Statewide, 21.9% 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 26.3% 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 9.6% in Franklin County to 30.6% in Blaine County.

Home Radon Testing – 2016, 2018, 2020
Statewide, 23.0% of adults have ever tested their house for radon. Radon test usage varied significantly by race/ethnicity, with 25.1% of white non-Hispanics, 7.4% 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 8.5% in Cassia County to 54.4% in Blaine County.

This project has been funded in whole or in part with Federal funds from the National Cancer Institute, National Institutes of Health, Department of Health and Human Services, under Contract No. HHSN261201800006I and the Centers for Disease Control and Prevention, Department of Health and Human Services, under Cooperative Agreement NU58DP007160. The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention or the National Cancer Institute.

WASHINGTON COUNTY CANCER PROFILE

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

Cancer Incidence 2016–2020
Cancer Mortality 2017–2021
BRFSS 2011–2021

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.2016.3332). 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 2016–2020

Nearly one in two Idahoans are estimated to develop cancer during their lifetime. During 2016–2020, 45,610 cases of invasive cancer were diagnosed among Idaho residents, and 405 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, 2016–2020

Cancer Incidence 2016–2020	Washington County	State of Idaho
All Sites/Types	**405**	**45,610**
Female Breast	**49**	**6,687**
Prostate	**62**	**6,417**
Lung & Bronchus	**45**	**4,887**
Colorectal	**42**	**3,451**

Table 3 (*Cancer Incidence 2016–2020, 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 799.7 cases per 100,000 person-years per year during 2016–2020. Comparing this crude rate with the crude rate for the remainder of Idaho (518.3) 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 573.8 cases per 100,000 persons per year during 2016–2020. There were statistically significantly more cases of cancer in Washington County (405) than expected (365.9) based upon rates in the remainder of the state (p=.046).

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 2017–2021

During 2017–2021, cancer was the second leading cause of death in Idaho; 15,121 Idaho residents and 152 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, 2017–2021

Mortality 2017–2021	Washington County	State of Idaho
All Deaths	**712**	**77,431**
Cancer Deaths	**152**	**15,121**
% of All Deaths	*21.3%*	*19.5%*
Lung & Bronchus	**32**	**2,961**
Colorectal	**15**	**1,319**
Pancreas	**15**	**1,190**
Female Breast	**6**	**1,086**
Prostate	**6**	**949**

Table 4 (*Cancer Mortality 2017–2021, 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 195.5 deaths per 100,000 persons per year during 2017–2021, compared with 167.5 for the remainder of the state. There were more cancer deaths in Washington County (152) than expected (130.2) 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 2016–2020
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	405	50,641	799.7	573.8	365.9	0.046 >>	45,205	8,721,187	518.3
All Sites Combined	Male	223	25,185	885.4	599.4	204.8	0.219	24,066	4,371,725	550.5
All Sites Combined	Female	182	25,456	715.0	541.3	163.4	0.161	21,139	4,349,462	486.0
Bladder	Total	18	50,641	35.5	23.3	19.2	0.899	2,166	8,721,187	24.8
Bladder	Male	13	25,185	51.6	32.2	16.1	0.538	1,738	4,371,725	39.8
Bladder	Female	5	25,456	19.6	13.6	3.6	0.595	428	4,349,462	9.8
Brain - malignant	Total	1	50,641	2.0	1.6	4.6	0.114	624	8,721,187	7.2
Brain - malignant	Male	-	25,185	-	-	2.8	0.123	375	4,371,725	8.6
Brain - malignant	Female	1	25,456	3.9	3.1	1.8	0.913	249	4,349,462	5.7
Brain and other CNS - non-malignant	Total	14	50,641	27.6	21.0	10.8	0.400	1,410	8,721,187	16.2
Brain and other CNS - non-malignant	Male	5	25,185	19.9	15.1	3.6	0.590	475	4,371,725	10.9
Brain and other CNS - non-malignant	Female	9	25,456	35.4	27.3	7.1	0.568	935	4,349,462	21.5
Breast	Total	49	50,641	96.8	72.9	51.6	0.787	6,697	8,721,187	76.8
Breast	Male	-	25,185	-	-	0.5	1.000	59	4,371,725	1.3
Breast	Female	49	25,456	192.5	149.0	50.2	0.942	6,638	4,349,462	152.6
Breast - in situ	Total	7	50,641	13.8	10.7	9.2	0.601	1,232	8,721,187	14.1
Breast - in situ	Male	-	25,185	-	-	0.0	1.000	5	4,371,725	0.1
Breast - in situ	Female	7	25,456	27.5	21.8	9.0	0.639	1,227	4,349,462	28.2
Cervix	Female	1	25,456	3.9	3.8	1.8	0.918	303	4,349,462	7.0
Colorectal	Total	42	50,641	82.9	59.8	27.5	0.012 >>	3,409	8,721,187	39.1
Colorectal	Male	19	25,185	75.4	53.1	15.4	0.425	1,884	4,371,725	43.1
Colorectal	Female	23	25,456	90.4	66.7	12.1	0.007 >>	1,525	4,349,462	35.1
Corpus Uteri	Female	8	25,456	31.4	24.4	10.0	0.670	1,322	4,349,462	30.4
Esophagus	Total	8	50,641	15.8	10.9	4.2	0.127	498	8,721,187	5.7
Esophagus	Male	7	25,185	27.8	18.5	3.6	0.150	417	4,371,725	9.5
Esophagus	Female	1	25,456	3.9	2.8	0.7	0.973	81	4,349,462	1.9
Hodgkin Lymphoma	Total	-	50,641	-	-	1.3	0.545	210	8,721,187	2.4
Hodgkin Lymphoma	Male	-	25,185	-	-	0.7	0.950	118	4,371,725	2.7
Hodgkin Lymphoma	Female	-	25,456	-	-	0.6	1.000	92	4,349,462	2.1
Kidney and Renal Pelvis	Total	15	50,641	29.6	21.7	14.3	0.918	1,800	8,721,187	20.6
Kidney and Renal Pelvis	Male	12	25,185	47.6	33.9	9.5	0.488	1,170	4,371,725	26.8
Kidney and Renal Pelvis	Female	3	25,456	11.8	8.9	4.9	0.556	630	4,349,462	14.5
Larynx	Total	3	50,641	5.9	4.1	1.8	0.517	212	8,721,187	2.4
Larynx	Male	3	25,185	11.9	7.9	1.4	0.312	157	4,371,725	3.6
Larynx	Female	-	25,456	-	-	0.4	1.000	55	4,349,462	1.3
Leukemia	Total	16	50,641	31.6	22.4	13.2	0.513	1,615	8,721,187	18.5
Leukemia	Male	7	25,185	27.8	19.1	8.2	0.841	982	4,371,725	22.5
Leukemia	Female	9	25,456	35.4	25.8	5.1	0.147	633	4,349,462	14.6
Liver and Bile Duct	Total	13	50,641	25.7	18.2	6.7	0.040 >>	816	8,721,187	9.4
Liver and Bile Duct	Male	6	25,185	23.8	16.4	4.9	0.729	584	4,371,725	13.4
Liver and Bile Duct	Female	7	25,456	27.5	19.9	1.9	0.006 >>	232	4,349,462	5.3
Lung and Bronchus	Total	45	50,641	88.9	58.7	42.6	0.751	4,842	8,721,187	55.5
Lung and Bronchus	Male	20	25,185	79.4	50.0	22.3	0.732	2,432	4,371,725	55.6
Lung and Bronchus	Female	25	25,456	98.2	67.7	20.4	0.366	2,410	4,349,462	55.4
Melanoma of the Skin	Total	16	50,641	31.6	23.6	22.8	0.179	2,926	8,721,187	33.6
Melanoma of the Skin	Male	11	25,185	43.7	30.3	14.6	0.432	1,754	4,371,725	40.1
Melanoma of the Skin	Female	5	25,456	19.6	15.9	8.5	0.306	1,172	4,349,462	26.9
Myeloma	Total	11	50,641	21.7	14.6	6.0	0.087	697	8,721,187	8.0
Myeloma	Male	9	25,185	35.7	23.0	3.9	0.036 >>	432	4,371,725	9.9
Myeloma	Female	2	25,456	7.9	5.5	2.2	1.000	265	4,349,462	6.1
Non-Hodgkin Lymphoma	Total	23	50,641	45.4	32.5	15.6	0.091	1,917	8,721,187	22.0
Non-Hodgkin Lymphoma	Male	15	25,185	59.6	41.5	9.2	0.097	1,114	4,371,725	25.5
Non-Hodgkin Lymphoma	Female	8	25,456	31.4	23.0	6.4	0.634	803	4,349,462	18.5
Oral Cavity and Pharynx	Total	9	50,641	17.8	13.0	10.2	0.858	1,286	8,721,187	14.7
Oral Cavity and Pharynx	Male	5	25,185	19.9	14.1	7.6	0.471	931	4,371,725	21.3
Oral Cavity and Pharynx	Female	4	25,456	15.7	11.8	2.8	0.604	355	4,349,462	8.2
Ovary	Female	4	25,456	15.7	12.1	4.0	1.000	529	4,349,462	12.2
Pancreas	Total	15	50,641	29.6	20.0	12.1	0.480	1,408	8,721,187	16.1
Pancreas	Male	12	25,185	47.6	31.0	6.8	0.092	772	4,371,725	17.7
Pancreas	Female	3	25,456	11.8	8.2	5.3	0.440	636	4,349,462	14.6
Prostate	Male	62	25,185	246.2	164.1	54.9	0.372	6,355	4,371,725	145.4
Stomach	Total	3	50,641	5.9	4.1	3.9	0.922	464	8,721,187	5.3
Stomach	Male	2	25,185	7.9	5.3	2.7	1.000	307	4,371,725	7.0
Stomach	Female	1	25,456	3.9	2.9	1.3	1.000	157	4,349,462	3.6
Testis	Male	1	25,185	4.0	4.7	1.3	1.000	264	4,371,725	6.0
Thyroid	Total	3	50,641	5.9	5.5	7.6	0.109	1,217	8,721,187	14.0
Thyroid	Male	1	25,185	4.0	3.4	2.4	0.611	354	4,371,725	8.1
Thyroid	Female	2	25,456	7.9	7.6	5.2	0.215	863	4,349,462	19.8
Pediatric Age 0 to 19	Total	1	12,774	7.8	7.8	2.2	0.711	420	2,447,749	17.2
Pediatric Age 0 to 19	Male	1	6,428	15.6	15.6	1.1	1.000	222	1,250,082	17.8
Pediatric Age 0 to 19	Female	-	6,346	-	-	1.1	0.694	198	1,197,667	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 2017–2021
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	712	51,509	1,382.3	914.4	668.4	0.098	76,718	8,937,206	858.4
All Causes of Death	Male	368	25,661	1,434.1	929.9	358.9	0.646	40,688	4,486,207	907.0
All Causes of Death	Female	344	25,848	1,330.9	890.8	312.6	0.084	36,030	4,450,999	809.5
All Malignant Cancers	Total	152	51,509	295.1	195.5	130.2	0.067	14,969	8,937,206	167.5
All Malignant Cancers	Male	81	25,661	315.7	198.9	73.5	0.410	8,095	4,486,207	180.4
All Malignant Cancers	Female	71	25,848	274.7	190.3	57.6	0.097	6,874	4,450,999	154.4
Bladder	Total	3	51,509	5.8	3.6	4.5	0.673	486	8,937,206	5.4
Bladder	Male	1	25,661	3.9	2.3	3.7	0.238	377	4,486,207	8.4
Bladder	Female	2	25,848	7.7	5.0	1.0	0.514	109	4,450,999	2.4
Brain and Other Nervous System	Total	2	51,509	3.9	2.9	3.9	0.500	502	8,937,206	5.6
Brain and Other Nervous System	Male	2	25,661	7.8	5.5	2.4	1.000	296	4,486,207	6.6
Brain and Other Nervous System	Female	-	25,848	-	-	1.6	0.415	206	4,450,999	4.6
Breast	Total	6	51,509	11.6	8.1	9.1	0.395	1,096	8,937,206	12.3
Breast	Male	-	25,661	-	-	0.1	1.000	16	4,486,207	0.4
Breast	Female	6	25,848	23.2	16.6	8.8	0.460	1,080	4,450,999	24.3
Cervix	Female	-	25,848	-	-	0.6	1.000	83	4,450,999	1.9
Colorectal	Total	15	51,509	29.1	19.9	11.0	0.294	1,304	8,937,206	14.6
Colorectal	Male	7	25,661	27.3	18.3	6.1	0.812	712	4,486,207	15.9
Colorectal	Female	8	25,848	31.0	21.4	5.0	0.261	592	4,450,999	13.3
Corpus Uteri	Female	2	25,848	7.7	5.4	1.4	0.827	171	4,450,999	3.8
Esophagus	Total	3	51,509	5.8	3.9	4.0	0.849	474	8,937,206	5.3
Esophagus	Male	2	25,661	7.8	5.1	3.5	0.638	399	4,486,207	8.9
Esophagus	Female	1	25,848	3.9	2.7	0.6	0.937	75	4,450,999	1.7
Hodgkin Lymphoma	Total	-	51,509	-	-	0.2	1.000	29	8,937,206	0.3
Hodgkin Lymphoma	Male	-	25,661	-	-	0.1	1.000	14	4,486,207	0.3
Hodgkin Lymphoma	Female	-	25,848	-	-	0.1	1.000	15	4,450,999	0.3
Kidney	Total	2	51,509	3.9	2.5	3.4	0.686	383	8,937,206	4.3
Kidney	Male	2	25,661	7.8	5.0	2.2	1.000	240	4,486,207	5.3
Kidney	Female	-	25,848	-	-	1.3	0.570	143	4,450,999	3.2
Larynx	Total	2	51,509	3.9	2.6	0.6	0.240	69	8,937,206	0.8
Larynx	Male	2	25,661	7.8	4.9	0.5	0.188	56	4,486,207	1.2
Larynx	Female	-	25,848	-	-	0.1	1.000	13	4,450,999	0.3
Leukemia	Total	3	51,509	5.8	3.8	5.8	0.330	657	8,937,206	7.4
Leukemia	Male	-	25,661	-	-	3.6	0.057	386	4,486,207	8.6
Leukemia	Female	3	25,848	11.6	7.7	2.4	0.839	271	4,450,999	6.1
Liver and Bile Duct	Total	11	51,509	21.4	14.5	5.0	0.029 >>	592	8,937,206	6.6
Liver and Bile Duct	Male	5	25,661	19.5	12.7	3.5	0.561	403	4,486,207	9.0
Liver and Bile Duct	Female	6	25,848	23.2	16.2	1.6	0.011 >>	189	4,450,999	4.2
Lung and Bronchus	Total	32	51,509	62.1	40.4	26.0	0.280	2,929	8,937,206	32.8
Lung and Bronchus	Male	16	25,661	62.4	38.7	14.2	0.697	1,540	4,486,207	34.3
Lung and Bronchus	Female	16	25,848	61.9	41.9	11.9	0.297	1,389	4,450,999	31.2
Melanoma of the Skin	Total	1	51,509	1.9	1.3	2.4	0.603	288	8,937,206	3.2
Melanoma of the Skin	Male	1	25,661	3.9	2.5	1.7	0.998	191	4,486,207	4.3
Melanoma of the Skin	Female	-	25,848	-	-	0.8	0.922	97	4,450,999	2.2
Myeloma	Total	4	51,509	7.8	4.9	3.0	0.710	327	8,937,206	3.7
Myeloma	Male	3	25,661	11.7	6.9	1.9	0.573	193	4,486,207	4.3
Myeloma	Female	1	25,848	3.9	2.6	1.2	1.000	134	4,450,999	3.0
Non-Hodgkin Lymphoma	Total	11	51,509	21.4	13.7	5.0	0.027 >>	558	8,937,206	6.2
Non-Hodgkin Lymphoma	Male	6	25,661	23.4	14.6	2.7	0.121	301	4,486,207	6.7
Non-Hodgkin Lymphoma	Female	5	25,848	19.3	12.8	2.3	0.158	257	4,450,999	5.8
Oral Cavity and Pharynx	Total	2	51,509	3.9	2.6	2.2	1.000	264	8,937,206	3.0
Oral Cavity and Pharynx	Male	1	25,661	3.9	2.5	1.6	1.000	186	4,486,207	4.1
Oral Cavity and Pharynx	Female	1	25,848	3.9	2.7	0.6	0.949	78	4,450,999	1.8
Ovary	Female	4	25,848	15.5	10.9	2.8	0.637	346	4,450,999	7.8
Pancreas	Total	15	51,509	29.1	19.3	10.2	0.193	1,175	8,937,206	13.1
Pancreas	Male	12	25,661	46.8	29.7	5.7	0.027 >>	630	4,486,207	14.0
Pancreas	Female	3	25,848	11.6	8.0	4.6	0.648	545	4,450,999	12.2
Prostate	Male	6	25,661	23.4	13.7	9.2	0.374	943	4,486,207	21.0
Stomach	Total	4	51,509	7.8	5.4	1.6	0.160	194	8,937,206	2.2
Stomach	Male	2	25,661	7.8	5.1	1.0	0.551	119	4,486,207	2.7
Stomach	Female	2	25,848	7.7	5.6	0.6	0.242	75	4,450,999	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, 2020.

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 (BRFS) since 1984. These surveys are conducted with randomly selected adult Idahoans to measure population prevalences of risk factors for the major causes of death, including cancer. DPH provided data sets containing Behavioral Risk Factor Surveillance System (BRFSS) data from 2011 through 2021 to CDRI staff, who performed the analyses reported in these *County Profiles*. Analysis weights were poststratified to 2020 population estimates by age group, sex, and county, beginning with the BRFSS raked weights. Not all questions were asked in all years. 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* 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, 2011–2021

Measure	State of Idaho	HD 1	HD 2	HD 3	HD 4	HD 5	HD 6	HD 7	Washington County
Access to Care									
Have Health Insurance, Age <65 (2015–2021)	83.1%	82.8%	85.1%	77.2%	85.8%	78.9%	85.4%	85.4%	77.8%
Not See Doctor Due to Cost in Past Year (2015–2021)	12.6%	11.4%	11.8%	14.5%	12.4%	12.3%	11.8%	12.9%	14.5%
Cancer Screening									
Mammogram Past 2 Years, Age 50–74 (2014, 2016, 2018, 2020)	69.1%	67.0%	73.8%	68.2%	73.2%	64.8%	64.5%	67.1%	70.5%
Pap Test Past 3 Years, Cervix Intact Age 21–65 (2018, 2020)	71.2%	73.6%	73.6%	70.8%	72.9%	69.1%	69.5%	65.9%	.
Colorectal Cancer Screening, Age 50–75 (2018, 2020)	67.9%	66.9%	73.6%	71.4%	70.6%	61.7%	61.5%	64.7%	62.0%
Tobacco Use									
Current Tobacco User (2016–2021)	22.3%	26.7%	23.1%	23.6%	21.8%	21.4%	22.7%	16.9%	29.1%
Other Cancer-Related									
Healthy Weight by Body Mass Index, Age 20+ (2015–2021)	32.1%	32.8%	31.7%	27.9%	36.1%	29.8%	27.9%	31.9%	25.7%
Any Physical Activity Besides Job Past 30 Days (2015-2021)	78.7%	79.2%	78.1%	74.5%	83.2%	73.4%	76.3%	79.7%	70.0%
Meet Physical Activity Guidelines (2011, 2013, 2015, 2017, 2019)	21.9%	22.8%	19.4%	20.0%	25.2%	19.5%	20.4%	20.2%	23.2%
Home Ever Tested for Radon (2016, 2018, 2020)	23.0%	30.9%	18.2%	16.9%	25.1%	19.9%	23.0%	21.8%	14.2%

Access to Care

Have Health Insurance – 2015–2021
Statewide, 83.1% of adults aged 18–64 reported having health care coverage. Health care coverage differed significantly by race/ethnicity, with 86.0% of white non-Hispanics, compared to 64.8% of Hispanics and 83.3% of Native Americans, having health insurance. Spanish-speaking respondents were significantly less likely to be insured (33.3%) than English-speaking respondents (84.2%). Health care coverage differed significantly by age of respondent, with 79.8% of persons aged 18–29, and 87.8% of persons aged 50–64, having health insurance. Health care coverage differed significantly by county, with a range of 62.1% in Adams County to 91.6% in Oneida County having health insurance.

Not See Doctor Due to Cost in Past Year – 2015–2021
Statewide, 12.6% 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 (11.5% of white non-Hispanics, 19.2% of Hispanics, and 21.0% of Native Americans). Inability to see a doctor due to cost differed significantly by annual household income (24.9% for less than $15,000, 6.1% for greater than $50,000). Inability to see a doctor due to cost differed significantly by county, with a range of 7.4% in Franklin County to 17.5% in Power County.

Cancer Screening

Mammogram – 2014, 2016, 2018, 2020
Statewide, 69.1% of women aged 50–74 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 (72.1% versus 36.7%). Mammography rates differed significantly by county, with a range in screening of 45.9% in Benewah County to 77.0% in Nez Perce County. In 2020, Idaho ranked 48th among states and the District of Columbia for mammography screening rates among women aged 50–74 and also 48th among ages 40+.

Pap Test – 2018, 2020
Statewide, 71.2% 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 (75.1% versus 52.6% screened in the past 3 years). Pap screening differed significantly by county, with a range of 50.7% 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 – 2018, 2020
Statewide, 67.9% of adults aged 50–75 reported being current for colorectal cancer screening.** Persons with health insurance were over twice as likely to be current for colorectal cancer screening. In 2020, Idaho ranked 47th among states and the District of Columbia in the percentage of adults aged 50–75 and older who reported being up-to-date for colorectal cancer screening.

** 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, or a colonoscopy in the past 10 years.

Cancer Screening and Risk Factors

Tobacco Use

Current Tobacco Use – 2016–2021
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, 22.3% of adults aged 18 and older were current tobacco users. Tobacco use differed significantly by age of respondent, with 29.9% of persons aged 18-29, and 11.1% of persons aged 65 and older reporting current tobacco use. Tobacco use was lower among white non-Hispanics (22.4%) than among Native Americans (40.0%). Tobacco use differed significantly by county, with a range of 5.4% in Madison County to 41.6% 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 – 2015–2021
Statewide, 32.1% 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 32.5% of white non-Hispanics, compared to 28.2% of Hispanics and 24.6% of Native Americans, being in the healthy weight range. Males (25.5%) were significantly less likely to be in the healthy weight range than females (38.6%). BMI differed significantly by age of respondent, with 43.3% of persons aged 18–29, and 26.0% of persons aged 50–64, being in the healthy weight range. BMI differed significantly by county, with a range of 19.8% in Power County to 47.4% in Blaine County of adults being in the healthy weight range.

Any Physical Activity – 2015-2021
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, 78.7% 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 83.3% of persons aged 18–29, and 72.3% 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 64.3% in Clark County to 84.6% in Teton County.

Physical Activity Guidelines – 2011, 2013, 2015, 2017, 2019
Statewide, 21.9% 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 26.3% 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 9.6% in Franklin County to 30.6% in Blaine County.

Home Radon Testing – 2016, 2018, 2020
Statewide, 23.0% of adults have ever tested their house for radon. Radon test usage varied significantly by race/ethnicity, with 25.1% of white non-Hispanics, 7.4% 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 8.5% in Cassia County to 54.4% in Blaine County.

This project has been funded in whole or in part with Federal funds from the National Cancer Institute, National Institutes of Health, Department of Health and Human Services, under Contract No. HHSN261201800006I and the Centers for Disease Control and Prevention, Department of Health and Human Services, under Cooperative Agreement NU58DP007160. The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention or the National Cancer Institute.