CANCER COUNTY PROFILES
2013–2017 Incidence Years

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Cancer Data Registry of Idaho

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ADA COUNTY CANCER PROFILE

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

Cancer Incidence 2013–2017
Cancer Mortality 2014–2018
BRFSS 2011–2018

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 are due to personal lifestyle factors, such as smoking and sedentary lifestyle, and are preventable. Additional cancers are 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. 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.

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://health.gov/dietaryguidelines/2015.

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
615 N. 7th Street
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/contact-center

American Cancer Society
2676 S. Vista Avenue
Boise, ID 83705
208-343-4609
https://www.cancer.org

CANCER INCIDENCE 2013–2017

Nearly one in two Idahoans are estimated to develop cancer during their lifetime. During 2013–2017, 40,996 cases of invasive cancer were diagnosed among Idaho residents, and 10,398 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, 2013–2017

Cancer Incidence 2013–2017	Ada County	State of Idaho
All Sites/Types	**10,398**	**40,996**
Female Breast	**1,669**	**5,956**
Prostate	**1,276**	**5,027**
Lung & Bronchus	**1,106**	**4,657**
Colorectal	**726**	**3,235**

Table 3 (*Cancer Incidence 2013–2017, 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 rate of invasive cancer incidence in Ada County was 477.8 cases per 100,000 person-years per year during 2013–2017. Comparing this crude rate with the crude rate for the remainder of Idaho (500.0) 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 518.4 cases per 100,000 persons per year during 2013–2017. There were statistically significantly more cases of cancer in Ada County (10,398) than expected (10,028.9) 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 2014–2018

During 2014–2018, cancer was the second leading cause of death in Idaho; 14,585 Idaho residents and 3,386 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, 2014–2018

Mortality 2014–2018	Ada County	State of Idaho
All Deaths	**14,979**	**67,280**
Cancer Deaths	**3,386**	**14,585**
% of All Deaths	*22.6%*	*21.7%*
Lung & Bronchus	**699**	**3,125**
Colorectal	**251**	**1,226**
Pancreas	**256**	**1,079**
Female Breast	**272**	**1,077**
Prostate	**183**	**935**

Table 4 (*Cancer Mortality 2014–2018, 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 169.5 deaths per 100,000 persons per year during 2014–2018, compared with 180.4 for the remainder of the state. There were statistically significantly fewer cancer deaths in Ada County (3,386) than expected (3,603.6) based upon rates in the remainder of the state ($p<.001$).

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

TABLE 3: CANCER INCIDENCE 2013–2017
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	10,398	2,176,376	477.8	518.4	10,028.9	0.000 >>	30,598	6,119,990	500.0
	Male	5,236	1,089,851	480.4	545.2	4,999.7	0.001 >>	15,961	3,066,144	520.6
	Female	5,162	1,086,525	475.1	497.0	4,978.2	0.010 >>	14,637	3,053,846	479.3
Bladder	Total	516	2,176,376	23.7	26.9	469.2	0.035 >>	1,499	6,119,990	24.5
	Male	383	1,089,851	35.1	41.6	356.2	0.166	1,187	3,066,144	38.7
	Female	133	1,086,525	12.2	13.3	102.2	0.004 >>	312	3,053,846	10.2
Brain - malignant	Total	161	2,176,376	7.4	7.7	152.7	0.522	449	6,119,990	7.3
	Male	96	1,089,851	8.8	9.4	91.4	0.658	275	3,066,144	9.0
	Female	65	1,086,525	6.0	6.1	60.3	0.578	174	3,053,846	5.7
Brain and other CNS - non-malignant	Total	285	2,176,376	13.1	13.7	267.0	0.285	787	6,119,990	12.9
	Male	86	1,089,851	7.9	8.4	89.8	0.743	268	3,066,144	8.7
	Female	199	1,086,525	18.3	18.9	178.5	0.138	519	3,053,846	17.0
Breast	Total	1,678	2,176,376	77.1	80.9	1,464.8	0.000 >>	4,323	6,119,990	70.6
	Male	9	1,089,851	0.8	1.0	10.7	0.742	36	3,066,144	1.2
	Female	1,669	1,086,525	153.6	158.6	1,477.3	0.000 >>	4,287	3,053,846	140.4
Breast - in situ	Total	306	2,176,376	14.1	14.3	264.6	0.014 >>	758	6,119,990	12.4
	Male	1	1,089,851	0.1	0.1	0.6	0.951	2	3,066,144	0.1
	Female	305	1,086,525	28.1	28.3	266.9	0.024 >>	756	3,053,846	24.8
Cervix	Female	57	1,086,525	5.2	4.9	76.4	0.025 <<	202	3,053,846	6.6
Colorectal	Total	726	2,176,376	33.4	36.0	825.7	0.000 <<	2,509	6,119,990	41.0
	Male	368	1,089,851	33.8	37.5	438.0	0.001 <<	1,367	3,066,144	44.6
	Female	358	1,086,525	32.9	34.8	384.6	0.181	1,142	3,053,846	37.4
Corpus Uteri	Female	270	1,086,525	24.8	25.7	323.4	0.003 <<	939	3,053,846	30.7
Esophagus	Total	126	2,176,376	5.8	6.4	110.7	0.164	343	6,119,990	5.6
	Male	103	1,089,851	9.5	10.7	89.7	0.182	285	3,066,144	9.3
	Female	23	1,086,525	2.1	2.3	19.0	0.420	58	3,053,846	1.9
Hodgkin Lymphoma	Total	46	2,176,376	2.1	2.1	54.1	0.298	153	6,119,990	2.5
	Male	21	1,089,851	1.9	1.9	31.0	0.075	87	3,066,144	2.8
	Female	25	1,086,525	2.3	2.3	23.2	0.764	66	3,053,846	2.2
Kidney and Renal Pelvis	Total	342	2,176,376	15.7	17.0	399.1	0.004 <<	1,212	6,119,990	19.8
	Male	232	1,089,851	21.3	23.6	245.1	0.422	763	3,066,144	24.9
	Female	110	1,086,525	10.1	10.7	151.1	0.001 <<	449	3,053,846	14.7
Larynx	Total	54	2,176,376	2.5	2.7	49.9	0.594	155	6,119,990	2.5
	Male	42	1,089,851	3.9	4.4	38.9	0.660	126	3,066,144	4.1
	Female	12	1,086,525	1.1	1.2	9.9	0.583	29	3,053,846	0.9
Leukemia	Total	351	2,176,376	16.1	17.7	367.0	0.421	1,135	6,119,990	18.5
	Male	200	1,089,851	18.4	20.7	214.2	0.351	681	3,066,144	22.2
	Female	151	1,086,525	13.9	14.9	150.4	0.985	454	3,053,846	14.9
Liver and Bile Duct	Total	204	2,176,376	9.4	10.2	172.2	0.020 >>	529	6,119,990	8.6
	Male	160	1,089,851	14.7	16.5	117.9	0.000 >>	372	3,066,144	12.1
	Female	44	1,086,525	4.0	4.3	52.4	0.271	157	3,053,846	5.1
Lung and Bronchus	Total	1,106	2,176,376	50.8	57.7	1,112.4	0.863	3,551	6,119,990	58.0
	Male	539	1,089,851	49.5	58.4	560.7	0.371	1,863	3,066,144	60.8
	Female	567	1,086,525	52.2	57.3	547.3	0.411	1,688	3,053,846	55.3
Melanoma of the Skin	Total	794	2,176,376	36.5	38.6	582.5	0.000 >>	1,732	6,119,990	28.3
	Male	456	1,089,851	41.8	46.3	325.5	0.000 >>	1,013	3,066,144	33.0
	Female	338	1,086,525	31.1	31.6	252.1	0.000 >>	719	3,053,846	23.5
Myeloma	Total	149	2,176,376	6.8	7.7	144.9	0.757	459	6,119,990	7.5
	Male	88	1,089,851	8.1	9.5	81.5	0.497	269	3,066,144	8.8
	Female	61	1,086,525	5.6	6.1	62.3	0.940	190	3,053,846	6.2
Non-Hodgkin Lymphoma	Total	433	2,176,376	19.9	21.9	433.2	1.000	1,340	6,119,990	21.9
	Male	241	1,089,851	22.1	25.1	239.8	0.955	766	3,066,144	25.0
	Female	192	1,086,525	17.7	18.9	190.9	0.957	574	3,053,846	18.8
Oral Cavity and Pharynx	Total	292	2,176,376	13.4	14.4	290.2	0.931	876	6,119,990	14.3
	Male	202	1,089,851	18.5	20.4	201.9	1.000	624	3,066,144	20.4
	Female	90	1,086,525	8.3	8.7	85.3	0.642	252	3,053,846	8.3
Ovary	Female	116	1,086,525	10.7	11.1	137.7	0.066	403	3,053,846	13.2
Pancreas	Total	330	2,176,376	15.2	16.9	310.4	0.279	974	6,119,990	15.9
	Male	168	1,089,851	15.4	17.7	165.0	0.839	534	3,066,144	17.4
	Female	162	1,086,525	14.9	16.2	144.1	0.151	440	3,053,846	14.4
Prostate	Male	1,276	1,089,851	117.1	134.5	1,160.5	0.001 >>	3,751	3,066,144	122.3
Stomach	Total	125	2,176,376	5.7	6.2	118.6	0.583	363	6,119,990	5.9
	Male	84	1,089,851	7.7	8.7	74.1	0.277	234	3,066,144	7.6
	Female	41	1,086,525	3.8	4.0	43.4	0.786	129	3,053,846	4.2
Testis	Male	79	1,089,851	7.2	6.7	72.6	0.482	188	3,066,144	6.1
Thyroid	Total	336	2,176,376	15.4	15.0	336.9	0.992	920	6,119,990	15.0
	Male	88	1,089,851	8.1	8.2	85.1	0.783	244	3,066,144	8.0
	Female	248	1,086,525	22.8	21.9	250.9	0.886	676	3,053,846	22.1
Pediatric Age 0 to 19	Total	120	594,068	20.2	20.3	102.9	0.106	315	1,806,454	17.4
	Male	63	303,701	20.7	20.8	56.1	0.389	171	922,201	18.5
	Female	57	290,367	19.6	19.8	46.8	0.164	144	884,253	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 2014-2018
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	14,979	2,230,262	671.6	744.5	16,948.2	0.000 <<	52,301	6,208,782	842.4
	Male	7,562	1,116,737	677.2	771.4	8,704.0	0.000 <<	27,624	3,111,143	887.9
	Female	7,417	1,113,525	666.1	722.1	8,182.6	0.000 <<	24,677	3,097,639	796.6
All Malignant Cancers	Total	3,386	2,230,262	151.8	169.5	3,603.6	0.000 <<	11,199	6,208,782	180.4
	Male	1,766	1,116,737	158.1	184.2	1,891.1	0.004 <<	6,135	3,111,143	197.2
	Female	1,620	1,113,525	145.5	156.8	1,688.8	0.095	5,064	3,097,639	163.5
Bladder	Total	97	2,230,262	4.3	5.0	103.0	0.599	329	6,208,782	5.3
	Male	68	1,116,737	6.1	7.3	74.9	0.462	251	3,111,143	8.1
	Female	29	1,113,525	2.6	2.9	25.4	0.529	78	3,097,639	2.5
Brain and Other Nervous System	Total	140	2,230,262	6.3	6.7	120.3	0.086	357	6,208,782	5.7
	Male	87	1,116,737	7.8	8.5	75.3	0.199	228	3,111,143	7.3
	Female	53	1,113,525	4.8	5.0	44.2	0.218	129	3,097,639	4.2
Breast	Total	273	2,230,262	12.2	13.3	269.6	0.851	814	6,208,782	13.1
	Male	1	1,116,737	0.1	0.1	2.8	0.476	9	3,111,143	0.3
	Female	272	1,113,525	24.4	25.9	273.1	0.978	805	3,097,639	26.0
Cervix	Female	18	1,113,525	1.6	1.6	22.8	0.373	62	3,097,639	2.0
Colorectal	Total	251	2,230,262	11.3	12.4	318.7	0.000 <<	975	6,208,782	15.7
	Male	139	1,116,737	12.4	14.1	165.8	0.037 <<	523	3,111,143	16.8
	Female	112	1,113,525	10.1	10.8	151.5	0.001 <<	452	3,097,639	14.6
Corpus Uteri	Female	38	1,113,525	3.4	3.7	38.1	1.000	115	3,097,639	3.7
Esophagus	Total	125	2,230,262	5.6	6.2	112.1	0.243	346	6,208,782	5.6
	Male	98	1,116,737	8.8	10.0	88.8	0.353	282	3,111,143	9.1
	Female	27	1,113,525	2.4	2.6	21.1	0.244	64	3,097,639	2.1
Hodgkin Lymphoma	Total	5	2,230,262	0.2	0.2	5.4	1.000	16	6,208,782	0.3
	Male	2	1,116,737	0.2	0.2	2.0	1.000	6	3,111,143	0.2
	Female	3	1,113,525	0.3	0.3	3.5	1.000	10	3,097,639	0.3
Kidney	Total	81	2,230,262	3.6	4.1	92.7	0.240	289	6,208,782	4.7
	Male	51	1,116,737	4.6	5.2	59.7	0.289	191	3,111,143	6.1
	Female	30	1,113,525	2.7	3.0	32.1	0.795	98	3,097,639	3.2
Larynx	Total	17	2,230,262	0.8	0.8	14.9	0.643	46	6,208,782	0.7
	Male	15	1,116,737	1.3	1.5	11.9	0.447	38	3,111,143	1.2
	Female	2	1,113,525	0.2	0.2	2.6	1.000	8	3,097,639	0.3
Leukemia	Total	161	2,230,262	7.2	8.1	144.9	0.199	455	6,208,782	7.3
	Male	84	1,116,737	7.5	8.8	83.6	0.995	274	3,111,143	8.8
	Female	77	1,113,525	6.9	7.5	59.8	0.037 >>	181	3,097,639	5.8
Liver and Bile Duct	Total	156	2,230,262	7.0	7.8	143.1	0.301	442	6,208,782	7.1
	Male	112	1,116,737	10.0	11.5	94.0	0.076	300	3,111,143	9.6
	Female	44	1,113,525	4.0	4.3	47.4	0.685	142	3,097,639	4.6
Lung and Bronchus	Total	699	2,230,262	31.3	35.5	769.3	0.011 <<	2,426	6,208,782	39.1
	Male	360	1,116,737	32.2	38.1	396.9	0.065	1,307	3,111,143	42.0
	Female	339	1,113,525	30.4	33.3	368.1	0.133	1,119	3,097,639	36.1
Melanoma of the Skin	Total	81	2,230,262	3.6	3.9	65.8	0.076	199	6,208,782	3.2
	Male	54	1,116,737	4.8	5.4	42.5	0.099	133	3,111,143	4.3
	Female	27	1,113,525	2.4	2.6	22.5	0.396	66	3,097,639	2.1
Myeloma	Total	82	2,230,262	3.7	4.2	77.1	0.604	247	6,208,782	4.0
	Male	43	1,116,737	3.9	4.6	45.4	0.800	152	3,111,143	4.9
	Female	39	1,113,525	3.5	3.9	30.7	0.170	95	3,097,639	3.1
Non-Hodgkin Lymphoma	Total	130	2,230,262	5.8	6.7	137.6	0.550	440	6,208,782	7.1
	Male	75	1,116,737	6.7	8.0	73.5	0.892	244	3,111,143	7.8
	Female	55	1,113,525	4.9	5.5	63.3	0.326	196	3,097,639	6.3
Oral Cavity and Pharynx	Total	52	2,230,262	2.3	2.6	55.4	0.709	171	6,208,782	2.8
	Male	38	1,116,737	3.4	3.9	35.9	0.764	114	3,111,143	3.7
	Female	14	1,113,525	1.3	1.4	19.0	0.304	57	3,097,639	1.8
Ovary	Female	87	1,113,525	7.8	8.4	92.8	0.593	276	3,097,639	8.9
Pancreas	Total	256	2,230,262	11.5	12.9	263.7	0.665	823	6,208,782	13.3
	Male	128	1,116,737	11.5	13.3	144.1	0.191	464	3,111,143	14.9
	Female	128	1,113,525	11.5	12.5	118.2	0.392	359	3,097,639	11.6
Prostate	Male	183	1,116,737	16.4	19.8	223.1	0.006 <<	752	3,111,143	24.2
Stomach	Total	51	2,230,262	2.3	2.5	52.5	0.911	159	6,208,782	2.6
	Male	33	1,116,737	3.0	3.3	28.4	0.431	89	3,111,143	2.9
	Female	18	1,113,525	1.6	1.7	23.8	0.274	70	3,097,639	2.3

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, 2019.

Cancer Screening and Risk Factors

The Bureau of Vital Records and Health Statistics (BVRHS), Division of Public Health, 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) with randomly selected adult Idahoans to measure population prevalences of risk factors for the major causes of death, including cancer, since 1984. BVRHS provided data sets containing Behavioral Risk Factor Surveillance System (BRFSS) data from 2011 through 2018 to CDRI staff, who performed the analyses reported in these *County Profiles*. Analysis weights were poststratified to 2018 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, 2011–2018

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 (2014–2018)	81.2%	80.6%	84.5%	74.6%	84.7%	75.5%	83.3%	83.8%	84.9%
Not See Doctor Due to Cost in Past Year (2014–2018)	14.3%	13.9%	12.2%	18.1%	13.6%	14.3%	12.5%	13.9%	13.7%
Cancer Screening									
Mammogram Past 2 Years, Age 50–74 (2014, 2016, 2018)	67.5%	66.8%	72.1%	63.2%	72.9%	61.0%	64.6%	66.8%	72.5%
Pap Test Past 3 Years, Cervix Intact Age 21–65 (2016, 2018)	72.5%	74.8%	74.3%	72.1%	73.0%	71.7%	72.7%	68.6%	72.4%
Colorectal Cancer Screening, Age 50–75 (2016, 2018)	65.4%	64.9%	71.3%	62.6%	68.9%	60.3%	62.1%	65.3%	69.7%
Tobacco Use									
Current Smoker (2014–2018)	14.6%	17.1%	15.1%	16.8%	13.1%	16.2%	14.4%	10.4%	12.0%
Current Smokeless Tobacco User, Males (2014–2018)	9.5%	10.6%	14.0%	11.1%	8.4%	8.9%	8.4%	7.3%	7.9%
Other Cancer-Related									
Sunburn in Previous 12 Months (2018)	47.7%	42.3%	49.0%	41.6%	50.8%	42.8%	49.9%	56.6%	52.0%
Artificial Tanning Appliance Use (2011, 2014, 2016)	4.4%	5.5%	3.3%	3.3%	3.4%	4.2%	5.7%	6.8%	3.6%
Healthy Weight by Body Mass Index, Age 20+ (2014–2018)	32.6%	34.2%	32.9%	27.0%	36.3%	31.1%	29.4%	32.4%	36.5%
Meet Physical Activity Guidelines (2011, 2013, 2015, 2017)	22.1%	22.1%	19.9%	20.6%	26.1%	18.8%	20.0%	20.1%	26.3%
Home Ever Tested for Radon (2016, 2018)	22.7%	29.7%	19.5%	16.3%	24.1%	20.2%	23.3%	22.7%	24.8%

Access to Care

Have Health Insurance – 2014–2018
Statewide, 81.2% of adults aged 18–64 reported having health care coverage. Health care coverage differed significantly by race/ethnicity, with 84.5% of white non-Hispanics, compared to 59.8% of Hispanics and 79.9% of Native Americans, having health insurance. Spanish-speaking respondents were significantly less likely to be insured (33.1%) than English-speaking respondents (83.1%). Health care coverage differed significantly by age of respondent, with 76.4% of persons aged 30–39, and 86.5% of persons aged 50–64, having health insurance. Health care coverage differed significantly by county, with a range of 57.4% in Adams County to 91.7% in Oneida County having health insurance.

Not See Doctor Due to Cost in Past Year – 2014–2018
Statewide, 14.3% 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 (13.2% of white non-Hispanics, 21.4% of Hispanics, and 23.1% of Native Americans). Inability to see a doctor due to cost differed significantly by annual household income (27.4% for less than $15,000, 6.7% for greater than $50,000). Inability to see a doctor due to cost differed significantly by county, with a range of 7.0% in Caribou County to 20.2% in Jerome County.

Cancer Screening

Mammogram – 2014, 2016, 2018
Statewide, 67.5% 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 (70.7% versus 34.0%). Mammography rates differed significantly by county, with a range in screening of 47.3% in Gooding County to 77.5% in Nez Perce County. In 2018, Idaho ranked 49th among states and the District of Columbia for mammography screening rates among women aged 50–74 and 50th among ages 40+.

Pap Test – 2016, 2018
Statewide, 72.5% 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 (77.3% versus 54.2% screened in the past 3 years). Pap screening differed significantly by county, with a range of 60.5% in Idaho County to 79.2% in Latah County. In 2018, Idaho ranked 51st among states and the District of Columbia for Pap screening rate.

Colorectal Cancer Screening – 2016, 2018
Statewide, 65.4% of adults aged 50–75 reported receiving colorectal cancer screening based on the most recent guidelines.** Persons with health insurance were over twice as likely to be current for colorectal cancer screening. In 2018, Idaho ranked 41st 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 Smoking – 2014–2018
Statewide, 14.6% of adults aged 18 and older were current smokers. Smoking prevalence differed significantly by age of respondent, with 19.2% of persons aged 30–39, and 8.4% of persons aged 65 and older reporting current smoking. Smoking prevalence was lower among white non-Hispanics (14.7%) than among Native Americans (32.4%). Smoking prevalence differed significantly by county, with a range of 4.3% in Madison County to 32.7% in Adams County. Counties with higher rates of current smoking had higher rates of lung cancer.

Smokeless Tobacco Use, Males – 2014–2018
Statewide, 9.5% of males aged 18 and older were current users of smokeless tobacco. Smokeless tobacco use differed significantly by age group, ranging from 12.8% of males aged 30–39 to 4.0% of males aged 65 and older. Smokeless tobacco use differed significantly by county, with a range of 3.4% in Franklin County to 21.1% in Custer County. Counties with higher rates of smokeless tobacco use had higher rates of oral cavity & pharynx cancer.

Other Cancer-Related

Sun Exposure – 2018
Statewide, 47.7% of adults aged 18 and older reported having sunburn in the past 12 months. Sunburn rates were higher for white non-Hispanics (49.6%) and Native Americans (48.7%) than for Hispanics (35.2%). Sunburn rates differed significantly by age group, with 67.2% of persons aged 30–39 and 17.9% of persons aged 65 and older having sunburn in the past 12 months. Sunburn rates differed significantly by county, with a range of 36.7% in Idaho County to 72.9% in Madison County having sunburn in the past 12 months.

Artificial Tanning Appliance Use – 2011, 2014, 2016
Statewide, 4.4% of adults aged 18 and older reported using an artificial tanning appliance, such as a tanning bed, in the past 12 months. Females (6.8%) were significantly more likely than males (2.1%) to have used an artificial tanning appliance in the past 12 months. Tanning appliance use differed significantly by age group, with 8.7% of persons aged 18–29 and 0.9% of persons aged 65 and older, using an appliance in the past 12 months. Tanning appliance use differed by county, with a range of less than 1% in Oneida, Power, and Valley Counties to over 9% in Bear Lake and Fremont Counties using an artificial tanning appliance in the past 12 months.

Healthy Weight by Body Mass Index – 2014–2018
Statewide, 32.6% 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 33.3% of white non-Hispanics, compared to 26.0% of Hispanics and 26.8% of Native Americans, being in the healthy weight range. Males (25.7%) were significantly less likely to be in the healthy weight range than females (39.4%). BMI differed significantly by age of respondent, with 45.0% of persons aged 18–29, and 27.1% of persons aged 50–64, being in the healthy weight range. BMI differed significantly by county, with a range of 19.5% in Minidoka County to 52.8% in Blaine County of adults being in the healthy weight range.

Physical Activity – 2011, 2013, 2015, 2017
Statewide, 22.1% of adults aged 18 and older met aerobic and strength physical activity guidelines during the past month or week. Physical activity differed significantly by age of respondent, with 26.3% of persons aged 18–29, and 19.3% of persons aged 50–64, meeting guidelines. The percentage of adults meeting physical activity guidelines differed significantly by county, with a range of 7.6% in Oneida County to 31.1% in Blaine County.

Home Radon Testing – 2016, 2018
Statewide, 22.7% of adults have ever tested their house for radon. Radon test usage varied significantly by race/ethnicity, with 24.7% of white non-Hispanics, 5.3% of Hispanics, and 27.9% 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 8.0% in Cassia County to 58.0% in Blaine County.

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ADAMS COUNTY CANCER PROFILE

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

Cancer Incidence 2013–2017
Cancer Mortality 2014–2018
BRFSS 2011–2018

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 are due to personal lifestyle factors, such as smoking and sedentary lifestyle, and are preventable. Additional cancers are 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. 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.

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://health.gov/dietaryguidelines/2015.

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
615 N. 7th Street
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/contact-center

American Cancer Society
2676 S. Vista Avenue
Boise, ID 83705
208-343-4609
https://www.cancer.org

CANCER INCIDENCE 2013–2017

Nearly one in two Idahoans are estimated to develop cancer during their lifetime. During 2013–2017, 40,996 cases of invasive cancer were diagnosed among Idaho residents, and 123 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, 2013–2017

Cancer Incidence 2013–2017	Adams County	State of Idaho
All Sites/Types	**123**	**40,996**
Female Breast	**7**	**5,956**
Prostate	**13**	**5,027**
Lung & Bronchus	**17**	**4,657**
Colorectal	**9**	**3,235**

Table 3 (*Cancer Incidence 2013–2017, 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 rate of invasive cancer incidence in Adams County was 624.2 cases per 100,000 person-years per year during 2013–2017. Comparing this crude rate with the crude rate for the remainder of Idaho (493.8) 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 381.6 cases per 100,000 persons per year during 2013–2017. There were statistically significantly fewer cases of cancer in Adams County (123) than expected (159.2) 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 2014–2018

During 2014–2018, cancer was the second leading cause of death in Idaho; 14,585 Idaho residents and 48 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, 2014–2018

Mortality 2014–2018	Adams County	State of Idaho
All Deaths	**207**	**67,280**
Cancer Deaths	**48**	**14,585**
% of All Deaths	*23.2%*	*21.7%*
Lung & Bronchus	**12**	**3,125**
Colorectal	**5**	**1,226**
Pancreas	**2**	**1,079**
Female Breast	**1**	**1,077**
Prostate	**4**	**935**

Table 4 (*Cancer Mortality 2014–2018, 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 142.0 deaths per 100,000 persons per year during 2014–2018, compared with 172.7 for the remainder of the state. There were fewer cancer deaths in Adams County (48) than expected (58.4) 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 2013–2017
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	123	19,705	624.2	381.6	159.2	0.003 <<	40,873	8,276,661	493.8
	Male	70	10,147	689.9	376.4	94.8	0.009 <<	21,127	4,145,848	509.6
	Female	53	9,558	554.5	375.6	67.5	0.081	19,746	4,130,813	478.0
Bladder	Total	8	19,705	40.6	23.4	8.3	1.000	2,007	8,276,661	24.2
	Male	6	10,147	59.1	30.6	7.4	0.787	1,564	4,145,848	37.7
	Female	2	9,558	20.9	13.5	1.6	0.946	443	4,130,813	10.7
Brain - malignant	Total	1	19,705	5.1	3.6	2.1	0.782	609	8,276,661	7.4
	Male	1	10,147	9.9	6.3	1.4	1.000	370	4,145,848	8.9
	Female	-	9,558	-	-	0.7	0.980	239	4,130,813	5.8
Brain and other CNS - non-malignant	Total	-	19,705	-	-	3.7	0.048 <<	1,072	8,276,661	13.0
	Male	-	10,147	-	-	1.3	0.536	354	4,145,848	8.5
	Female	-	9,558	-	-	2.3	0.198	718	4,130,813	17.4
Breast	Total	7	19,705	35.5	22.4	22.7	0.000 <<	5,994	8,276,661	72.4
	Male	-	10,147	-	-	0.2	1.000	45	4,145,848	1.1
	Female	7	9,558	73.2	49.0	20.6	0.001 <<	5,949	4,130,813	144.0
Breast - in situ	Total	2	19,705	10.1	6.6	3.9	0.515	1,062	8,276,661	12.8
	Male	-	10,147	-	-	0.0	1.000	3	4,145,848	0.1
	Female	2	9,558	20.9	14.3	3.6	0.612	1,059	4,130,813	25.6
Cervix	Female	-	9,558	-	-	0.7	1.000	259	4,130,813	6.3
Colorectal	Total	9	19,705	45.7	28.1	12.5	0.406	3,226	8,276,661	39.0
	Male	4	10,147	39.4	22.2	7.5	0.261	1,731	4,145,848	41.8
	Female	5	9,558	52.3	35.2	5.1	1.000	1,495	4,130,813	36.2
Corpus Uteri	Female	2	9,558	20.9	13.4	4.4	0.381	1,207	4,130,813	29.2
Esophagus	Total	-	19,705	-	-	1.9	0.290	469	8,276,661	5.7
	Male	-	10,147	-	-	1.8	0.340	388	4,145,848	9.4
	Female	-	9,558	-	-	0.3	1.000	81	4,130,813	2.0
Hodgkin Lymphoma	Total	1	19,705	5.1	4.8	0.5	0.789	198	8,276,661	2.4
	Male	1	10,147	9.9	9.2	0.3	0.489	107	4,145,848	2.6
	Female	-	9,558	-	-	0.2	1.000	91	4,130,813	2.2
Kidney and Renal Pelvis	Total	6	19,705	30.4	18.6	6.0	1.000	1,548	8,276,661	18.7
	Male	5	10,147	49.3	27.7	4.3	0.863	990	4,145,848	23.9
	Female	1	9,558	10.5	6.9	1.9	0.842	558	4,130,813	13.5
Larynx	Total	-	19,705	-	-	0.9	0.838	209	8,276,661	2.5
	Male	-	10,147	-	-	0.8	0.902	168	4,145,848	4.1
	Female	-	9,558	-	-	0.1	1.000	41	4,130,813	1.0
Leukemia	Total	3	19,705	15.2	9.8	5.5	0.408	1,483	8,276,661	17.9
	Male	2	10,147	19.7	11.4	3.7	0.569	879	4,145,848	21.2
	Female	1	9,558	10.5	7.6	1.9	0.848	604	4,130,813	14.6
Liver and Bile Duct	Total	1	19,705	5.1	2.9	3.0	0.388	732	8,276,661	8.8
	Male	-	10,147	-	-	2.4	0.173	532	4,145,848	12.8
	Female	1	9,558	10.5	6.7	0.7	1.000	200	4,130,813	4.8
Lung and Bronchus	Total	17	19,705	86.3	49.0	19.4	0.684	4,640	8,276,661	56.1
	Male	10	10,147	98.6	50.4	11.5	0.814	2,392	4,145,848	57.7
	Female	7	9,558	73.2	46.2	8.3	0.836	2,248	4,130,813	54.4
Melanoma of the Skin	Total	8	19,705	40.6	26.4	9.2	0.858	2,518	8,276,661	30.4
	Male	5	10,147	49.3	28.5	6.2	0.828	1,464	4,145,848	35.3
	Female	3	9,558	31.4	23.0	3.3	1.000	1,054	4,130,813	25.5
Myeloma	Total	4	19,705	20.3	11.8	2.5	0.472	604	8,276,661	7.3
	Male	2	10,147	19.7	10.2	1.7	0.999	355	4,145,848	8.6
	Female	2	9,558	20.9	13.7	0.9	0.439	249	4,130,813	6.0
Non-Hodgkin Lymphoma	Total	11	19,705	55.8	34.1	6.9	0.178	1,762	8,276,661	21.3
	Male	7	10,147	69.0	38.5	4.4	0.310	1,000	4,145,848	24.1
	Female	4	9,558	41.8	27.9	2.6	0.546	762	4,130,813	18.4
Oral Cavity and Pharynx	Total	6	19,705	30.4	18.4	4.6	0.621	1,162	8,276,661	14.0
	Male	3	10,147	29.6	16.6	3.6	1.000	823	4,145,848	19.9
	Female	3	9,558	31.4	20.8	1.2	0.233	339	4,130,813	8.2
Ovary	Female	2	9,558	20.9	14.1	1.8	1.000	517	4,130,813	12.5
Pancreas	Total	5	19,705	25.4	14.7	5.3	1.000	1,299	8,276,661	15.7
	Male	3	10,147	29.6	15.6	3.3	1.000	699	4,145,848	16.9
	Female	2	9,558	20.9	13.5	2.1	1.000	600	4,130,813	14.5
Prostate	Male	13	10,147	128.1	65.9	23.9	0.023 <<	5,014	4,145,848	120.9
Stomach	Total	-	19,705	-	-	1.9	0.295	488	8,276,661	5.9
	Male	-	10,147	-	-	1.4	0.482	318	4,145,848	7.7
	Female	-	9,558	-	-	0.6	1.000	170	4,130,813	4.1
Testis	Male	-	10,147	-	-	0.5	1.000	267	4,145,848	6.4
Thyroid	Total	7	19,705	35.5	28.8	3.7	0.159	1,249	8,276,661	15.1
	Male	3	10,147	29.6	21.0	1.1	0.212	329	4,145,848	7.9
	Female	4	9,558	41.8	35.6	2.5	0.485	920	4,130,813	22.3
Pediatric Age 0 to 19	Total	2	3,696	54.1	54.5	0.7	0.286	433	2,396,826	18.1
	Male	1	1,875	53.3	53.3	0.4	0.601	233	1,224,027	19.0
	Female	1	1,821	54.9	55.5	0.3	0.529	200	1,172,799	17.1

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

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

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

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

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

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

TABLE 4: CANCER MORTALITY 2014–2018
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	207	20,093	1,030.2	662.5	248.9	0.007 <<	67,073	8,418,951	796.7
	Male	126	10,384	1,213.4	707.8	148.0	0.072	35,060	4,217,496	831.3
	Female	81	9,709	834.3	589.1	104.8	0.019 <<	32,013	4,201,455	762.0
All Malignant Cancers	Total	48	20,093	238.9	142.0	58.4	0.191	14,537	8,418,951	172.7
	Male	31	10,384	298.5	160.2	36.1	0.451	7,870	4,217,496	186.6
	Female	17	9,709	175.1	114.4	23.6	0.202	6,667	4,201,455	158.7
Bladder	Total	2	20,093	10.0	6.0	1.7	0.994	424	8,418,951	5.0
	Male	2	10,384	19.3	10.4	1.4	0.847	317	4,217,496	7.5
	Female	-	9,709	-	-	0.4	1.000	107	4,201,455	2.5
Brain and Other Nervous System	Total	-	20,093	-	-	1.9	0.295	497	8,418,951	5.9
	Male	-	10,384	-	-	1.3	0.530	315	4,217,496	7.5
	Female	-	9,709	-	-	0.6	1.000	182	4,201,455	4.3
Breast	Total	1	20,093	5.0	3.1	4.2	0.153	1,086	8,418,951	12.9
	Male	-	10,384	-	-	0.0	1.000	10	4,217,496	0.2
	Female	1	9,709	10.3	6.8	3.8	0.219	1,076	4,201,455	25.6
Cervix	Female	-	9,709	-	-	0.3	1.000	80	4,201,455	1.9
Colorectal	Total	5	20,093	24.9	15.1	4.8	1.000	1,221	8,418,951	14.5
	Male	3	10,384	28.9	16.0	2.9	1.000	659	4,217,496	15.6
	Female	2	9,709	20.6	13.7	2.0	1.000	562	4,201,455	13.4
Corpus Uteri	Female	-	9,709	-	-	0.6	1.000	153	4,201,455	3.6
Esophagus	Total	-	20,093	-	-	1.9	0.291	471	8,418,951	5.6
	Male	-	10,384	-	-	1.7	0.350	380	4,217,496	9.0
	Female	-	9,709	-	-	0.3	1.000	91	4,201,455	2.2
Hodgkin Lymphoma	Total	-	20,093	-	-	0.1	1.000	21	8,418,951	0.2
	Male	-	10,384	-	-	0.0	1.000	8	4,217,496	0.2
	Female	-	9,709	-	-	0.0	1.000	13	4,201,455	0.3
Kidney	Total	1	20,093	5.0	2.9	1.5	1.000	369	8,418,951	4.4
	Male	1	10,384	9.6	5.2	1.1	1.000	241	4,217,496	5.7
	Female	-	9,709	-	-	0.5	1.000	128	4,201,455	3.0
Larynx	Total	-	20,093	-	-	0.3	1.000	63	8,418,951	0.7
	Male	-	10,384	-	-	0.2	1.000	53	4,217,496	1.3
	Female	-	9,709	-	-	0.0	1.000	10	4,201,455	0.2
Leukemia	Total	2	20,093	10.0	6.1	2.4	1.000	614	8,418,951	7.3
	Male	2	10,384	19.3	10.6	1.6	0.950	356	4,217,496	8.4
	Female	-	9,709	-	-	0.9	0.851	258	4,201,455	6.1
Liver and Bile Duct	Total	3	20,093	14.9	8.5	2.5	0.911	595	8,418,951	7.1
	Male	2	10,384	19.3	10.0	1.9	1.000	410	4,217,496	9.7
	Female	1	9,709	10.3	6.6	0.7	0.976	185	4,201,455	4.4
Lung and Bronchus	Total	12	20,093	59.7	34.2	13.0	0.934	3,113	8,418,951	37.0
	Male	8	10,384	77.0	39.8	7.9	1.000	1,659	4,217,496	39.3
	Female	4	9,709	41.2	26.1	5.3	0.778	1,454	4,201,455	34.6
Melanoma of the Skin	Total	2	20,093	10.0	6.0	1.1	0.597	278	8,418,951	3.3
	Male	1	10,384	9.6	5.3	0.8	1.000	186	4,217,496	4.4
	Female	1	9,709	10.3	7.0	0.3	0.539	92	4,201,455	2.2
Myeloma	Total	3	20,093	14.9	8.7	1.3	0.299	326	8,418,951	3.9
	Male	2	10,384	19.3	10.2	0.9	0.455	193	4,217,496	4.6
	Female	1	9,709	10.3	6.7	0.5	0.755	133	4,201,455	3.2
Non-Hodgkin Lymphoma	Total	3	20,093	14.9	8.9	2.3	0.798	567	8,418,951	6.7
	Male	2	10,384	19.3	10.3	1.5	0.857	317	4,217,496	7.5
	Female	1	9,709	10.3	6.8	0.9	1.000	250	4,201,455	6.0
Oral Cavity and Pharynx	Total	-	20,093	-	-	0.9	0.808	223	8,418,951	2.6
	Male	-	10,384	-	-	0.7	1.000	152	4,217,496	3.6
	Female	-	9,709	-	-	0.3	1.000	71	4,201,455	1.7
Ovary	Female	1	9,709	10.3	6.5	1.3	1.000	362	4,201,455	8.6
Pancreas	Total	2	20,093	10.0	5.7	4.5	0.358	1,077	8,418,951	12.8
	Male	1	10,384	9.6	5.1	2.8	0.474	591	4,217,496	14.0
	Female	1	9,709	10.3	6.6	1.8	0.954	486	4,201,455	11.6
Prostate	Male	4	10,384	38.5	20.6	4.3	1.000	931	4,217,496	22.1
Stomach	Total	-	20,093	-	-	0.8	0.893	210	8,418,951	2.5
	Male	-	10,384	-	-	0.5	1.000	122	4,217,496	2.9
	Female	-	9,709	-	-	0.3	1.000	88	4,201,455	2.1

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, 2019.

Cancer Screening and Risk Factors

The Bureau of Vital Records and Health Statistics (BVRHS), Division of Public Health, 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) with randomly selected adult Idahoans to measure population prevalences of risk factors for the major causes of death, including cancer, since 1984. BVRHS provided data sets containing Behavioral Risk Factor Surveillance System (BRFSS) data from 2011 through 2018 to CDRI staff, who performed the analyses reported in these *County Profiles*. Analysis weights were poststratified to 2018 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, 2011–2018

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 (2014–2018)	81.2%	80.6%	84.5%	74.6%	84.7%	75.5%	83.3%	83.8%	57.4%
Not See Doctor Due to Cost in Past Year (2014–2018)	14.3%	13.9%	12.2%	18.1%	13.6%	14.3%	12.5%	13.9%	15.6%
Cancer Screening									
Mammogram Past 2 Years, Age 50–74 (2014, 2016, 2018)	67.5%	66.8%	72.1%	63.2%	72.9%	61.0%	64.6%	66.8%	.
Pap Test Past 3 Years, Cervix Intact Age 21–65 (2016, 2018)	72.5%	74.8%	74.3%	72.1%	73.0%	71.7%	72.7%	68.6%	.
Colorectal Cancer Screening, Age 50–75 (2016, 2018)	65.4%	64.9%	71.3%	62.6%	68.9%	60.3%	62.1%	65.3%	.
Tobacco Use									
Current Smoker (2014–2018)	14.6%	17.1%	15.1%	16.8%	13.1%	16.2%	14.4%	10.4%	32.7%
Current Smokeless Tobacco User, Males (2014–2018)	9.5%	10.6%	14.0%	11.1%	8.4%	8.9%	8.4%	7.3%	.
Other Cancer-Related									
Sunburn in Previous 12 Months (2018)	47.7%	42.3%	49.0%	41.6%	50.8%	42.8%	49.9%	56.6%	.
Artificial Tanning Appliance Use (2011, 2014, 2016)	4.4%	5.5%	3.3%	3.3%	3.4%	4.2%	5.7%	6.8%	3.7%
Healthy Weight by Body Mass Index, Age 20+ (2014–2018)	32.6%	34.2%	32.9%	27.0%	36.3%	31.1%	29.4%	32.4%	25.9%
Meet Physical Activity Guidelines (2011, 2013, 2015, 2017)	22.1%	22.1%	19.9%	20.6%	26.1%	18.8%	20.0%	20.1%	15.7%
Home Ever Tested for Radon (2016, 2018)	22.7%	29.7%	19.5%	16.3%	24.1%	20.2%	23.3%	22.7%	.

Access to Care

Have Health Insurance – 2014–2018
Statewide, 81.2% of adults aged 18–64 reported having health care coverage. Health care coverage differed significantly by race/ethnicity, with 84.5% of white non-Hispanics, compared to 59.8% of Hispanics and 79.9% of Native Americans, having health insurance. Spanish-speaking respondents were significantly less likely to be insured (33.1%) than English-speaking respondents (83.1%). Health care coverage differed significantly by age of respondent, with 76.4% of persons aged 30–39, and 86.5% of persons aged 50–64, having health insurance. Health care coverage differed significantly by county, with a range of 57.4% in Adams County to 91.7% in Oneida County having health insurance.

Not See Doctor Due to Cost in Past Year – 2014–2018
Statewide, 14.3% 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 (13.2% of white non-Hispanics, 21.4% of Hispanics, and 23.1% of Native Americans). Inability to see a doctor due to cost differed significantly by annual household income (27.4% for less than $15,000, 6.7% for greater than $50,000). Inability to see a doctor due to cost differed significantly by county, with a range of 7.0% in Caribou County to 20.2% in Jerome County.

Cancer Screening

Mammogram – 2014, 2016, 2018
Statewide, 67.5% 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 (70.7% versus 34.0%). Mammography rates differed significantly by county, with a range in screening of 47.3% in Gooding County to 77.5% in Nez Perce County. In 2018, Idaho ranked 49th among states and the District of Columbia for mammography screening rates among women aged 50–74 and 50th among ages 40+.

Pap Test – 2016, 2018
Statewide, 72.5% 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 (77.3% versus 54.2% screened in the past 3 years). Pap screening differed significantly by county, with a range of 60.5% in Idaho County to 79.2% in Latah County. In 2018, Idaho ranked 51st among states and the District of Columbia for Pap screening rate.

Colorectal Cancer Screening – 2016, 2018
Statewide, 65.4% of adults aged 50–75 reported receiving colorectal cancer screening based on the most recent guidelines.** Persons with health insurance were over twice as likely to be current for colorectal cancer screening. In 2018, Idaho ranked 41st 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 Smoking – 2014–2018
Statewide, 14.6% of adults aged 18 and older were current smokers. Smoking prevalence differed significantly by age of respondent, with 19.2% of persons aged 30–39, and 8.4% of persons aged 65 and older reporting current smoking. Smoking prevalence was lower among white non-Hispanics (14.7%) than among Native Americans (32.4%). Smoking prevalence differed significantly by county, with a range of 4.3% in Madison County to 32.7% in Adams County. Counties with higher rates of current smoking had higher rates of lung cancer.

Smokeless Tobacco Use, Males – 2014–2018
Statewide, 9.5% of males aged 18 and older were current users of smokeless tobacco. Smokeless tobacco use differed significantly by age group, ranging from 12.8% of males aged 30–39 to 4.0% of males aged 65 and older. Smokeless tobacco use differed significantly by county, with a range of 3.4% in Franklin County to 21.1% in Custer County. Counties with higher rates of smokeless tobacco use had higher rates of oral cavity & pharynx cancer.

Other Cancer-Related

Sun Exposure – 2018
Statewide, 47.7% of adults aged 18 and older reported having sunburn in the past 12 months. Sunburn rates were higher for white non-Hispanics (49.6%) and Native Americans (48.7%) than for Hispanics (35.2%). Sunburn rates differed significantly by age group, with 67.2% of persons aged 30–39 and 17.9% of persons aged 65 and older having sunburn in the past 12 months. Sunburn rates differed significantly by county, with a range of 36.7% in Idaho County to 72.9% in Madison County having sunburn in the past 12 months.

Artificial Tanning Appliance Use – 2011, 2014, 2016
Statewide, 4.4% of adults aged 18 and older reported using an artificial tanning appliance, such as a tanning bed, in the past 12 months. Females (6.8%) were significantly more likely than males (2.1%) to have used an artificial tanning appliance in the past 12 months. Tanning appliance use differed significantly by age group, with 8.7% of persons aged 18–29 and 0.9% of persons aged 65 and older, using an appliance in the past 12 months. Tanning appliance use differed by county, with a range of less than 1% in Oneida, Power, and Valley Counties to over 9% in Bear Lake and Fremont Counties using an artificial tanning appliance in the past 12 months.

Healthy Weight by Body Mass Index – 2014–2018
Statewide, 32.6% 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 33.3% of white non-Hispanics, compared to 26.0% of Hispanics and 26.8% of Native Americans, being in the healthy weight range. Males (25.7%) were significantly less likely to be in the healthy weight range than females (39.4%). BMI differed significantly by age of respondent, with 45.0% of persons aged 18–29, and 27.1% of persons aged 50–64, being in the healthy weight range. BMI differed significantly by county, with a range of 19.5% in Minidoka County to 52.8% in Blaine County of adults being in the healthy weight range.

Physical Activity – 2011, 2013, 2015, 2017
Statewide, 22.1% of adults aged 18 and older met aerobic and strength physical activity guidelines during the past month or week. Physical activity differed significantly by age of respondent, with 26.3% of persons aged 18–29, and 19.3% of persons aged 50–64, meeting guidelines. The percentage of adults meeting physical activity guidelines differed significantly by county, with a range of 7.6% in Oneida County to 31.1% in Blaine County.

Home Radon Testing – 2016, 2018
Statewide, 22.7% of adults have ever tested their house for radon. Radon test usage varied significantly by race/ethnicity, with 24.7% of white non-Hispanics, 5.3% of Hispanics, and 27.9% 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 8.0% in Cassia County to 58.0% in Blaine County.

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BANNOCK COUNTY CANCER PROFILE

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

Cancer Incidence 2013–2017
Cancer Mortality 2014–2018
BRFSS 2011–2018

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 are due to personal lifestyle factors, such as smoking and sedentary lifestyle, and are preventable. Additional cancers are 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. 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.

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://health.gov/dietaryguidelines/2015.

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
615 N. 7th Street
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/contact-center

American Cancer Society
2676 S. Vista Avenue
Boise, ID 83705
208-343-4609
https://www.cancer.org

CANCER INCIDENCE 2013–2017

Nearly one in two Idahoans are estimated to develop cancer during their lifetime. During 2013–2017, 40,996 cases of invasive cancer were diagnosed among Idaho residents, and 1,609 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, 2013–2017

Cancer Incidence 2013–2017	Bannock County	State of Idaho
All Sites/Types	**1,609**	**40,996**
Female Breast	**243**	**5,956**
Prostate	**167**	**5,027**
Lung & Bronchus	**163**	**4,657**
Colorectal	**124**	**3,235**

Table 3 (*Cancer Incidence 2013–2017, 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 rate of invasive cancer incidence in Bannock County was 381.6 cases per 100,000 person-years per year during 2013–2017. Comparing this crude rate with the crude rate for the remainder of Idaho (500.2) 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 417.6 cases per 100,000 persons per year during 2013–2017. There were statistically significantly fewer cases of cancer in Bannock County (1,609) than expected (1,927.2) 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 2014–2018

During 2014–2018, cancer was the second leading cause of death in Idaho; 14,585 Idaho residents and 664 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, 2014–2018

Mortality 2014–2018	Bannock County	State of Idaho
All Deaths	**3,638**	**67,280**
Cancer Deaths	**664**	**14,585**
% of All Deaths	*18.3%*	*21.7%*
Lung & Bronchus	**122**	**3,125**
Colorectal	**71**	**1,226**
Pancreas	**59**	**1,079**
Female Breast	**43**	**1,077**
Prostate	**53**	**935**

Table 4 (*Cancer Mortality 2014–2018, 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 173.0 deaths per 100,000 persons per year during 2014–2018, compared with 173.7 for the remainder of the state. There were fewer cancer deaths in Bannock County (664) than expected (666.8) 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 2013–2017
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	1,609	421,634	381.6	417.6	1,927.2	0.000 <<	39,387	7,874,732	500.2
	Male	790	210,013	376.2	417.8	978.0	0.000 <<	20,407	3,945,982	517.2
	Female	819	211,621	387.0	418.2	946.0	0.000 <<	18,980	3,928,750	483.1
Bladder	Total	50	421,634	11.9	13.2	94.8	0.000 <<	1,965	7,874,732	25.0
	Male	39	210,013	18.6	21.0	72.2	0.000 <<	1,531	3,945,982	38.8
	Female	11	211,621	5.2	5.7	21.4	0.021 <<	434	3,928,750	11.0
Brain - malignant	Total	30	421,634	7.1	7.5	29.3	0.948	580	7,874,732	7.4
	Male	18	210,013	8.6	9.2	17.5	0.964	353	3,945,982	8.9
	Female	12	211,621	5.7	5.9	11.7	1.000	227	3,928,750	5.8
Brain and other CNS - non-malignant	Total	38	421,634	9.0	9.7	51.6	0.060	1,034	7,874,732	13.1
	Male	17	210,013	8.1	8.7	16.6	0.993	337	3,945,982	8.5
	Female	21	211,621	9.9	10.6	35.2	0.014 <<	697	3,928,750	17.7
Breast	Total	247	421,634	58.6	64.2	281.3	0.041 <<	5,754	7,874,732	73.1
	Male	4	210,013	1.9	2.2	1.9	0.257	41	3,945,982	1.0
	Female	243	211,621	114.8	124.7	283.3	0.016 <<	5,713	3,928,750	145.4
Breast - in situ	Total	38	421,634	9.0	9.9	49.9	0.096	1,026	7,874,732	13.0
	Male	1	210,013	0.5	0.5	0.1	0.193	2	3,945,982	0.1
	Female	37	211,621	17.5	19.1	50.6	0.057	1,024	3,928,750	26.1
Cervix	Female	15	211,621	7.1	7.3	12.8	0.601	244	3,928,750	6.2
Colorectal	Total	124	421,634	29.4	32.3	151.7	0.024 <<	3,111	7,874,732	39.5
	Male	68	210,013	32.4	36.0	79.9	0.198	1,667	3,945,982	42.2
	Female	56	211,621	26.5	28.8	71.6	0.068	1,444	3,928,750	36.8
Corpus Uteri	Female	59	211,621	27.9	30.2	57.1	0.835	1,150	3,928,750	29.3
Esophagus	Total	21	421,634	5.0	5.5	21.7	1.000	448	7,874,732	5.7
	Male	16	210,013	7.6	8.5	17.7	0.808	372	3,945,982	9.4
	Female	5	211,621	2.4	2.6	3.7	0.635	76	3,928,750	1.9
Hodgkin Lymphoma	Total	11	421,634	2.6	2.6	10.1	0.865	188	7,874,732	2.4
	Male	7	210,013	3.3	3.3	5.4	0.589	101	3,945,982	2.6
	Female	4	211,621	1.9	1.9	4.7	0.973	87	3,928,750	2.2
Kidney and Renal Pelvis	Total	62	421,634	14.7	16.2	72.7	0.227	1,492	7,874,732	18.9
	Male	42	210,013	20.0	22.3	45.5	0.667	953	3,945,982	24.2
	Female	20	211,621	9.5	10.2	26.8	0.215	539	3,928,750	13.7
Larynx	Total	13	421,634	3.1	3.4	9.6	0.339	196	7,874,732	2.5
	Male	11	210,013	5.2	5.8	7.5	0.280	157	3,945,982	4.0
	Female	2	211,621	0.9	1.0	2.0	1.000	39	3,928,750	1.0
Leukemia	Total	70	421,634	16.6	18.0	69.9	1.000	1,416	7,874,732	18.0
	Male	44	210,013	21.0	23.0	40.6	0.630	837	3,945,982	21.2
	Female	26	211,621	12.3	13.2	29.1	0.650	579	3,928,750	14.7
Liver and Bile Duct	Total	30	421,634	7.1	7.8	34.5	0.511	703	7,874,732	8.9
	Male	16	210,013	7.6	8.4	25.0	0.076	516	3,945,982	13.1
	Female	14	211,621	6.6	7.2	9.3	0.177	187	3,928,750	4.8
Lung and Bronchus	Total	163	421,634	38.7	43.0	216.5	0.000 <<	4,494	7,874,732	57.1
	Male	97	210,013	46.2	52.2	108.6	0.286	2,305	3,945,982	58.4
	Female	66	211,621	31.2	34.2	107.5	0.000 <<	2,189	3,928,750	55.7
Melanoma of the Skin	Total	116	421,634	27.5	29.7	119.6	0.791	2,410	7,874,732	30.6
	Male	53	210,013	25.2	27.8	68.5	0.062	1,416	3,945,982	35.9
	Female	63	211,621	29.8	31.6	50.4	0.097	994	3,928,750	25.3
Myeloma	Total	29	421,634	6.9	7.7	27.9	0.879	579	7,874,732	7.4
	Male	14	210,013	6.7	7.5	16.1	0.709	343	3,945,982	8.7
	Female	15	211,621	7.1	7.8	11.6	0.386	236	3,928,750	6.0
Non-Hodgkin Lymphoma	Total	75	421,634	17.8	19.5	82.9	0.418	1,698	7,874,732	21.6
	Male	38	210,013	18.1	20.1	46.5	0.238	969	3,945,982	24.6
	Female	37	211,621	17.5	19.0	36.2	0.934	729	3,928,750	18.6
Oral Cavity and Pharynx	Total	40	421,634	9.5	10.4	55.2	0.040 <<	1,128	7,874,732	14.3
	Male	28	210,013	13.3	14.7	38.4	0.098	798	3,945,982	20.2
	Female	12	211,621	5.7	6.1	16.4	0.335	330	3,928,750	8.4
Ovary	Female	30	211,621	14.2	15.3	24.4	0.301	489	3,928,750	12.4
Pancreas	Total	62	421,634	14.7	16.3	60.1	0.840	1,242	7,874,732	15.8
	Male	33	210,013	15.7	17.7	31.6	0.856	669	3,945,982	17.0
	Female	29	211,621	13.7	15.0	28.3	0.941	573	3,928,750	14.6
Prostate	Male	167	210,013	79.5	88.8	231.6	0.000 <<	4,860	3,945,982	123.2
Stomach	Total	18	421,634	4.3	4.7	22.8	0.367	470	7,874,732	6.0
	Male	13	210,013	6.2	6.9	14.5	0.816	305	3,945,982	7.7
	Female	5	211,621	2.4	2.6	8.2	0.354	165	3,928,750	4.2
Testis	Male	3	210,013	1.4	1.4	14.7	0.001 <<	264	3,945,982	6.7
Thyroid	Total	45	421,634	10.7	11.1	62.4	0.026 <<	1,211	7,874,732	15.4
	Male	10	210,013	4.8	5.0	16.2	0.142	322	3,945,982	8.2
	Female	35	211,621	16.5	17.0	46.6	0.095	889	3,928,750	22.6
Pediatric Age 0 to 19	Total	22	125,761	17.5	17.4	23.0	0.947	413	2,274,761	18.2
	Male	14	64,634	21.7	21.4	12.4	0.719	220	1,161,268	18.9
	Female	8	61,127	13.1	13.1	10.6	0.534	193	1,113,493	17.3

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

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

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

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

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

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

TABLE 4: CANCER MORTALITY 2014–2018
COMPARISON BETWEEN BANNOCK COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cause of Death Cancer Site/Type	Sex	Bannock 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	3,638	425,323	855.3	941.0	3,070.2	0.000 >>	63,642	8,013,721	794.2
	Male	1,890	211,770	892.5	993.1	1,577.7	0.000 >>	33,296	4,016,110	829.1
	Female	1,748	213,553	818.5	894.0	1,484.2	0.000 >>	30,346	3,997,611	759.1
All Malignant Cancers	Total	664	425,323	156.1	173.0	666.8	0.935	13,921	8,013,721	173.7
	Male	358	211,770	169.1	190.4	353.2	0.813	7,543	4,016,110	187.8
	Female	306	213,553	143.3	156.9	311.2	0.795	6,378	3,997,611	159.5
Bladder	Total	13	425,323	3.1	3.4	19.6	0.153	413	8,013,721	5.2
	Male	8	211,770	3.8	4.3	14.4	0.102	311	4,016,110	7.7
	Female	5	213,553	2.3	2.6	4.9	1.000	102	3,997,611	2.6
Brain and Other Nervous System	Total	24	425,323	5.6	6.1	23.1	0.909	473	8,013,721	5.9
	Male	15	211,770	7.1	7.8	14.4	0.946	300	4,016,110	7.5
	Female	9	213,553	4.2	4.5	8.6	0.972	173	3,997,611	4.3
Breast	Total	43	425,323	10.1	11.2	50.1	0.349	1,044	8,013,721	13.0
	Male	-	211,770	-	-	0.5	1.000	10	4,016,110	0.2
	Female	43	213,553	20.1	22.0	50.5	0.323	1,034	3,997,611	25.9
Cervix	Female	5	213,553	2.3	2.5	3.7	0.635	75	3,997,611	1.9
Colorectal	Total	71	425,323	16.7	18.4	55.5	0.051	1,155	8,013,721	14.4
	Male	39	211,770	18.4	20.6	29.4	0.102	623	4,016,110	15.5
	Female	32	213,553	15.0	16.4	25.9	0.277	532	3,997,611	13.3
Corpus Uteri	Female	5	213,553	2.3	2.6	7.2	0.549	148	3,997,611	3.7
Esophagus	Total	16	425,323	3.8	4.2	21.7	0.256	455	8,013,721	5.7
	Male	13	211,770	6.1	6.9	17.2	0.376	367	4,016,110	9.1
	Female	3	213,553	1.4	1.5	4.3	0.761	88	3,997,611	2.2
Hodgkin Lymphoma	Total	2	425,323	0.5	0.5	1.0	0.494	19	8,013,721	0.2
	Male	1	211,770	0.5	0.5	0.4	0.611	7	4,016,110	0.2
	Female	1	213,553	0.5	0.5	0.6	0.893	12	3,997,611	0.3
Kidney	Total	17	425,323	4.0	4.4	16.9	1.000	353	8,013,721	4.4
	Male	9	211,770	4.2	4.8	10.9	0.695	233	4,016,110	5.8
	Female	8	213,553	3.7	4.1	5.9	0.477	120	3,997,611	3.0
Larynx	Total	3	425,323	0.7	0.8	2.9	1.000	60	8,013,721	0.7
	Male	2	211,770	0.9	1.0	2.5	1.000	51	4,016,110	1.3
	Female	1	213,553	0.5	0.5	0.4	0.705	9	3,997,611	0.2
Leukemia	Total	24	425,323	5.6	6.2	28.4	0.470	592	8,013,721	7.4
	Male	15	211,770	7.1	8.0	16.1	0.920	343	4,016,110	8.5
	Female	9	213,553	4.2	4.6	12.2	0.448	249	3,997,611	6.2
Liver and Bile Duct	Total	25	425,323	5.9	6.5	27.6	0.714	573	8,013,721	7.2
	Male	15	211,770	7.1	7.9	18.8	0.454	397	4,016,110	9.9
	Female	10	213,553	4.7	5.1	8.6	0.714	176	3,997,611	4.4
Lung and Bronchus	Total	122	425,323	28.7	32.0	143.1	0.080	3,003	8,013,721	37.5
	Male	68	211,770	32.1	36.4	74.5	0.496	1,599	4,016,110	39.8
	Female	54	213,553	25.3	27.8	68.2	0.089	1,404	3,997,611	35.1
Melanoma of the Skin	Total	13	425,323	3.1	3.3	13.0	1.000	267	8,013,721	3.3
	Male	8	211,770	3.8	4.2	8.6	1.000	179	4,016,110	4.5
	Female	5	213,553	2.3	2.5	4.3	0.867	88	3,997,611	2.2
Myeloma	Total	22	425,323	5.2	5.8	14.6	0.084	307	8,013,721	3.8
	Male	11	211,770	5.2	5.9	8.5	0.478	184	4,016,110	4.6
	Female	11	213,553	5.2	5.7	6.0	0.084	123	3,997,611	3.1
Non-Hodgkin Lymphoma	Total	29	425,323	6.8	7.6	25.7	0.568	541	8,013,721	6.8
	Male	12	211,770	5.7	6.4	14.3	0.666	307	4,016,110	7.6
	Female	17	213,553	8.0	8.8	11.4	0.140	234	3,997,611	5.9
Oral Cavity and Pharynx	Total	7	425,323	1.6	1.8	10.4	0.378	216	8,013,721	2.7
	Male	6	211,770	2.8	3.2	6.9	0.935	146	4,016,110	3.6
	Female	1	213,553	0.5	0.5	3.4	0.287	70	3,997,611	1.8
Ovary	Female	19	213,553	8.9	9.7	16.8	0.652	344	3,997,611	8.6
Pancreas	Total	59	425,323	13.9	15.4	48.7	0.166	1,020	8,013,721	12.7
	Male	36	211,770	17.0	19.2	26.0	0.073	556	4,016,110	13.8
	Female	23	213,553	10.8	11.8	22.5	0.978	464	3,997,611	11.6
Prostate	Male	53	211,770	25.0	28.6	40.7	0.073	882	4,016,110	22.0
Stomach	Total	10	425,323	2.4	2.6	9.6	0.988	200	8,013,721	2.5
	Male	8	211,770	3.8	4.2	5.4	0.349	114	4,016,110	2.8
	Female	2	213,553	0.9	1.0	4.2	0.415	86	3,997,611	2.2

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, 2019.

Cancer Screening and Risk Factors

The Bureau of Vital Records and Health Statistics (BVRHS), Division of Public Health, 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) with randomly selected adult Idahoans to measure population prevalences of risk factors for the major causes of death, including cancer, since 1984. BVRHS provided data sets containing Behavioral Risk Factor Surveillance System (BRFSS) data from 2011 through 2018 to CDRI staff, who performed the analyses reported in these *County Profiles*. Analysis weights were poststratified to 2018 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, 2011–2018

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 (2014–2018)	81.2%	80.6%	84.5%	74.6%	84.7%	75.5%	83.3%	83.8%	85.0%
Not See Doctor Due to Cost in Past Year (2014–2018)	14.3%	13.9%	12.2%	18.1%	13.6%	14.3%	12.5%	13.9%	12.3%
Cancer Screening									
Mammogram Past 2 Years, Age 50–74 (2014, 2016, 2018)	67.5%	66.8%	72.1%	63.2%	72.9%	61.0%	64.6%	66.8%	67.4%
Pap Test Past 3 Years, Cervix Intact Age 21–65 (2016, 2018)	72.5%	74.8%	74.3%	72.1%	73.0%	71.7%	72.7%	68.6%	76.7%
Colorectal Cancer Screening, Age 50–75 (2016, 2018)	65.4%	64.9%	71.3%	62.6%	68.9%	60.3%	62.1%	65.3%	66.1%
Tobacco Use									
Current Smoker (2014–2018)	14.6%	17.1%	15.1%	16.8%	13.1%	16.2%	14.4%	10.4%	14.6%
Current Smokeless Tobacco User, Males (2014–2018)	9.5%	10.6%	14.0%	11.1%	8.4%	8.9%	8.4%	7.3%	8.5%
Other Cancer-Related									
Sunburn in Previous 12 Months (2018)	47.7%	42.3%	49.0%	41.6%	50.8%	42.8%	49.9%	56.6%	43.0%
Artificial Tanning Appliance Use (2011, 2014, 2016)	4.4%	5.5%	3.3%	3.3%	3.4%	4.2%	5.7%	6.8%	6.1%
Healthy Weight by Body Mass Index, Age 20+ (2014–2018)	32.6%	34.2%	32.9%	27.0%	36.3%	31.1%	29.4%	32.4%	30.9%
Meet Physical Activity Guidelines (2011, 2013, 2015, 2017)	22.1%	22.1%	19.9%	20.6%	26.1%	18.8%	20.0%	20.1%	24.2%
Home Ever Tested for Radon (2016, 2018)	22.7%	29.7%	19.5%	16.3%	24.1%	20.2%	23.3%	22.7%	25.5%

Access to Care

Have Health Insurance – 2014–2018
Statewide, 81.2% of adults aged 18–64 reported having health care coverage. Health care coverage differed significantly by race/ethnicity, with 84.5% of white non-Hispanics, compared to 59.8% of Hispanics and 79.9% of Native Americans, having health insurance. Spanish-speaking respondents were significantly less likely to be insured (33.1%) than English-speaking respondents (83.1%). Health care coverage differed significantly by age of respondent, with 76.4% of persons aged 30–39, and 86.5% of persons aged 50–64, having health insurance. Health care coverage differed significantly by county, with a range of 57.4% in Adams County to 91.7% in Oneida County having health insurance.

Not See Doctor Due to Cost in Past Year – 2014–2018
Statewide, 14.3% 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 (13.2% of white non-Hispanics, 21.4% of Hispanics, and 23.1% of Native Americans). Inability to see a doctor due to cost differed significantly by annual household income (27.4% for less than $15,000, 6.7% for greater than $50,000). Inability to see a doctor due to cost differed significantly by county, with a range of 7.0% in Caribou County to 20.2% in Jerome County.

Cancer Screening

Mammogram – 2014, 2016, 2018
Statewide, 67.5% 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 (70.7% versus 34.0%). Mammography rates differed significantly by county, with a range in screening of 47.3% in Gooding County to 77.5% in Nez Perce County. In 2018, Idaho ranked 49th among states and the District of Columbia for mammography screening rates among women aged 50–74 and 50th among ages 40+.

Pap Test – 2016, 2018
Statewide, 72.5% 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 (77.3% versus 54.2% screened in the past 3 years). Pap screening differed significantly by county, with a range of 60.5% in Idaho County to 79.2% in Latah County. In 2018, Idaho ranked 51st among states and the District of Columbia for Pap screening rate.

Colorectal Cancer Screening – 2016, 2018
Statewide, 65.4% of adults aged 50–75 reported receiving colorectal cancer screening based on the most recent guidelines.** Persons with health insurance were over twice as likely to be current for colorectal cancer screening. In 2018, Idaho ranked 41st 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 Smoking – 2014–2018
Statewide, 14.6% of adults aged 18 and older were current smokers. Smoking prevalence differed significantly by age of respondent, with 19.2% of persons aged 30–39, and 8.4% of persons aged 65 and older reporting current smoking. Smoking prevalence was lower among white non-Hispanics (14.7%) than among Native Americans (32.4%). Smoking prevalence differed significantly by county, with a range of 4.3% in Madison County to 32.7% in Adams County. Counties with higher rates of current smoking had higher rates of lung cancer.

Smokeless Tobacco Use, Males – 2014–2018
Statewide, 9.5% of males aged 18 and older were current users of smokeless tobacco. Smokeless tobacco use differed significantly by age group, ranging from 12.8% of males aged 30–39 to 4.0% of males aged 65 and older. Smokeless tobacco use differed significantly by county, with a range of 3.4% in Franklin County to 21.1% in Custer County. Counties with higher rates of smokeless tobacco use had higher rates of oral cavity & pharynx cancer.

Other Cancer-Related

Sun Exposure – 2018
Statewide, 47.7% of adults aged 18 and older reported having sunburn in the past 12 months. Sunburn rates were higher for white non-Hispanics (49.6%) and Native Americans (48.7%) than for Hispanics (35.2%). Sunburn rates differed significantly by age group, with 67.2% of persons aged 30–39 and 17.9% of persons aged 65 and older having sunburn in the past 12 months. Sunburn rates differed significantly by county, with a range of 36.7% in Idaho County to 72.9% in Madison County having sunburn in the past 12 months.

Artificial Tanning Appliance Use – 2011, 2014, 2016
Statewide, 4.4% of adults aged 18 and older reported using an artificial tanning appliance, such as a tanning bed, in the past 12 months. Females (6.8%) were significantly more likely than males (2.1%) to have used an artificial tanning appliance in the past 12 months. Tanning appliance use differed significantly by age group, with 8.7% of persons aged 18–29 and 0.9% of persons aged 65 and older, using an appliance in the past 12 months. Tanning appliance use differed by county, with a range of less than 1% in Oneida, Power, and Valley Counties to over 9% in Bear Lake and Fremont Counties using an artificial tanning appliance in the past 12 months.

Healthy Weight by Body Mass Index – 2014–2018
Statewide, 32.6% 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 33.3% of white non-Hispanics, compared to 26.0% of Hispanics and 26.8% of Native Americans, being in the healthy weight range. Males (25.7%) were significantly less likely to be in the healthy weight range than females (39.4%). BMI differed significantly by age of respondent, with 45.0% of persons aged 18–29, and 27.1% of persons aged 50–64, being in the healthy weight range. BMI differed significantly by county, with a range of 19.5% in Minidoka County to 52.8% in Blaine County of adults being in the healthy weight range.

Physical Activity – 2011, 2013, 2015, 2017
Statewide, 22.1% of adults aged 18 and older met aerobic and strength physical activity guidelines during the past month or week. Physical activity differed significantly by age of respondent, with 26.3% of persons aged 18–29, and 19.3% of persons aged 50–64, meeting guidelines. The percentage of adults meeting physical activity guidelines differed significantly by county, with a range of 7.6% in Oneida County to 31.1% in Blaine County.

Home Radon Testing – 2016, 2018
Statewide, 22.7% of adults have ever tested their house for radon. Radon test usage varied significantly by race/ethnicity, with 24.7% of white non-Hispanics, 5.3% of Hispanics, and 27.9% 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 8.0% in Cassia County to 58.0% in Blaine County.

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BEAR LAKE COUNTY CANCER PROFILE

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

Cancer Incidence 2013–2017
Cancer Mortality 2014–2018
BRFSS 2011–2018

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 are due to personal lifestyle factors, such as smoking and sedentary lifestyle, and are preventable. Additional cancers are 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. 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.

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://health.gov/dietaryguidelines/2015.

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
615 N. 7th Street
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/contact-center

American Cancer Society
2676 S. Vista Avenue
Boise, ID 83705
208-343-4609
https://www.cancer.org

CANCER INCIDENCE 2013–2017

Nearly one in two Idahoans are estimated to develop cancer during their lifetime. During 2013–2017, 40,996 cases of invasive cancer were diagnosed among Idaho residents, and 144 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, 2013–2017

Cancer Incidence 2013–2017	Bear Lake County	State of Idaho
All Sites/Types	**144**	**40,996**
Female Breast	**15**	**5,956**
Prostate	**23**	**5,027**
Lung & Bronchus	**12**	**4,657**
Colorectal	**15**	**3,235**

Table 3 (*Cancer Incidence 2013–2017, 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 rate of invasive cancer incidence in Bear Lake County was 484.7 cases per 100,000 person-years per year during 2013–2017. Comparing this crude rate with the crude rate for the remainder of Idaho (494.2) 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 396.0 cases per 100,000 persons per year during 2013–2017. There were statistically significantly fewer cases of cancer in Bear Lake County (144) than expected (179.7) based upon rates in the remainder of the state (p=.007).

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 2014–2018

During 2014–2018, cancer was the second leading cause of death in Idaho; 14,585 Idaho residents and 67 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, 2014–2018

Mortality 2014–2018	Bear Lake County	State of Idaho
All Deaths	**318**	**67,280**
Cancer Deaths	**67**	**14,585**
% of All Deaths	*21.1%*	*21.7%*
Lung & Bronchus	**11**	**3,125**
Colorectal	**11**	**1,226**
Pancreas	**4**	**1,079**
Female Breast	**4**	**1,077**
Prostate	**6**	**935**

Table 4 (*Cancer Mortality 2014–2018, 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 174.4 deaths per 100,000 persons per year during 2014–2018, compared with 172.6 for the remainder of the state. There were more cancer deaths in Bear Lake County (67) than expected (66.3) 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 2013–2017
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	144	29,710	484.7	396.0	179.7	0.007 <<	40,852	8,266,656	494.2
	Male	90	14,739	610.6	476.7	96.2	0.567	21,107	4,141,256	509.7
	Female	54	14,971	360.7	307.5	84.1	0.001 <<	19,745	4,125,400	478.6
Bladder	Total	6	29,710	20.2	15.5	9.4	0.342	2,009	8,266,656	24.3
	Male	5	14,739	33.9	25.1	7.5	0.478	1,565	4,141,256	37.8
	Female	1	14,971	6.7	5.3	2.0	0.803	444	4,125,400	10.8
Brain - malignant	Total	4	29,710	13.5	11.8	2.5	0.478	606	8,266,656	7.3
	Male	3	14,739	20.4	17.3	1.5	0.403	368	4,141,256	8.9
	Female	1	14,971	6.7	6.1	1.0	1.000	238	4,125,400	5.8
Brain and other CNS - non-malignant	Total	4	29,710	13.5	11.6	4.5	1.000	1,068	8,266,656	12.9
	Male	3	14,739	20.4	17.1	1.5	0.375	351	4,141,256	8.5
	Female	1	14,971	6.7	5.9	3.0	0.408	717	4,125,400	17.4
Breast	Total	15	29,710	50.5	42.9	25.3	0.039 <<	5,986	8,266,656	72.4
	Male	-	14,739	-	-	0.2	1.000	45	4,141,256	1.1
	Female	15	14,971	100.2	87.1	24.8	0.049 <<	5,941	4,125,400	144.0
Breast - in situ	Total	4	29,710	13.5	12.0	4.3	1.000	1,060	8,266,656	12.8
	Male	-	14,739	-	-	0.0	1.000	3	4,141,256	0.1
	Female	4	14,971	26.7	24.1	4.2	1.000	1,057	4,125,400	25.6
Cervix	Female	2	14,971	13.4	13.6	0.9	0.466	257	4,125,400	6.2
Colorectal	Total	15	29,710	50.5	41.1	14.2	0.903	3,220	8,266,656	39.0
	Male	10	14,739	67.8	53.9	7.7	0.500	1,725	4,141,256	41.7
	Female	5	14,971	33.4	27.7	6.5	0.727	1,495	4,125,400	36.2
Corpus Uteri	Female	1	14,971	6.7	5.9	5.0	0.081	1,208	4,125,400	29.3
Esophagus	Total	1	29,710	3.4	2.7	2.1	0.765	468	8,266,656	5.7
	Male	1	14,739	6.8	5.3	1.7	0.956	387	4,141,256	9.3
	Female	-	14,971	-	-	0.4	1.000	81	4,125,400	2.0
Hodgkin Lymphoma	Total	1	29,710	3.4	3.4	0.7	1.000	198	8,266,656	2.4
	Male	-	14,739	-	-	0.4	1.000	108	4,141,256	2.6
	Female	1	14,971	6.7	6.7	0.3	0.556	90	4,125,400	2.2
Kidney and Renal Pelvis	Total	1	29,710	3.4	2.8	6.8	0.017 <<	1,553	8,266,656	18.8
	Male	1	14,739	6.8	5.4	4.4	0.129	994	4,141,256	24.0
	Female	-	14,971	-	-	2.4	0.177	559	4,125,400	13.6
Larynx	Total	1	29,710	3.4	2.7	0.9	1.000	208	8,266,656	2.5
	Male	-	14,739	-	-	0.8	0.918	168	4,141,256	4.1
	Female	1	14,971	6.7	5.7	0.2	0.311	40	4,125,400	1.0
Leukemia	Total	8	29,710	26.9	21.7	6.6	0.682	1,478	8,266,656	17.9
	Male	8	14,739	54.3	42.7	3.9	0.096	873	4,141,256	21.1
	Female	-	14,971	-	-	2.7	0.138	605	4,125,400	14.7
Liver and Bile Duct	Total	2	29,710	6.7	5.5	3.2	0.747	731	8,266,656	8.8
	Male	2	14,739	13.6	10.7	2.4	1.000	530	4,141,256	12.8
	Female	-	14,971	-	-	0.9	0.826	201	4,125,400	4.9
Lung and Bronchus	Total	12	29,710	40.4	31.0	21.7	0.034 <<	4,645	8,266,656	56.2
	Male	7	14,739	47.5	35.3	11.5	0.230	2,395	4,141,256	57.8
	Female	5	14,971	33.4	26.4	10.3	0.112	2,250	4,125,400	54.5
Melanoma of the Skin	Total	13	29,710	43.8	37.2	10.6	0.541	2,513	8,266,656	30.4
	Male	9	14,739	61.1	49.1	6.5	0.408	1,460	4,141,256	35.3
	Female	4	14,971	26.7	24.2	4.2	1.000	1,053	4,125,400	25.5
Myeloma	Total	2	29,710	6.7	5.2	2.8	0.920	606	8,266,656	7.3
	Male	2	14,739	13.6	10.1	1.7	1.000	355	4,141,256	8.6
	Female	-	14,971	-	-	1.2	0.630	251	4,125,400	6.1
Non-Hodgkin Lymphoma	Total	8	29,710	26.9	21.7	7.9	1.000	1,765	8,266,656	21.4
	Male	7	14,739	47.5	37.4	4.5	0.344	1,000	4,141,256	24.1
	Female	1	14,971	6.7	5.5	3.4	0.301	765	4,125,400	18.5
Oral Cavity and Pharynx	Total	2	29,710	6.7	5.6	5.0	0.246	1,166	8,266,656	14.1
	Male	1	14,739	6.8	5.5	3.6	0.248	825	4,141,256	19.9
	Female	1	14,971	6.7	5.7	1.4	1.000	341	4,125,400	8.3
Ovary	Female	1	14,971	6.7	5.7	2.2	0.717	518	4,125,400	12.6
Pancreas	Total	5	29,710	16.8	13.2	6.0	0.902	1,299	8,266,656	15.7
	Male	3	14,739	20.4	15.6	3.2	1.000	699	4,141,256	16.9
	Female	2	14,971	13.4	10.7	2.7	0.976	600	4,125,400	14.5
Prostate	Male	23	14,739	156.0	120.4	23.1	1.000	5,004	4,141,256	120.8
Stomach	Total	-	29,710	-	-	2.2	0.223	488	8,266,656	5.9
	Male	-	14,739	-	-	1.5	0.463	318	4,141,256	7.7
	Female	-	14,971	-	-	0.7	0.948	170	4,125,400	4.1
Testis	Male	1	14,739	6.8	7.8	0.8	1.000	266	4,141,256	6.4
Thyroid	Total	7	29,710	23.6	23.0	4.6	0.361	1,249	8,266,656	15.1
	Male	2	14,739	13.6	12.3	1.3	0.742	330	4,141,256	8.0
	Female	5	14,971	33.4	33.7	3.3	0.475	919	4,125,400	22.3
Pediatric Age 0 to 19	Total	2	8,875	22.5	22.5	1.6	0.955	433	2,391,647	18.1
	Male	1	4,407	22.7	22.6	0.8	1.000	233	1,221,495	19.1
	Female	1	4,468	22.4	22.4	0.8	1.000	200	1,170,152	17.1

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

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

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

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

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

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

TABLE 4: CANCER MORTALITY 2014–2018
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	318	29,812	1,066.7	824.5	307.1	0.549	66,962	8,409,232	796.3
	Male	171	14,802	1,155.2	874.8	162.5	0.523	35,015	4,213,078	831.1
	Female	147	15,010	979.3	770.7	145.2	0.904	31,947	4,196,154	761.3
All Malignant Cancers	Total	67	29,812	224.7	174.4	66.3	0.967	14,518	8,409,232	172.6
	Male	45	14,802	304.0	227.7	36.9	0.213	7,856	4,213,078	186.5
	Female	22	15,010	146.6	117.4	29.8	0.174	6,662	4,196,154	158.8
Bladder	Total	2	29,812	6.7	5.0	2.0	1.000	424	8,409,232	5.0
	Male	2	14,802	13.5	9.6	1.6	0.931	317	4,213,078	7.5
	Female	-	15,010	-	-	0.5	1.000	107	4,196,154	2.5
Brain and Other Nervous System	Total	3	29,812	10.1	8.5	2.1	0.690	494	8,409,232	5.9
	Male	2	14,802	13.5	11.2	1.3	0.768	313	4,213,078	7.4
	Female	1	15,010	6.7	5.7	0.8	1.000	181	4,196,154	4.3
Breast	Total	4	29,812	13.4	10.8	4.8	0.963	1,083	8,409,232	12.9
	Male	-	14,802	-	-	0.0	1.000	10	4,213,078	0.2
	Female	4	15,010	26.6	22.0	4.7	1.000	1,073	4,196,154	25.6
Cervix	Female	-	15,010	-	-	0.3	1.000	80	4,196,154	1.9
Colorectal	Total	11	29,812	36.9	29.1	5.5	0.048 >>	1,215	8,409,232	14.4
	Male	5	14,802	33.8	26.1	3.0	0.366	657	4,213,078	15.6
	Female	6	15,010	40.0	32.2	2.5	0.081	558	4,196,154	13.3
Corpus Uteri	Female	1	15,010	6.7	5.3	0.7	0.985	152	4,196,154	3.6
Esophagus	Total	2	29,812	6.7	5.3	2.1	1.000	469	8,409,232	5.6
	Male	2	14,802	13.5	10.4	1.7	1.000	378	4,213,078	9.0
	Female	-	15,010	-	-	0.4	1.000	91	4,196,154	2.2
Hodgkin Lymphoma	Total	-	29,812	-	-	0.1	1.000	21	8,409,232	0.2
	Male	-	14,802	-	-	0.0	1.000	8	4,213,078	0.2
	Female	-	15,010	-	-	0.1	1.000	13	4,196,154	0.3
Kidney	Total	2	29,812	6.7	5.2	1.7	1.000	368	8,409,232	4.4
	Male	2	14,802	13.5	10.2	1.1	0.611	240	4,213,078	5.7
	Female	-	15,010	-	-	0.6	1.000	128	4,196,154	3.1
Larynx	Total	-	29,812	-	-	0.3	1.000	63	8,409,232	0.7
	Male	-	14,802	-	-	0.3	1.000	53	4,213,078	1.3
	Female	-	15,010	-	-	0.0	1.000	10	4,196,154	0.2
Leukemia	Total	2	29,812	6.7	5.1	2.9	0.913	614	8,409,232	7.3
	Male	2	14,802	13.5	10.0	1.7	1.000	356	4,213,078	8.4
	Female	-	15,010	-	-	1.2	0.611	258	4,196,154	6.1
Liver and Bile Duct	Total	1	29,812	3.4	2.6	2.7	0.503	597	8,409,232	7.1
	Male	1	14,802	6.8	5.2	1.9	0.883	411	4,213,078	9.8
	Female	-	15,010	-	-	0.8	0.871	186	4,196,154	4.4
Lung and Bronchus	Total	11	29,812	36.9	28.3	14.4	0.453	3,114	8,409,232	37.0
	Male	5	14,802	33.8	25.1	7.8	0.411	1,662	4,213,078	39.4
	Female	6	15,010	40.0	31.4	6.6	1.000	1,452	4,196,154	34.6
Melanoma of the Skin	Total	4	29,812	13.4	10.8	1.2	0.071	276	8,409,232	3.3
	Male	4	14,802	27.0	21.1	0.8	0.020 >>	183	4,213,078	4.3
	Female	-	15,010	-	-	0.4	1.000	93	4,196,154	2.2
Myeloma	Total	1	29,812	3.4	2.5	1.6	1.000	328	8,409,232	3.9
	Male	1	14,802	6.8	4.9	0.9	1.000	194	4,213,078	4.6
	Female	-	15,010	-	-	0.6	1.000	134	4,196,154	3.2
Non-Hodgkin Lymphoma	Total	2	29,812	6.7	5.0	2.7	0.992	568	8,409,232	6.8
	Male	2	14,802	13.5	9.9	1.5	0.898	317	4,213,078	7.5
	Female	-	15,010	-	-	1.2	0.612	251	4,196,154	6.0
Oral Cavity and Pharynx	Total	2	29,812	6.7	5.3	1.0	0.522	221	8,409,232	2.6
	Male	1	14,802	6.8	5.3	0.7	0.988	151	4,213,078	3.6
	Female	1	15,010	6.7	5.2	0.3	0.545	70	4,196,154	1.7
Ovary	Female	-	15,010	-	-	1.6	0.405	363	4,196,154	8.7
Pancreas	Total	4	29,812	13.4	10.4	4.9	0.913	1,075	8,409,232	12.8
	Male	2	14,802	13.5	10.3	2.7	0.983	590	4,213,078	14.0
	Female	2	15,010	13.3	10.5	2.2	1.000	485	4,196,154	11.6
Prostate	Male	6	14,802	40.5	28.3	4.7	0.654	929	4,213,078	22.1
Stomach	Total	-	29,812	-	-	0.9	0.774	210	8,409,232	2.5
	Male	-	14,802	-	-	0.6	1.000	122	4,213,078	2.9
	Female	-	15,010	-	-	0.4	1.000	88	4,196,154	2.1

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, 2019.

Cancer Screening and Risk Factors

The Bureau of Vital Records and Health Statistics (BVRHS), Division of Public Health, 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) with randomly selected adult Idahoans to measure population prevalences of risk factors for the major causes of death, including cancer, since 1984. BVRHS provided data sets containing Behavioral Risk Factor Surveillance System (BRFSS) data from 2011 through 2018 to CDRI staff, who performed the analyses reported in these *County Profiles*. Analysis weights were poststratified to 2018 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, 2011–2018

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 (2014–2018)	81.2%	80.6%	84.5%	74.6%	84.7%	75.5%	83.3%	83.8%	81.4%
Not See Doctor Due to Cost in Past Year (2014–2018)	14.3%	13.9%	12.2%	18.1%	13.6%	14.3%	12.5%	13.9%	11.7%
Cancer Screening									
Mammogram Past 2 Years, Age 50–74 (2014, 2016, 2018)	67.5%	66.8%	72.1%	63.2%	72.9%	61.0%	64.6%	66.8%	.
Pap Test Past 3 Years, Cervix Intact Age 21–65 (2016, 2018)	72.5%	74.8%	74.3%	72.1%	73.0%	71.7%	72.7%	68.6%	.
Colorectal Cancer Screening, Age 50–75 (2016, 2018)	65.4%	64.9%	71.3%	62.6%	68.9%	60.3%	62.1%	65.3%	.
Tobacco Use									
Current Smoker (2014–2018)	14.6%	17.1%	15.1%	16.8%	13.1%	16.2%	14.4%	10.4%	13.4%
Current Smokeless Tobacco User, Males (2014–2018)	9.5%	10.6%	14.0%	11.1%	8.4%	8.9%	8.4%	7.3%	13.0%
Other Cancer-Related									
Sunburn in Previous 12 Months (2018)	47.7%	42.3%	49.0%	41.6%	50.8%	42.8%	49.9%	56.6%	.
Artificial Tanning Appliance Use (2011, 2014, 2016)	4.4%	5.5%	3.3%	3.3%	3.4%	4.2%	5.7%	6.8%	9.0%
Healthy Weight by Body Mass Index, Age 20+ (2014–2018)	32.6%	34.2%	32.9%	27.0%	36.3%	31.1%	29.4%	32.4%	33.1%
Meet Physical Activity Guidelines (2011, 2013, 2015, 2017)	22.1%	22.1%	19.9%	20.6%	26.1%	18.8%	20.0%	20.1%	19.1%
Home Ever Tested for Radon (2016, 2018)	22.7%	29.7%	19.5%	16.3%	24.1%	20.2%	23.3%	22.7%	.

Access to Care

Have Health Insurance – 2014–2018
Statewide, 81.2% of adults aged 18–64 reported having health care coverage. Health care coverage differed significantly by race/ethnicity, with 84.5% of white non-Hispanics, compared to 59.8% of Hispanics and 79.9% of Native Americans, having health insurance. Spanish-speaking respondents were significantly less likely to be insured (33.1%) than English-speaking respondents (83.1%). Health care coverage differed significantly by age of respondent, with 76.4% of persons aged 30–39, and 86.5% of persons aged 50–64, having health insurance. Health care coverage differed significantly by county, with a range of 57.4% in Adams County to 91.7% in Oneida County having health insurance.

Not See Doctor Due to Cost in Past Year – 2014–2018
Statewide, 14.3% 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 (13.2% of white non-Hispanics, 21.4% of Hispanics, and 23.1% of Native Americans). Inability to see a doctor due to cost differed significantly by annual household income (27.4% for less than $15,000, 6.7% for greater than $50,000). Inability to see a doctor due to cost differed significantly by county, with a range of 7.0% in Caribou County to 20.2% in Jerome County.

Cancer Screening

Mammogram – 2014, 2016, 2018
Statewide, 67.5% 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 (70.7% versus 34.0%). Mammography rates differed significantly by county, with a range in screening of 47.3% in Gooding County to 77.5% in Nez Perce County. In 2018, Idaho ranked 49th among states and the District of Columbia for mammography screening rates among women aged 50–74 and 50th among ages 40+.

Pap Test – 2016, 2018
Statewide, 72.5% 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 (77.3% versus 54.2% screened in the past 3 years). Pap screening differed significantly by county, with a range of 60.5% in Idaho County to 79.2% in Latah County. In 2018, Idaho ranked 51st among states and the District of Columbia for Pap screening rate.

Colorectal Cancer Screening – 2016, 2018
Statewide, 65.4% of adults aged 50–75 reported receiving colorectal cancer screening based on the most recent guidelines.** Persons with health insurance were over twice as likely to be current for colorectal cancer screening. In 2018, Idaho ranked 41st 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 Smoking – 2014–2018
Statewide, 14.6% of adults aged 18 and older were current smokers. Smoking prevalence differed significantly by age of respondent, with 19.2% of persons aged 30–39, and 8.4% of persons aged 65 and older reporting current smoking. Smoking prevalence was lower among white non-Hispanics (14.7%) than among Native Americans (32.4%). Smoking prevalence differed significantly by county, with a range of 4.3% in Madison County to 32.7% in Adams County. Counties with higher rates of current smoking had higher rates of lung cancer.

Smokeless Tobacco Use, Males – 2014–2018
Statewide, 9.5% of males aged 18 and older were current users of smokeless tobacco. Smokeless tobacco use differed significantly by age group, ranging from 12.8% of males aged 30–39 to 4.0% of males aged 65 and older. Smokeless tobacco use differed significantly by county, with a range of 3.4% in Franklin County to 21.1% in Custer County. Counties with higher rates of smokeless tobacco use had higher rates of oral cavity & pharynx cancer.

Other Cancer-Related

Sun Exposure – 2018
Statewide, 47.7% of adults aged 18 and older reported having sunburn in the past 12 months. Sunburn rates were higher for white non-Hispanics (49.6%) and Native Americans (48.7%) than for Hispanics (35.2%). Sunburn rates differed significantly by age group, with 67.2% of persons aged 30–39 and 17.9% of persons aged 65 and older having sunburn in the past 12 months. Sunburn rates differed significantly by county, with a range of 36.7% in Idaho County to 72.9% in Madison County having sunburn in the past 12 months.

Artificial Tanning Appliance Use – 2011, 2014, 2016
Statewide, 4.4% of adults aged 18 and older reported using an artificial tanning appliance, such as a tanning bed, in the past 12 months. Females (6.8%) were significantly more likely than males (2.1%) to have used an artificial tanning appliance in the past 12 months. Tanning appliance use differed significantly by age group, with 8.7% of persons aged 18–29 and 0.9% of persons aged 65 and older, using an appliance in the past 12 months. Tanning appliance use differed by county, with a range of less than 1% in Oneida, Power, and Valley Counties to over 9% in Bear Lake and Fremont Counties using an artificial tanning appliance in the past 12 months.

Healthy Weight by Body Mass Index – 2014–2018
Statewide, 32.6% 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 33.3% of white non-Hispanics, compared to 26.0% of Hispanics and 26.8% of Native Americans, being in the healthy weight range. Males (25.7%) were significantly less likely to be in the healthy weight range than females (39.4%). BMI differed significantly by age of respondent, with 45.0% of persons aged 18–29, and 27.1% of persons aged 50–64, being in the healthy weight range. BMI differed significantly by county, with a range of 19.5% in Minidoka County to 52.8% in Blaine County of adults being in the healthy weight range.

Physical Activity – 2011, 2013, 2015, 2017
Statewide, 22.1% of adults aged 18 and older met aerobic and strength physical activity guidelines during the past month or week. Physical activity differed significantly by age of respondent, with 26.3% of persons aged 18–29, and 19.3% of persons aged 50–64, meeting guidelines. The percentage of adults meeting physical activity guidelines differed significantly by county, with a range of 7.6% in Oneida County to 31.1% in Blaine County.

Home Radon Testing – 2016, 2018
Statewide, 22.7% of adults have ever tested their house for radon. Radon test usage varied significantly by race/ethnicity, with 24.7% of white non-Hispanics, 5.3% of Hispanics, and 27.9% 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 8.0% in Cassia County to 58.0% in Blaine County.

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BENEWAH COUNTY CANCER PROFILE

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

Cancer Incidence 2013–2017
Cancer Mortality 2014–2018
BRFSS 2011–2018

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 are due to personal lifestyle factors, such as smoking and sedentary lifestyle, and are preventable. Additional cancers are 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. 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.

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://health.gov/dietaryguidelines/2015.

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
615 N. 7th Street
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/contact-center

American Cancer Society
2676 S. Vista Avenue
Boise, ID 83705
208-343-4609
https://www.cancer.org

CANCER INCIDENCE 2013–2017

Nearly one in two Idahoans are estimated to develop cancer during their lifetime. During 2013–2017, 40,996 cases of invasive cancer were diagnosed among Idaho residents, and 279 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, 2013–2017

Cancer Incidence 2013–2017	Benewah County	State of Idaho
All Sites/Types	**279**	**40,996**
Female Breast	**32**	**5,956**
Prostate	**23**	**5,027**
Lung & Bronchus	**44**	**4,657**
Colorectal	**27**	**3,235**

Table 3 (*Cancer Incidence 2013–2017, 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 rate of invasive cancer incidence in Benewah County was 616.8 cases per 100,000 person-years per year during 2013–2017. Comparing this crude rate with the crude rate for the remainder of Idaho (493.5) 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 457.1 cases per 100,000 persons per year during 2013–2017. There were fewer cases of cancer in Benewah County (279) than expected (301.2) 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 2014–2018

During 2014–2018, cancer was the second leading cause of death in Idaho; 14,585 Idaho residents and 136 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, 2014–2018

Mortality 2014–2018	Benewah County	State of Idaho
All Deaths	**642**	**67,280**
Cancer Deaths	**136**	**14,585**
% of All Deaths	*21.2%*	*21.7%*
Lung & Bronchus	**37**	**3,125**
Colorectal	**8**	**1,226**
Pancreas	**5**	**1,079**
Female Breast	**8**	**1,077**
Prostate	**10**	**935**

Table 4 (*Cancer Mortality 2014–2018, 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 220.8 deaths per 100,000 persons per year during 2014–2018, compared with 172.1 for the remainder of the state. There were statistically significantly more cancer deaths in Benewah County (136) than expected (106.0) based upon rates in the remainder of the state (p=.006).

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 2013–2017
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	279	45,230	616.8	457.1	301.2	0.209	40,717	8,251,136	493.5
	Male	144	22,947	627.5	434.1	169.0	0.055	21,053	4,133,048	509.4
	Female	135	22,283	605.8	476.6	135.3	1.000	19,664	4,118,088	477.5
Bladder	Total	10	45,230	22.1	15.8	15.4	0.203	2,005	8,251,136	24.3
	Male	6	22,947	26.1	17.5	13.0	0.052	1,564	4,133,048	37.8
	Female	4	22,283	18.0	13.7	3.1	0.758	441	4,118,088	10.7
Brain - malignant	Total	3	45,230	6.6	5.4	4.1	0.830	607	8,251,136	7.4
	Male	2	22,947	8.7	6.7	2.7	1.000	369	4,133,048	8.9
	Female	1	22,283	4.5	3.8	1.5	1.000	238	4,118,088	5.8
Brain and other CNS - non-malignant	Total	8	45,230	17.7	14.1	7.3	0.892	1,064	8,251,136	12.9
	Male	5	22,947	21.8	17.1	2.5	0.211	349	4,133,048	8.4
	Female	3	22,283	13.5	11.0	4.7	0.611	715	4,118,088	17.4
Breast	Total	32	45,230	70.7	53.3	43.5	0.087	5,969	8,251,136	72.3
	Male	-	22,947	-	-	0.4	1.000	45	4,133,048	1.1
	Female	32	22,283	143.6	111.6	41.2	0.166	5,924	4,118,088	143.9
Breast - in situ	Total	5	45,230	11.1	8.5	7.6	0.463	1,059	8,251,136	12.8
	Male	-	22,947	-	-	0.0	1.000	3	4,133,048	0.1
	Female	5	22,283	22.4	17.5	7.3	0.525	1,056	4,118,088	25.6
Cervix	Female	-	22,283	-	-	1.5	0.439	259	4,118,088	6.3
Colorectal	Total	27	45,230	59.7	44.4	23.6	0.542	3,208	8,251,136	38.9
	Male	15	22,947	65.4	46.0	13.6	0.765	1,720	4,133,048	41.6
	Female	12	22,283	53.9	42.2	10.3	0.669	1,488	4,118,088	36.1
Corpus Uteri	Female	9	22,283	40.4	30.8	8.5	0.958	1,200	4,118,088	29.1
Esophagus	Total	5	45,230	11.1	7.9	3.6	0.568	464	8,251,136	5.6
	Male	5	22,947	21.8	14.9	3.1	0.409	383	4,133,048	9.3
	Female	-	22,283	-	-	0.6	1.000	81	4,118,088	2.0
Hodgkin Lymphoma	Total	-	45,230	-	-	1.1	0.661	199	8,251,136	2.4
	Male	-	22,947	-	-	0.6	1.000	108	4,133,048	2.6
	Female	-	22,283	-	-	0.5	1.000	91	4,118,088	2.2
Kidney and Renal Pelvis	Total	15	45,230	33.2	24.4	11.5	0.366	1,539	8,251,136	18.7
	Male	8	22,947	34.9	24.4	7.8	1.000	987	4,133,048	23.9
	Female	7	22,283	31.4	24.3	3.9	0.192	552	4,118,088	13.4
Larynx	Total	1	45,230	2.2	1.6	1.6	1.000	208	8,251,136	2.5
	Male	1	22,947	4.4	2.9	1.4	1.000	167	4,133,048	4.0
	Female	-	22,283	-	-	0.3	1.000	41	4,118,088	1.0
Leukemia	Total	10	45,230	22.1	16.9	10.6	1.000	1,476	8,251,136	17.9
	Male	7	22,947	30.5	21.9	6.8	1.000	874	4,133,048	21.1
	Female	3	22,283	13.5	11.0	4.0	0.871	602	4,118,088	14.6
Liver and Bile Duct	Total	7	45,230	15.5	11.1	5.6	0.648	726	8,251,136	8.8
	Male	5	22,947	21.8	14.9	4.3	0.852	527	4,133,048	12.8
	Female	2	22,283	9.0	6.8	1.4	0.827	199	4,118,088	4.8
Lung and Bronchus	Total	44	45,230	97.3	68.5	35.9	0.209	4,613	8,251,136	55.9
	Male	16	22,947	69.7	46.1	20.0	0.436	2,386	4,133,048	57.7
	Female	28	22,283	125.7	93.8	16.1	0.009 >>	2,227	4,118,088	54.1
Melanoma of the Skin	Total	12	45,230	26.5	20.5	17.8	0.197	2,514	8,251,136	30.5
	Male	7	22,947	30.5	21.9	11.3	0.249	1,462	4,133,048	35.4
	Female	5	22,283	22.4	18.6	6.9	0.636	1,052	4,118,088	25.5
Myeloma	Total	8	45,230	17.7	12.6	4.6	0.193	600	8,251,136	7.3
	Male	5	22,947	21.8	14.5	2.9	0.352	352	4,133,048	8.5
	Female	3	22,283	13.5	10.3	1.7	0.512	248	4,118,088	6.0
Non-Hodgkin Lymphoma	Total	9	45,230	19.9	14.7	13.1	0.322	1,764	8,251,136	21.4
	Male	8	22,947	34.9	24.4	7.9	1.000	999	4,133,048	24.2
	Female	1	22,283	4.5	3.5	5.3	0.062	765	4,118,088	18.6
Oral Cavity and Pharynx	Total	9	45,230	19.9	14.6	8.6	0.991	1,159	8,251,136	14.0
	Male	4	22,947	17.4	12.3	6.5	0.450	822	4,133,048	19.9
	Female	5	22,283	22.4	17.4	2.4	0.179	337	4,118,088	8.2
Ovary	Female	4	22,283	18.0	14.1	3.6	0.949	515	4,118,088	12.5
Pancreas	Total	5	45,230	11.1	8.0	9.9	0.142	1,299	8,251,136	15.7
	Male	2	22,947	8.7	5.9	5.8	0.146	700	4,133,048	16.9
	Female	3	22,283	13.5	10.4	4.2	0.787	599	4,118,088	14.5
Prostate	Male	23	22,947	100.2	66.9	41.6	0.002 <<	5,004	4,133,048	121.1
Stomach	Total	6	45,230	13.3	9.8	3.6	0.307	482	8,251,136	5.8
	Male	6	22,947	26.1	18.0	2.5	0.086	312	4,133,048	7.5
	Female	-	22,283	-	-	1.2	0.632	170	4,118,088	4.1
Testis	Male	5	22,947	21.8	25.9	1.2	0.017 >>	262	4,133,048	6.3
Thyroid	Total	6	45,230	13.3	11.8	7.7	0.699	1,250	8,251,136	15.1
	Male	2	22,947	8.7	7.2	2.2	1.000	330	4,133,048	8.0
	Female	4	22,283	18.0	16.4	5.5	0.727	920	4,118,088	22.3
Pediatric Age 0 to 19	Total	1	11,020	9.1	9.1	2.0	0.813	434	2,389,502	18.2
	Male	1	5,669	17.6	17.7	1.1	1.000	233	1,220,233	19.1
	Female	-	5,351	-	-	0.9	0.797	201	1,169,269	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 2014–2018
COMPARISON BETWEEN BENEWAH COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cause of Death Cancer Site/Type	Sex	Benewah 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	642	45,428	1,413.2	1,117.0	456.3	0.000 >>	66,638	8,393,616	793.9
	Male	339	23,108	1,467.0	1,064.1	264.0	0.000 >>	34,847	4,204,772	828.7
	Female	303	22,320	1,357.5	1,170.2	196.5	0.000 >>	31,791	4,188,844	758.9
All Malignant Cancers	Total	136	45,428	299.4	220.8	106.0	0.006 >>	14,449	8,393,616	172.1
	Male	87	23,108	376.5	257.9	62.7	0.004 >>	7,814	4,204,772	185.8
	Female	49	22,320	219.5	172.7	44.9	0.582	6,635	4,188,844	158.4
Bladder	Total	-	45,428	-	-	3.0	0.096	426	8,393,616	5.1
	Male	-	23,108	-	-	2.6	0.156	319	4,204,772	7.6
	Female	-	22,320	-	-	0.7	1.000	107	4,188,844	2.6
Brain and Other Nervous System	Total	4	45,428	8.8	6.7	3.5	0.941	493	8,393,616	5.9
	Male	2	23,108	8.7	6.3	2.4	1.000	313	4,204,772	7.4
	Female	2	22,320	9.0	7.0	1.2	0.700	180	4,188,844	4.3
Breast	Total	9	45,428	19.8	14.9	7.7	0.742	1,078	8,393,616	12.8
	Male	1	23,108	4.3	3.0	0.1	0.139	9	4,204,772	0.2
	Female	8	22,320	35.8	28.4	7.2	0.862	1,069	4,188,844	25.5
Cervix	Female	1	22,320	4.5	3.7	0.5	0.801	79	4,188,844	1.9
Colorectal	Total	8	45,428	17.6	13.2	8.8	0.970	1,218	8,393,616	14.5
	Male	6	23,108	26.0	18.2	5.2	0.822	656	4,204,772	15.6
	Female	2	22,320	9.0	7.2	3.7	0.568	562	4,188,844	13.4
Corpus Uteri	Female	1	22,320	4.5	3.4	1.1	1.000	152	4,188,844	3.6
Esophagus	Total	8	45,428	17.6	12.8	3.5	0.050 >>	463	8,393,616	5.5
	Male	8	23,108	34.6	23.7	3.0	0.023 >>	372	4,204,772	8.8
	Female	-	22,320	-	-	0.6	1.000	91	4,188,844	2.2
Hodgkin Lymphoma	Total	-	45,428	-	-	0.1	1.000	21	8,393,616	0.3
	Male	-	23,108	-	-	0.1	1.000	8	4,204,772	0.2
	Female	-	22,320	-	-	0.1	1.000	13	4,188,844	0.3
Kidney	Total	5	45,428	11.0	8.0	2.7	0.278	365	8,393,616	4.3
	Male	3	23,108	13.0	8.9	1.9	0.606	239	4,204,772	5.7
	Female	2	22,320	9.0	7.0	0.9	0.424	126	4,188,844	3.0
Larynx	Total	1	45,428	2.2	1.6	0.5	0.729	62	8,393,616	0.7
	Male	1	23,108	4.3	3.0	0.4	0.667	52	4,204,772	1.2
	Female	-	22,320	-	-	0.1	1.000	10	4,188,844	0.2
Leukemia	Total	6	45,428	13.2	10.0	4.4	0.554	610	8,393,616	7.3
	Male	4	23,108	17.3	12.0	2.8	0.623	354	4,204,772	8.4
	Female	2	22,320	9.0	7.4	1.7	0.987	256	4,188,844	6.1
Liver and Bile Duct	Total	6	45,428	13.2	9.4	4.5	0.596	592	8,393,616	7.1
	Male	5	23,108	21.6	14.6	3.3	0.482	407	4,204,772	9.7
	Female	1	22,320	4.5	3.4	1.3	1.000	185	4,188,844	4.4
Lung and Bronchus	Total	37	45,428	81.4	58.3	23.4	0.011 >>	3,088	8,393,616	36.8
	Male	19	23,108	82.2	54.8	13.6	0.191	1,648	4,204,772	39.2
	Female	18	22,320	80.6	61.5	10.1	0.030 >>	1,440	4,188,844	34.4
Melanoma of the Skin	Total	3	45,428	6.6	4.9	2.0	0.648	277	8,393,616	3.3
	Male	2	23,108	8.7	6.1	1.4	0.847	185	4,204,772	4.4
	Female	1	22,320	4.5	3.6	0.6	0.915	92	4,188,844	2.2
Myeloma	Total	6	45,428	13.2	9.6	2.4	0.073	323	8,393,616	3.8
	Male	4	23,108	17.3	11.6	1.6	0.148	191	4,204,772	4.5
	Female	2	22,320	9.0	7.0	0.9	0.459	132	4,188,844	3.2
Non-Hodgkin Lymphoma	Total	2	45,428	4.4	3.2	4.2	0.429	568	8,393,616	6.8
	Male	2	23,108	8.7	5.9	2.6	1.000	317	4,204,772	7.5
	Female	-	22,320	-	-	1.7	0.380	251	4,188,844	6.0
Oral Cavity and Pharynx	Total	2	45,428	4.4	3.2	1.6	0.975	221	8,393,616	2.6
	Male	2	23,108	8.7	6.0	1.2	0.670	150	4,204,772	3.6
	Female	-	22,320	-	-	0.5	1.000	71	4,188,844	1.7
Ovary	Female	1	22,320	4.5	3.4	2.5	0.564	362	4,188,844	8.6
Pancreas	Total	5	45,428	11.0	7.9	8.1	0.368	1,074	8,393,616	12.8
	Male	3	23,108	13.0	8.7	4.8	0.585	589	4,204,772	14.0
	Female	2	22,320	9.0	6.9	3.3	0.703	485	4,188,844	11.6
Prostate	Male	10	23,108	43.3	29.7	7.4	0.427	925	4,204,772	22.0
Stomach	Total	2	45,428	4.4	3.3	1.5	0.876	208	8,393,616	2.5
	Male	2	23,108	8.7	6.1	0.9	0.484	120	4,204,772	2.9
	Female	-	22,320	-	-	0.6	1.000	88	4,188,844	2.1

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, 2019.

Cancer Screening and Risk Factors

The Bureau of Vital Records and Health Statistics (BVRHS), Division of Public Health, 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) with randomly selected adult Idahoans to measure population prevalences of risk factors for the major causes of death, including cancer, since 1984. BVRHS provided data sets containing Behavioral Risk Factor Surveillance System (BRFSS) data from 2011 through 2018 to CDRI staff, who performed the analyses reported in these *County Profiles*. Analysis weights were poststratified to 2018 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, 2011–2018

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 (2014–2018)	81.2%	80.6%	84.5%	74.6%	84.7%	75.5%	83.3%	83.8%	78.7%
Not See Doctor Due to Cost in Past Year (2014–2018)	14.3%	13.9%	12.2%	18.1%	13.6%	14.3%	12.5%	13.9%	8.1%
Cancer Screening									
Mammogram Past 2 Years, Age 50–74 (2014, 2016, 2018)	67.5%	66.8%	72.1%	63.2%	72.9%	61.0%	64.6%	66.8%	.
Pap Test Past 3 Years, Cervix Intact Age 21–65 (2016, 2018)	72.5%	74.8%	74.3%	72.1%	73.0%	71.7%	72.7%	68.6%	.
Colorectal Cancer Screening, Age 50–75 (2016, 2018)	65.4%	64.9%	71.3%	62.6%	68.9%	60.3%	62.1%	65.3%	.
Tobacco Use									
Current Smoker (2014–2018)	14.6%	17.1%	15.1%	16.8%	13.1%	16.2%	14.4%	10.4%	20.4%
Current Smokeless Tobacco User, Males (2014–2018)	9.5%	10.6%	14.0%	11.1%	8.4%	8.9%	8.4%	7.3%	9.9%
Other Cancer-Related									
Sunburn in Previous 12 Months (2018)	47.7%	42.3%	49.0%	41.6%	50.8%	42.8%	49.9%	56.6%	.
Artificial Tanning Appliance Use (2011, 2014, 2016)	4.4%	5.5%	3.3%	3.3%	3.4%	4.2%	5.7%	6.8%	4.0%
Healthy Weight by Body Mass Index, Age 20+ (2014–2018)	32.6%	34.2%	32.9%	27.0%	36.3%	31.1%	29.4%	32.4%	29.4%
Meet Physical Activity Guidelines (2011, 2013, 2015, 2017)	22.1%	22.1%	19.9%	20.6%	26.1%	18.8%	20.0%	20.1%	20.3%
Home Ever Tested for Radon (2016, 2018)	22.7%	29.7%	19.5%	16.3%	24.1%	20.2%	23.3%	22.7%	12.5%

Access to Care

Have Health Insurance – 2014–2018
Statewide, 81.2% of adults aged 18–64 reported having health care coverage. Health care coverage differed significantly by race/ethnicity, with 84.5% of white non-Hispanics, compared to 59.8% of Hispanics and 79.9% of Native Americans, having health insurance. Spanish-speaking respondents were significantly less likely to be insured (33.1%) than English-speaking respondents (83.1%). Health care coverage differed significantly by age of respondent, with 76.4% of persons aged 30–39, and 86.5% of persons aged 50–64, having health insurance. Health care coverage differed significantly by county, with a range of 57.4% in Adams County to 91.7% in Oneida County having health insurance.

Not See Doctor Due to Cost in Past Year – 2014–2018
Statewide, 14.3% 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 (13.2% of white non-Hispanics, 21.4% of Hispanics, and 23.1% of Native Americans). Inability to see a doctor due to cost differed significantly by annual household income (27.4% for less than $15,000, 6.7% for greater than $50,000). Inability to see a doctor due to cost differed significantly by county, with a range of 7.0% in Caribou County to 20.2% in Jerome County.

Cancer Screening

Mammogram – 2014, 2016, 2018
Statewide, 67.5% 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 (70.7% versus 34.0%). Mammography rates differed significantly by county, with a range in screening of 47.3% in Gooding County to 77.5% in Nez Perce County. In 2018, Idaho ranked 49th among states and the District of Columbia for mammography screening rates among women aged 50–74 and 50th among ages 40+.

Pap Test – 2016, 2018
Statewide, 72.5% 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 (77.3% versus 54.2% screened in the past 3 years). Pap screening differed significantly by county, with a range of 60.5% in Idaho County to 79.2% in Latah County. In 2018, Idaho ranked 51st among states and the District of Columbia for Pap screening rate.

Colorectal Cancer Screening – 2016, 2018
Statewide, 65.4% of adults aged 50–75 reported receiving colorectal cancer screening based on the most recent guidelines.** Persons with health insurance were over twice as likely to be current for colorectal cancer screening. In 2018, Idaho ranked 41st 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 Smoking – 2014–2018
Statewide, 14.6% of adults aged 18 and older were current smokers. Smoking prevalence differed significantly by age of respondent, with 19.2% of persons aged 30–39, and 8.4% of persons aged 65 and older reporting current smoking. Smoking prevalence was lower among white non-Hispanics (14.7%) than among Native Americans (32.4%). Smoking prevalence differed significantly by county, with a range of 4.3% in Madison County to 32.7% in Adams County. Counties with higher rates of current smoking had higher rates of lung cancer.

Smokeless Tobacco Use, Males – 2014–2018
Statewide, 9.5% of males aged 18 and older were current users of smokeless tobacco. Smokeless tobacco use differed significantly by age group, ranging from 12.8% of males aged 30–39 to 4.0% of males aged 65 and older. Smokeless tobacco use differed significantly by county, with a range of 3.4% in Franklin County to 21.1% in Custer County. Counties with higher rates of smokeless tobacco use had higher rates of oral cavity & pharynx cancer.

Other Cancer-Related

Sun Exposure – 2018
Statewide, 47.7% of adults aged 18 and older reported having sunburn in the past 12 months. Sunburn rates were higher for white non-Hispanics (49.6%) and Native Americans (48.7%) than for Hispanics (35.2%). Sunburn rates differed significantly by age group, with 67.2% of persons aged 30–39 and 17.9% of persons aged 65 and older having sunburn in the past 12 months. Sunburn rates differed significantly by county, with a range of 36.7% in Idaho County to 72.9% in Madison County having sunburn in the past 12 months.

Artificial Tanning Appliance Use – 2011, 2014, 2016
Statewide, 4.4% of adults aged 18 and older reported using an artificial tanning appliance, such as a tanning bed, in the past 12 months. Females (6.8%) were significantly more likely than males (2.1%) to have used an artificial tanning appliance in the past 12 months. Tanning appliance use differed significantly by age group, with 8.7% of persons aged 18–29 and 0.9% of persons aged 65 and older, using an appliance in the past 12 months. Tanning appliance use differed by county, with a range of less than 1% in Oneida, Power, and Valley Counties to over 9% in Bear Lake and Fremont Counties using an artificial tanning appliance in the past 12 months.

Healthy Weight by Body Mass Index – 2014–2018
Statewide, 32.6% 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 33.3% of white non-Hispanics, compared to 26.0% of Hispanics and 26.8% of Native Americans, being in the healthy weight range. Males (25.7%) were significantly less likely to be in the healthy weight range than females (39.4%). BMI differed significantly by age of respondent, with 45.0% of persons aged 18–29, and 27.1% of persons aged 50–64, being in the healthy weight range. BMI differed significantly by county, with a range of 19.5% in Minidoka County to 52.8% in Blaine County of adults being in the healthy weight range.

Physical Activity – 2011, 2013, 2015, 2017
Statewide, 22.1% of adults aged 18 and older met aerobic and strength physical activity guidelines during the past month or week. Physical activity differed significantly by age of respondent, with 26.3% of persons aged 18–29, and 19.3% of persons aged 50–64, meeting guidelines. The percentage of adults meeting physical activity guidelines differed significantly by county, with a range of 7.6% in Oneida County to 31.1% in Blaine County.

Home Radon Testing – 2016, 2018
Statewide, 22.7% of adults have ever tested their house for radon. Radon test usage varied significantly by race/ethnicity, with 24.7% of white non-Hispanics, 5.3% of Hispanics, and 27.9% 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 8.0% in Cassia County to 58.0% in Blaine County.

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BINGHAM COUNTY CANCER PROFILE

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

Cancer Incidence 2013–2017
Cancer Mortality 2014–2018
BRFSS 2011–2018

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 are due to personal lifestyle factors, such as smoking and sedentary lifestyle, and are preventable. Additional cancers are 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. 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.

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://health.gov/dietaryguidelines/2015.

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
615 N. 7th Street
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/contact-center

American Cancer Society
2676 S. Vista Avenue
Boise, ID 83705
208-343-4609
https://www.cancer.org

CANCER INCIDENCE 2013–2017

Nearly one in two Idahoans are estimated to develop cancer during their lifetime. During 2013–2017, 40,996 cases of invasive cancer were diagnosed among Idaho residents, and 979 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, 2013–2017

Cancer Incidence 2013–2017	Bingham County	State of Idaho
All Sites/Types	**979**	**40,996**
Female Breast	**128**	**5,956**
Prostate	**118**	**5,027**
Lung & Bronchus	**91**	**4,657**
Colorectal	**89**	**3,235**

Table 3 (*Cancer Incidence 2013–2017, 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 rate of invasive cancer incidence in Bingham County was 431.4 cases per 100,000 person-years per year during 2013–2017. Comparing this crude rate with the crude rate for the remainder of Idaho (495.9) 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 464.5 cases per 100,000 persons per year during 2013–2017. There were statistically significantly fewer cases of cancer in Bingham County (979) than expected (1,045.1) based upon rates in the remainder of the state (p=.041).

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

CANCER MORTALITY 2014–2018

During 2014–2018, cancer was the second leading cause of death in Idaho; 14,585 Idaho residents and 359 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, 2014–2018

Mortality 2014–2018	Bingham County	State of Idaho
All Deaths	**1,920**	**67,280**
Cancer Deaths	**359**	**14,585**
% of All Deaths	*18.7%*	*21.7%*
Lung & Bronchus	**57**	**3,125**
Colorectal	**35**	**1,226**
Pancreas	**33**	**1,079**
Female Breast	**24**	**1,077**
Prostate	**29**	**935**

Table 4 (*Cancer Mortality 2014–2018, 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 169.5 deaths per 100,000 persons per year during 2014–2018, compared with 173.2 for the remainder of the state. There were fewer cancer deaths in Bingham County (359) than expected (366.8) 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 2013–2017
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	979	226,948	431.4	464.5	1,045.1	0.041 <<	40,017	8,069,418	495.9
	Male	501	113,666	440.8	468.7	547.2	0.048 <<	20,696	4,042,329	512.0
	Female	478	113,282	422.0	458.1	500.6	0.324	19,321	4,027,089	479.8
Bladder	Total	44	226,948	19.4	20.9	51.3	0.343	1,971	8,069,418	24.4
	Male	36	113,666	31.7	33.6	40.7	0.518	1,534	4,042,329	37.9
	Female	8	113,282	7.1	7.8	11.2	0.431	437	4,027,089	10.9
Brain - malignant	Total	14	226,948	6.2	6.4	16.1	0.720	596	8,069,418	7.4
	Male	8	113,666	7.0	7.3	9.8	0.712	363	4,042,329	9.0
	Female	6	113,282	5.3	5.5	6.3	1.000	233	4,027,089	5.8
Brain and other CNS - non-malignant	Total	26	226,948	11.5	12.3	27.5	0.872	1,046	8,069,418	13.0
	Male	9	113,666	7.9	8.3	9.2	1.000	345	4,042,329	8.5
	Female	17	113,282	15.0	16.2	18.2	0.892	701	4,027,089	17.4
Breast	Total	128	226,948	56.4	60.9	153.1	0.042 <<	5,873	8,069,418	72.8
	Male	-	113,666	-	-	1.2	0.609	45	4,042,329	1.1
	Female	128	113,282	113.0	123.1	150.5	0.068	5,828	4,027,089	144.7
Breast - in situ	Total	26	226,948	11.5	12.4	26.9	0.962	1,038	8,069,418	12.9
	Male	-	113,666	-	-	0.1	1.000	3	4,042,329	0.1
	Female	26	113,282	23.0	25.1	26.7	1.000	1,035	4,027,089	25.7
Cervix	Female	4	113,282	3.5	3.7	6.8	0.393	255	4,027,089	6.3
Colorectal	Total	89	226,948	39.2	42.1	82.4	0.493	3,146	8,069,418	39.0
	Male	56	113,666	49.3	52.2	44.6	0.109	1,679	4,042,329	41.5
	Female	33	113,282	29.1	31.7	38.0	0.477	1,467	4,027,089	36.4
Corpus Uteri	Female	38	113,282	33.5	36.6	30.1	0.187	1,171	4,027,089	29.1
Esophagus	Total	5	226,948	2.2	2.4	12.0	0.040 <<	464	8,069,418	5.8
	Male	4	113,666	3.5	3.7	10.1	0.053	384	4,042,329	9.5
	Female	1	113,282	0.9	1.0	2.0	0.794	80	4,027,089	2.0
Hodgkin Lymphoma	Total	5	226,948	2.2	2.3	5.2	1.000	194	8,069,418	2.4
	Male	1	113,666	0.9	0.9	2.9	0.442	107	4,042,329	2.6
	Female	4	113,282	3.5	3.7	2.4	0.423	87	4,027,089	2.2
Kidney and Renal Pelvis	Total	41	226,948	18.1	19.5	39.5	0.849	1,513	8,069,418	18.7
	Male	27	113,666	23.8	25.4	25.5	0.812	968	4,042,329	23.9
	Female	14	113,282	12.4	13.4	14.1	1.000	545	4,027,089	13.5
Larynx	Total	4	226,948	1.8	1.9	5.4	0.758	205	8,069,418	2.5
	Male	4	113,666	3.5	3.7	4.3	1.000	164	4,042,329	4.1
	Female	-	113,282	-	-	1.1	0.684	41	4,027,089	1.0
Leukemia	Total	33	226,948	14.5	15.3	38.7	0.405	1,453	8,069,418	18.0
	Male	20	113,666	17.6	18.4	23.2	0.593	861	4,042,329	21.3
	Female	13	113,282	11.5	12.2	15.7	0.605	592	4,027,089	14.7
Liver and Bile Duct	Total	17	226,948	7.5	8.1	18.7	0.813	716	8,069,418	8.9
	Male	10	113,666	8.8	9.4	13.8	0.378	522	4,042,329	12.9
	Female	7	113,282	6.2	6.8	5.0	0.473	194	4,027,089	4.8
Lung and Bronchus	Total	91	226,948	40.1	43.3	118.9	0.009 <<	4,566	8,069,418	56.6
	Male	52	113,666	45.7	48.6	62.2	0.216	2,350	4,042,329	58.1
	Female	39	113,282	34.4	37.7	57.0	0.015 <<	2,216	4,027,089	55.0
Melanoma of the Skin	Total	58	226,948	25.6	27.5	64.5	0.459	2,468	8,069,418	30.6
	Male	32	113,666	28.2	30.0	38.0	0.378	1,437	4,042,329	35.5
	Female	26	113,282	23.0	24.8	26.8	0.973	1,031	4,027,089	25.6
Myeloma	Total	13	226,948	5.7	6.2	15.5	0.629	595	8,069,418	7.4
	Male	6	113,666	5.3	5.6	9.3	0.367	351	4,042,329	8.7
	Female	7	113,282	6.2	6.7	6.3	0.886	244	4,027,089	6.1
Non-Hodgkin Lymphoma	Total	45	226,948	19.8	21.3	45.3	1.000	1,728	8,069,418	21.4
	Male	27	113,666	23.8	25.1	26.0	0.902	980	4,042,329	24.2
	Female	18	113,282	15.9	17.3	19.4	0.870	748	4,027,089	18.6
Oral Cavity and Pharynx	Total	20	226,948	8.8	9.5	29.9	0.075	1,148	8,069,418	14.2
	Male	11	113,666	9.7	10.3	21.5	0.020 <<	815	4,042,329	20.2
	Female	9	113,282	7.9	8.7	8.6	0.970	333	4,027,089	8.3
Ovary	Female	16	113,282	14.1	15.3	13.0	0.481	503	4,027,089	12.5
Pancreas	Total	36	226,948	15.9	17.1	33.1	0.662	1,268	8,069,418	15.7
	Male	24	113,666	21.1	22.4	18.0	0.201	678	4,042,329	16.8
	Female	12	113,282	10.6	11.6	15.2	0.502	590	4,027,089	14.7
Prostate	Male	118	113,666	103.8	111.7	128.3	0.387	4,909	4,042,329	121.4
Stomach	Total	13	226,948	5.7	6.2	12.4	0.949	475	8,069,418	5.9
	Male	6	113,666	5.3	5.6	8.3	0.557	312	4,042,329	7.7
	Female	7	113,282	6.2	6.7	4.2	0.271	163	4,027,089	4.0
Testis	Male	3	113,666	2.6	2.9	6.9	0.180	264	4,042,329	6.5
Thyroid	Total	58	226,948	25.6	27.4	31.4	0.000 >>	1,198	8,069,418	14.8
	Male	10	113,666	8.8	9.4	8.4	0.680	322	4,042,329	8.0
	Female	48	113,282	42.4	45.3	23.1	0.000 >>	876	4,027,089	21.8
Pediatric Age 0 to 19	Total	13	77,371	16.8	17.0	13.9	0.948	422	2,323,151	18.2
	Male	8	39,810	20.1	20.3	7.5	0.952	226	1,186,092	19.1
	Female	5	37,561	13.3	13.4	6.4	0.759	196	1,137,059	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 2014–2018
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	1,920	227,753	843.0	898.0	1,701.9	0.000 >>	65,360	8,211,291	796.0
	Male	1,013	113,887	889.5	925.7	909.0	0.001 >>	34,173	4,113,993	830.7
	Female	907	113,866	796.6	867.7	795.6	0.000 >>	31,187	4,097,298	761.2
All Malignant Cancers	Total	359	227,753	157.6	169.5	366.8	0.707	14,226	8,211,291	173.2
	Male	199	113,887	174.7	183.9	202.6	0.839	7,702	4,113,993	187.2
	Female	160	113,866	140.5	153.8	165.7	0.697	6,524	4,097,298	159.2
Bladder	Total	11	227,753	4.8	5.2	10.8	1.000	415	8,211,291	5.1
	Male	8	113,887	7.0	7.3	8.3	1.000	311	4,113,993	7.6
	Female	3	113,866	2.6	2.9	2.6	0.976	104	4,097,298	2.5
Brain and Other Nervous System	Total	10	227,753	4.4	4.7	12.6	0.579	487	8,211,291	5.9
	Male	5	113,887	4.4	4.7	8.1	0.366	310	4,113,993	7.5
	Female	5	113,866	4.4	4.8	4.5	0.948	177	4,097,298	4.3
Breast	Total	24	227,753	10.5	11.3	27.4	0.595	1,063	8,211,291	12.9
	Male	-	113,887	-	-	0.3	1.000	10	4,113,993	0.2
	Female	24	113,866	21.1	23.1	26.7	0.687	1,053	4,097,298	25.7
Cervix	Female	-	113,866	-	-	2.1	0.255	80	4,097,298	2.0
Colorectal	Total	35	227,753	15.4	16.5	30.8	0.492	1,191	8,211,291	14.5
	Male	25	113,887	22.0	23.1	16.8	0.071	637	4,113,993	15.5
	Female	10	113,866	8.8	9.6	14.0	0.345	554	4,097,298	13.5
Corpus Uteri	Female	4	113,866	3.5	3.9	3.8	1.000	149	4,097,298	3.6
Esophagus	Total	5	227,753	2.2	2.4	12.0	0.042 <<	466	8,211,291	5.7
	Male	4	113,887	3.5	3.7	9.8	0.065	376	4,113,993	9.1
	Female	1	113,866	0.9	1.0	2.3	0.665	90	4,097,298	2.2
Hodgkin Lymphoma	Total	2	227,753	0.9	0.9	0.5	0.174	19	8,211,291	0.2
	Male	1	113,887	0.9	0.9	0.2	0.332	7	4,113,993	0.2
	Female	1	113,866	0.9	1.0	0.3	0.528	12	4,097,298	0.3
Kidney	Total	12	227,753	5.3	5.7	9.3	0.444	358	8,211,291	4.4
	Male	8	113,887	7.0	7.4	6.1	0.553	234	4,113,993	5.7
	Female	4	113,866	3.5	3.8	3.2	0.777	124	4,097,298	3.0
Larynx	Total	1	227,753	0.4	0.5	1.6	1.000	62	8,211,291	0.8
	Male	-	113,887	-	-	1.4	0.486	53	4,113,993	1.3
	Female	1	113,866	0.9	1.0	0.2	0.403	9	4,097,298	0.2
Leukemia	Total	15	227,753	6.6	7.0	15.6	1.000	601	8,211,291	7.3
	Male	8	113,887	7.0	7.4	9.2	0.854	350	4,113,993	8.5
	Female	7	113,866	6.1	6.6	6.5	0.938	251	4,097,298	6.1
Liver and Bile Duct	Total	16	227,753	7.0	7.6	14.9	0.852	582	8,211,291	7.1
	Male	9	113,887	7.9	8.4	10.5	0.797	403	4,113,993	9.8
	Female	7	113,866	6.1	6.7	4.5	0.349	179	4,097,298	4.4
Lung and Bronchus	Total	57	227,753	25.0	27.0	78.8	0.013 <<	3,068	8,211,291	37.4
	Male	31	113,887	27.2	28.9	42.7	0.076	1,636	4,113,993	39.8
	Female	26	113,866	22.8	25.1	36.3	0.094	1,432	4,097,298	34.9
Melanoma of the Skin	Total	9	227,753	4.0	4.2	7.0	0.546	271	8,211,291	3.3
	Male	6	113,887	5.3	5.5	4.8	0.687	181	4,113,993	4.4
	Female	3	113,866	2.6	2.9	2.3	0.813	90	4,097,298	2.2
Myeloma	Total	6	227,753	2.6	2.8	8.4	0.536	323	8,211,291	3.9
	Male	3	113,887	2.6	2.7	5.1	0.502	192	4,113,993	4.7
	Female	3	113,866	2.6	2.9	3.3	1.000	131	4,097,298	3.2
Non-Hodgkin Lymphoma	Total	9	227,753	4.0	4.2	14.5	0.177	561	8,211,291	6.8
	Male	2	113,887	1.8	1.8	8.3	0.021 <<	317	4,113,993	7.7
	Female	7	113,866	6.1	6.7	6.2	0.848	244	4,097,298	6.0
Oral Cavity and Pharynx	Total	7	227,753	3.1	3.3	5.6	0.652	216	8,211,291	2.6
	Male	6	113,887	5.3	5.6	3.8	0.377	146	4,113,993	3.5
	Female	1	113,866	0.9	1.0	1.8	0.934	70	4,097,298	1.7
Ovary	Female	13	113,866	11.4	12.5	8.9	0.230	350	4,097,298	8.5
Pancreas	Total	33	227,753	14.5	15.6	26.9	0.279	1,046	8,211,291	12.7
	Male	22	113,887	19.3	20.5	14.9	0.099	570	4,113,993	13.9
	Female	11	113,866	9.7	10.6	12.0	0.912	476	4,097,298	11.6
Prostate	Male	29	113,887	25.5	26.4	24.2	0.377	906	4,113,993	22.0
Stomach	Total	4	227,753	1.8	1.9	5.4	0.761	206	8,211,291	2.5
	Male	-	113,887	-	-	3.2	0.079	122	4,113,993	3.0
	Female	4	113,866	3.5	3.8	2.1	0.340	84	4,097,298	2.1

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, 2019.

Cancer Screening and Risk Factors

The Bureau of Vital Records and Health Statistics (BVRHS), Division of Public Health, 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) with randomly selected adult Idahoans to measure population prevalences of risk factors for the major causes of death, including cancer, since 1984. BVRHS provided data sets containing Behavioral Risk Factor Surveillance System (BRFSS) data from 2011 through 2018 to CDRI staff, who performed the analyses reported in these *County Profiles*. Analysis weights were poststratified to 2018 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, 2011–2018

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 (2014–2018)	81.2%	80.6%	84.5%	74.6%	84.7%	75.5%	83.3%	83.8%	82.5%
Not See Doctor Due to Cost in Past Year (2014–2018)	14.3%	13.9%	12.2%	18.1%	13.6%	14.3%	12.5%	13.9%	12.7%
Cancer Screening									
Mammogram Past 2 Years, Age 50–74 (2014, 2016, 2018)	67.5%	66.8%	72.1%	63.2%	72.9%	61.0%	64.6%	66.8%	63.0%
Pap Test Past 3 Years, Cervix Intact Age 21–65 (2016, 2018)	72.5%	74.8%	74.3%	72.1%	73.0%	71.7%	72.7%	68.6%	72.6%
Colorectal Cancer Screening, Age 50–75 (2016, 2018)	65.4%	64.9%	71.3%	62.6%	68.9%	60.3%	62.1%	65.3%	51.1%
Tobacco Use									
Current Smoker (2014–2018)	14.6%	17.1%	15.1%	16.8%	13.1%	16.2%	14.4%	10.4%	16.1%
Current Smokeless Tobacco User, Males (2014–2018)	9.5%	10.6%	14.0%	11.1%	8.4%	8.9%	8.4%	7.3%	8.9%
Other Cancer-Related									
Sunburn in Previous 12 Months (2018)	47.7%	42.3%	49.0%	41.6%	50.8%	42.8%	49.9%	56.6%	59.8%
Artificial Tanning Appliance Use (2011, 2014, 2016)	4.4%	5.5%	3.3%	3.3%	3.4%	4.2%	5.7%	6.8%	5.5%
Healthy Weight by Body Mass Index, Age 20+ (2014–2018)	32.6%	34.2%	32.9%	27.0%	36.3%	31.1%	29.4%	32.4%	28.2%
Meet Physical Activity Guidelines (2011, 2013, 2015, 2017)	22.1%	22.1%	19.9%	20.6%	26.1%	18.8%	20.0%	20.1%	17.7%
Home Ever Tested for Radon (2016, 2018)	22.7%	29.7%	19.5%	16.3%	24.1%	20.2%	23.3%	22.7%	24.2%

Access to Care

Have Health Insurance – 2014–2018
Statewide, 81.2% of adults aged 18–64 reported having health care coverage. Health care coverage differed significantly by race/ethnicity, with 84.5% of white non-Hispanics, compared to 59.8% of Hispanics and 79.9% of Native Americans, having health insurance. Spanish-speaking respondents were significantly less likely to be insured (33.1%) than English-speaking respondents (83.1%). Health care coverage differed significantly by age of respondent, with 76.4% of persons aged 30–39, and 86.5% of persons aged 50–64, having health insurance. Health care coverage differed significantly by county, with a range of 57.4% in Adams County to 91.7% in Oneida County having health insurance.

Not See Doctor Due to Cost in Past Year – 2014–2018
Statewide, 14.3% 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 (13.2% of white non-Hispanics, 21.4% of Hispanics, and 23.1% of Native Americans). Inability to see a doctor due to cost differed significantly by annual household income (27.4% for less than $15,000, 6.7% for greater than $50,000). Inability to see a doctor due to cost differed significantly by county, with a range of 7.0% in Caribou County to 20.2% in Jerome County.

Cancer Screening

Mammogram – 2014, 2016, 2018
Statewide, 67.5% 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 (70.7% versus 34.0%). Mammography rates differed significantly by county, with a range in screening of 47.3% in Gooding County to 77.5% in Nez Perce County. In 2018, Idaho ranked 49th among states and the District of Columbia for mammography screening rates among women aged 50–74 and 50th among ages 40+.

Pap Test – 2016, 2018
Statewide, 72.5% 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 (77.3% versus 54.2% screened in the past 3 years). Pap screening differed significantly by county, with a range of 60.5% in Idaho County to 79.2% in Latah County. In 2018, Idaho ranked 51st among states and the District of Columbia for Pap screening rate.

Colorectal Cancer Screening – 2016, 2018
Statewide, 65.4% of adults aged 50–75 reported receiving colorectal cancer screening based on the most recent guidelines.** Persons with health insurance were over twice as likely to be current for colorectal cancer screening. In 2018, Idaho ranked 41st 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 Smoking – 2014–2018
Statewide, 14.6% of adults aged 18 and older were current smokers. Smoking prevalence differed significantly by age of respondent, with 19.2% of persons aged 30–39, and 8.4% of persons aged 65 and older reporting current smoking. Smoking prevalence was lower among white non-Hispanics (14.7%) than among Native Americans (32.4%). Smoking prevalence differed significantly by county, with a range of 4.3% in Madison County to 32.7% in Adams County. Counties with higher rates of current smoking had higher rates of lung cancer.

Smokeless Tobacco Use, Males – 2014–2018
Statewide, 9.5% of males aged 18 and older were current users of smokeless tobacco. Smokeless tobacco use differed significantly by age group, ranging from 12.8% of males aged 30–39 to 4.0% of males aged 65 and older. Smokeless tobacco use differed significantly by county, with a range of 3.4% in Franklin County to 21.1% in Custer County. Counties with higher rates of smokeless tobacco use had higher rates of oral cavity & pharynx cancer.

Other Cancer-Related

Sun Exposure – 2018
Statewide, 47.7% of adults aged 18 and older reported having sunburn in the past 12 months. Sunburn rates were higher for white non-Hispanics (49.6%) and Native Americans (48.7%) than for Hispanics (35.2%). Sunburn rates differed significantly by age group, with 67.2% of persons aged 30–39 and 17.9% of persons aged 65 and older having sunburn in the past 12 months. Sunburn rates differed significantly by county, with a range of 36.7% in Idaho County to 72.9% in Madison County having sunburn in the past 12 months.

Artificial Tanning Appliance Use – 2011, 2014, 2016
Statewide, 4.4% of adults aged 18 and older reported using an artificial tanning appliance, such as a tanning bed, in the past 12 months. Females (6.8%) were significantly more likely than males (2.1%) to have used an artificial tanning appliance in the past 12 months. Tanning appliance use differed significantly by age group, with 8.7% of persons aged 18–29 and 0.9% of persons aged 65 and older, using an appliance in the past 12 months. Tanning appliance use differed by county, with a range of less than 1% in Oneida, Power, and Valley Counties to over 9% in Bear Lake and Fremont Counties using an artificial tanning appliance in the past 12 months.

Healthy Weight by Body Mass Index – 2014–2018
Statewide, 32.6% 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 33.3% of white non-Hispanics, compared to 26.0% of Hispanics and 26.8% of Native Americans, being in the healthy weight range. Males (25.7%) were significantly less likely to be in the healthy weight range than females (39.4%). BMI differed significantly by age of respondent, with 45.0% of persons aged 18–29, and 27.1% of persons aged 50–64, being in the healthy weight range. BMI differed significantly by county, with a range of 19.5% in Minidoka County to 52.8% in Blaine County of adults being in the healthy weight range.

Physical Activity – 2011, 2013, 2015, 2017
Statewide, 22.1% of adults aged 18 and older met aerobic and strength physical activity guidelines during the past month or week. Physical activity differed significantly by age of respondent, with 26.3% of persons aged 18–29, and 19.3% of persons aged 50–64, meeting guidelines. The percentage of adults meeting physical activity guidelines differed significantly by county, with a range of 7.6% in Oneida County to 31.1% in Blaine County.

Home Radon Testing – 2016, 2018
Statewide, 22.7% of adults have ever tested their house for radon. Radon test usage varied significantly by race/ethnicity, with 24.7% of white non-Hispanics, 5.3% of Hispanics, and 27.9% 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 8.0% in Cassia County to 58.0% in Blaine County.

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BLAINE COUNTY CANCER PROFILE

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

Cancer Incidence 2013–2017
Cancer Mortality 2014–2018
BRFSS 2011–2018

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 are due to personal lifestyle factors, such as smoking and sedentary lifestyle, and are preventable. Additional cancers are 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. 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.

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://health.gov/dietaryguidelines/2015.

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
615 N. 7th Street
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/contact-center

American Cancer Society
2676 S. Vista Avenue
Boise, ID 83705
208-343-4609
https://www.cancer.org

CANCER INCIDENCE 2013–2017

Nearly one in two Idahoans are estimated to develop cancer during their lifetime. During 2013–2017, 40,996 cases of invasive cancer were diagnosed among Idaho residents, and 580 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, 2013–2017

Cancer Incidence 2013–2017	Blaine County	State of Idaho
All Sites/Types	**580**	**40,996**
Female Breast	**95**	**5,956**
Prostate	**94**	**5,027**
Lung & Bronchus	**39**	**4,657**
Colorectal	**30**	**3,235**

Table 3 (*Cancer Incidence 2013–2017, 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 rate of invasive cancer incidence in Blaine County was 533.6 cases per 100,000 person-years per year during 2013–2017. Comparing this crude rate with the crude rate for the remainder of Idaho (493.6) 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 463.5 cases per 100,000 persons per year during 2013–2017. There were fewer cases of cancer in Blaine County (580) than expected (617.7) 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 2014–2018

During 2014–2018, cancer was the second leading cause of death in Idaho; 14,585 Idaho residents and 145 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, 2014–2018

Mortality 2014–2018	Blaine County	State of Idaho
All Deaths	**558**	**67,280**
Cancer Deaths	**145**	**14,585**
% of All Deaths	*26.0%*	*21.7%*
Lung & Bronchus	**23**	**3,125**
Colorectal	**8**	**1,226**
Pancreas	**11**	**1,079**
Female Breast	**11**	**1,077**
Prostate	**18**	**935**

Table 4 (*Cancer Mortality 2014–2018, 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 117.2 deaths per 100,000 persons per year during 2014–2018, compared with 173.4 for the remainder of the state. There were statistically significantly fewer cancer deaths in Blaine County (145) than expected (214.6) based upon rates in the remainder of the state ($p<.001$).

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

TABLE 3: CANCER INCIDENCE 2013–2017
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	580	108,701	533.6	463.5	617.7	0.132	40,416	8,187,665	493.6
	Male	328	55,187	594.3	499.2	334.4	0.755	20,869	4,100,808	508.9
	Female	252	53,514	470.9	418.9	287.8	0.035 <<	19,547	4,086,857	478.3
Bladder	Total	30	108,701	27.6	24.5	29.6	0.996	1,985	8,187,665	24.2
	Male	24	55,187	43.5	36.9	24.5	1.000	1,546	4,100,808	37.7
	Female	6	53,514	11.2	10.3	6.2	1.000	439	4,086,857	10.7
Brain - malignant	Total	8	108,701	7.4	6.6	8.9	0.950	602	8,187,665	7.4
	Male	3	55,187	5.4	4.8	5.7	0.369	368	4,100,808	9.0
	Female	5	53,514	9.3	8.7	3.3	0.473	234	4,086,857	5.7
Brain and other CNS - non-malignant	Total	12	108,701	11.0	9.9	15.7	0.432	1,060	8,187,665	12.9
	Male	3	55,187	5.4	4.8	5.3	0.450	351	4,100,808	8.6
	Female	9	53,514	16.8	15.3	10.2	0.857	709	4,086,857	17.3
Breast	Total	96	108,701	88.3	75.1	92.2	0.723	5,905	8,187,665	72.1
	Male	1	55,187	1.8	1.5	0.7	1.000	44	4,100,808	1.1
	Female	95	53,514	177.5	152.2	89.5	0.588	5,861	4,086,857	143.4
Breast - in situ	Total	19	108,701	17.5	14.5	16.7	0.634	1,045	8,187,665	12.8
	Male	-	55,187	-	-	0.1	1.000	3	4,100,808	0.1
	Female	19	53,514	35.5	29.5	16.4	0.587	1,042	4,086,857	25.5
Cervix	Female	3	53,514	5.6	5.0	3.7	0.971	256	4,086,857	6.3
Colorectal	Total	30	108,701	27.6	24.2	48.6	0.006 <<	3,205	8,187,665	39.1
	Male	22	55,187	39.9	33.6	27.3	0.356	1,713	4,100,808	41.8
	Female	8	53,514	14.9	13.6	21.5	0.002 <<	1,492	4,086,857	36.5
Corpus Uteri	Female	17	53,514	31.8	26.5	18.7	0.806	1,192	4,086,857	29.2
Esophagus	Total	4	108,701	3.7	3.1	7.3	0.301	465	8,187,665	5.7
	Male	4	55,187	7.2	6.0	6.3	0.506	384	4,100,808	9.4
	Female	-	53,514	-	-	1.2	0.613	81	4,086,857	2.0
Hodgkin Lymphoma	Total	2	108,701	1.8	1.8	2.6	1.000	197	8,187,665	2.4
	Male	1	55,187	1.8	1.8	1.5	1.000	107	4,100,808	2.6
	Female	1	53,514	1.9	1.9	1.2	1.000	90	4,086,857	2.2
Kidney and Renal Pelvis	Total	19	108,701	17.5	15.0	23.8	0.385	1,535	8,187,665	18.7
	Male	10	55,187	18.1	15.1	15.9	0.161	985	4,100,808	24.0
	Female	9	53,514	16.8	15.0	8.1	0.840	550	4,086,857	13.5
Larynx	Total	1	108,701	0.9	0.8	3.3	0.327	208	8,187,665	2.5
	Male	1	55,187	1.8	1.5	2.7	0.481	167	4,100,808	4.1
	Female	-	53,514	-	-	0.6	1.000	41	4,086,857	1.0
Leukemia	Total	22	108,701	20.2	18.5	21.2	0.924	1,464	8,187,665	17.9
	Male	16	55,187	29.0	25.2	13.4	0.541	865	4,100,808	21.1
	Female	6	53,514	11.2	10.9	8.1	0.609	599	4,086,857	14.7
Liver and Bile Duct	Total	5	108,701	4.6	3.9	11.5	0.054	728	8,187,665	8.9
	Male	5	55,187	9.1	7.4	8.7	0.270	527	4,100,808	12.9
	Female	-	53,514	-	-	3.0	0.102	201	4,086,857	4.9
Lung and Bronchus	Total	39	108,701	35.9	31.2	70.4	0.000 <<	4,618	8,187,665	56.4
	Male	20	55,187	36.2	30.2	38.4	0.002 <<	2,382	4,100,808	58.1
	Female	19	53,514	35.5	32.0	32.5	0.015 <<	2,236	4,086,857	54.7
Melanoma of the Skin	Total	65	108,701	59.8	52.5	37.2	0.000 >>	2,461	8,187,665	30.1
	Male	42	55,187	76.1	64.8	22.6	0.000 >>	1,427	4,100,808	34.8
	Female	23	53,514	43.0	38.4	15.1	0.071	1,034	4,086,857	25.3
Myeloma	Total	7	108,701	6.4	5.7	9.1	0.630	601	8,187,665	7.3
	Male	4	55,187	7.2	6.0	5.7	0.654	353	4,100,808	8.6
	Female	3	53,514	5.6	5.2	3.5	1.000	248	4,086,857	6.1
Non-Hodgkin Lymphoma	Total	27	108,701	24.8	21.9	26.3	0.943	1,746	8,187,665	21.3
	Male	18	55,187	32.6	27.7	15.7	0.619	989	4,100,808	24.1
	Female	9	53,514	16.8	15.3	10.9	0.709	757	4,086,857	18.5
Oral Cavity and Pharynx	Total	27	108,701	24.8	21.0	17.9	0.053	1,141	8,187,665	13.9
	Male	20	55,187	36.2	30.0	13.1	0.091	806	4,100,808	19.7
	Female	7	53,514	13.1	11.4	5.0	0.482	335	4,086,857	8.2
Ovary	Female	7	53,514	13.1	11.5	7.6	1.000	512	4,086,857	12.5
Pancreas	Total	15	108,701	13.8	12.1	19.5	0.367	1,289	8,187,665	15.7
	Male	7	55,187	12.7	10.6	11.2	0.257	695	4,100,808	16.9
	Female	8	53,514	14.9	13.9	8.4	1.000	594	4,086,857	14.5
Prostate	Male	94	55,187	170.3	138.4	81.7	0.197	4,933	4,100,808	120.3
Stomach	Total	2	108,701	1.8	1.6	7.3	0.046 <<	486	8,187,665	5.9
	Male	1	55,187	1.8	1.5	5.1	0.077	317	4,100,808	7.7
	Female	1	53,514	1.9	1.7	2.4	0.631	169	4,086,857	4.1
Testis	Male	6	55,187	10.9	11.5	3.3	0.236	261	4,100,808	6.4
Thyroid	Total	11	108,701	10.1	9.1	18.4	0.094	1,245	8,187,665	15.2
	Male	1	55,187	1.8	1.6	5.0	0.078	331	4,100,808	8.1
	Female	10	53,514	18.7	16.9	13.2	0.467	914	4,086,857	22.4
Pediatric Age 0 to 19	Total	5	27,291	18.3	18.6	4.9	1.000	430	2,373,231	18.1
	Male	2	14,023	14.3	14.6	2.6	1.000	232	1,211,879	19.1
	Female	3	13,268	22.6	22.8	2.2	0.778	198	1,161,352	17.0

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

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

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

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

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

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

TABLE 4: CANCER MORTALITY 2014–2018
COMPARISON BETWEEN BLAINE COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cause of Death Cancer Site/Type	Sex	Blaine 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	558	109,972	507.4	488.5	915.0	0.000 <<	66,722	8,329,072	801.1
	Male	337	55,776	604.2	537.2	524.0	0.000 <<	34,849	4,172,104	835.3
	Female	221	54,196	407.8	426.8	397.0	0.000 <<	31,873	4,156,968	766.7
All Malignant Cancers	Total	145	109,972	131.9	117.2	214.6	0.000 <<	14,440	8,329,072	173.4
	Male	87	55,776	156.0	131.8	123.6	0.001 <<	7,814	4,172,104	187.3
	Female	58	54,196	107.0	99.0	93.4	0.000 <<	6,626	4,156,968	159.4
Bladder	Total	5	109,972	4.5	4.3	5.8	0.952	421	8,329,072	5.1
	Male	4	55,776	7.2	6.3	4.8	0.966	315	4,172,104	7.6
	Female	1	54,196	1.8	1.9	1.3	1.000	106	4,156,968	2.5
Brain and Other Nervous System	Total	6	109,972	5.5	4.7	7.6	0.739	491	8,329,072	5.9
	Male	2	55,776	3.6	3.0	5.0	0.250	313	4,172,104	7.5
	Female	4	54,196	7.4	6.4	2.7	0.560	178	4,156,968	4.3
Breast	Total	11	109,972	10.0	8.8	16.1	0.243	1,076	8,329,072	12.9
	Male	-	55,776	-	-	0.2	1.000	10	4,172,104	0.2
	Female	11	54,196	20.3	18.4	15.4	0.323	1,066	4,156,968	25.6
Cervix	Female	2	54,196	3.7	3.1	1.2	0.673	78	4,156,968	1.9
Colorectal	Total	8	109,972	7.3	6.5	18.0	0.014 <<	1,218	8,329,072	14.6
	Male	6	55,776	10.8	9.1	10.4	0.214	656	4,172,104	15.7
	Female	2	54,196	3.7	3.5	7.7	0.034 <<	562	4,156,968	13.5
Corpus Uteri	Female	3	54,196	5.5	5.0	2.2	0.747	150	4,156,968	3.6
Esophagus	Total	3	109,972	2.7	2.4	7.2	0.148	468	8,329,072	5.6
	Male	2	55,776	3.6	3.0	6.1	0.116	378	4,172,104	9.1
	Female	1	54,196	1.8	1.7	1.3	1.000	90	4,156,968	2.2
Hodgkin Lymphoma	Total	-	109,972	-	-	0.3	1.000	21	8,329,072	0.3
	Male	-	55,776	-	-	0.1	1.000	8	4,172,104	0.2
	Female	-	54,196	-	-	0.2	1.000	13	4,156,968	0.3
Kidney	Total	-	109,972	-	-	5.5	0.008 <<	370	8,329,072	4.4
	Male	-	55,776	-	-	3.9	0.042 <<	242	4,172,104	5.8
	Female	-	54,196	-	-	1.8	0.345	128	4,156,968	3.1
Larynx	Total	-	109,972	-	-	0.9	0.786	63	8,329,072	0.8
	Male	-	55,776	-	-	0.8	0.875	53	4,172,104	1.3
	Female	-	54,196	-	-	0.1	1.000	10	4,156,968	0.2
Leukemia	Total	6	109,972	5.5	5.1	8.7	0.472	610	8,329,072	7.3
	Male	4	55,776	7.2	6.2	5.5	0.720	354	4,172,104	8.5
	Female	2	54,196	3.7	3.7	3.3	0.706	256	4,156,968	6.2
Liver and Bile Duct	Total	3	109,972	2.7	2.3	9.3	0.034 <<	595	8,329,072	7.1
	Male	3	55,776	5.4	4.4	6.7	0.193	409	4,172,104	9.8
	Female	-	54,196	-	-	2.7	0.131	186	4,156,968	4.5
Lung and Bronchus	Total	23	109,972	20.9	18.2	47.1	0.000 <<	3,102	8,329,072	37.2
	Male	11	55,776	19.7	16.3	26.8	0.001 <<	1,656	4,172,104	39.7
	Female	12	54,196	22.1	20.1	20.8	0.055	1,446	4,156,968	34.8
Melanoma of the Skin	Total	5	109,972	4.5	4.0	4.1	0.794	275	8,329,072	3.3
	Male	5	55,776	9.0	7.6	2.9	0.333	182	4,172,104	4.4
	Female	-	54,196	-	-	1.3	0.531	93	4,156,968	2.2
Myeloma	Total	3	109,972	2.7	2.5	4.7	0.610	326	8,329,072	3.9
	Male	2	55,776	3.6	3.1	3.0	0.834	193	4,172,104	4.6
	Female	1	54,196	1.8	1.8	1.8	0.923	133	4,156,968	3.2
Non-Hodgkin Lymphoma	Total	5	109,972	4.5	4.2	8.1	0.359	565	8,329,072	6.8
	Male	5	55,776	9.0	7.6	4.9	1.000	314	4,172,104	7.5
	Female	-	54,196	-	-	3.3	0.076	251	4,156,968	6.0
Oral Cavity and Pharynx	Total	3	109,972	2.7	2.4	3.3	1.000	220	8,329,072	2.6
	Male	2	55,776	3.6	3.0	2.4	1.000	150	4,172,104	3.6
	Female	1	54,196	1.8	1.7	1.0	1.000	70	4,156,968	1.7
Ovary	Female	3	54,196	5.5	4.9	5.3	0.447	360	4,156,968	8.7
Pancreas	Total	11	109,972	10.0	8.6	16.3	0.224	1,068	8,329,072	12.8
	Male	5	55,776	9.0	7.3	9.6	0.170	587	4,172,104	14.1
	Female	6	54,196	11.1	10.2	6.8	0.955	481	4,156,968	11.6
Prostate	Male	18	55,776	32.3	28.8	13.8	0.312	917	4,172,104	22.0
Stomach	Total	1	109,972	0.9	0.8	3.1	0.380	209	8,329,072	2.5
	Male	1	55,776	1.8	1.5	1.9	0.869	121	4,172,104	2.9
	Female	-	54,196	-	-	1.2	0.611	88	4,156,968	2.1

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, 2019.

Cancer Screening and Risk Factors

The Bureau of Vital Records and Health Statistics (BVRHS), Division of Public Health, 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) with randomly selected adult Idahoans to measure population prevalences of risk factors for the major causes of death, including cancer, since 1984. BVRHS provided data sets containing Behavioral Risk Factor Surveillance System (BRFSS) data from 2011 through 2018 to CDRI staff, who performed the analyses reported in these *County Profiles*. Analysis weights were poststratified to 2018 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, 2011–2018

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 (2014–2018)	81.2%	80.6%	84.5%	74.6%	84.7%	75.5%	83.3%	83.8%	76.8%
Not See Doctor Due to Cost in Past Year (2014–2018)	14.3%	13.9%	12.2%	18.1%	13.6%	14.3%	12.5%	13.9%	15.5%
Cancer Screening									
Mammogram Past 2 Years, Age 50–74 (2014, 2016, 2018)	67.5%	66.8%	72.1%	63.2%	72.9%	61.0%	64.6%	66.8%	68.8%
Pap Test Past 3 Years, Cervix Intact Age 21–65 (2016, 2018)	72.5%	74.8%	74.3%	72.1%	73.0%	71.7%	72.7%	68.6%	.
Colorectal Cancer Screening, Age 50–75 (2016, 2018)	65.4%	64.9%	71.3%	62.6%	68.9%	60.3%	62.1%	65.3%	74.6%
Tobacco Use									
Current Smoker (2014–2018)	14.6%	17.1%	15.1%	16.8%	13.1%	16.2%	14.4%	10.4%	9.4%
Current Smokeless Tobacco User, Males (2014–2018)	9.5%	10.6%	14.0%	11.1%	8.4%	8.9%	8.4%	7.3%	11.1%
Other Cancer-Related									
Sunburn in Previous 12 Months (2018)	47.7%	42.3%	49.0%	41.6%	50.8%	42.8%	49.9%	56.6%	44.6%
Artificial Tanning Appliance Use (2011, 2014, 2016)	4.4%	5.5%	3.3%	3.3%	3.4%	4.2%	5.7%	6.8%	6.3%
Healthy Weight by Body Mass Index, Age 20+ (2014–2018)	32.6%	34.2%	32.9%	27.0%	36.3%	31.1%	29.4%	32.4%	52.8%
Meet Physical Activity Guidelines (2011, 2013, 2015, 2017)	22.1%	22.1%	19.9%	20.6%	26.1%	18.8%	20.0%	20.1%	31.1%
Home Ever Tested for Radon (2016, 2018)	22.7%	29.7%	19.5%	16.3%	24.1%	20.2%	23.3%	22.7%	58.0%

Access to Care

Have Health Insurance – 2014–2018
Statewide, 81.2% of adults aged 18–64 reported having health care coverage. Health care coverage differed significantly by race/ethnicity, with 84.5% of white non-Hispanics, compared to 59.8% of Hispanics and 79.9% of Native Americans, having health insurance. Spanish-speaking respondents were significantly less likely to be insured (33.1%) than English-speaking respondents (83.1%). Health care coverage differed significantly by age of respondent, with 76.4% of persons aged 30–39, and 86.5% of persons aged 50–64, having health insurance. Health care coverage differed significantly by county, with a range of 57.4% in Adams County to 91.7% in Oneida County having health insurance.

Not See Doctor Due to Cost in Past Year – 2014–2018
Statewide, 14.3% 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 (13.2% of white non-Hispanics, 21.4% of Hispanics, and 23.1% of Native Americans). Inability to see a doctor due to cost differed significantly by annual household income (27.4% for less than $15,000, 6.7% for greater than $50,000). Inability to see a doctor due to cost differed significantly by county, with a range of 7.0% in Caribou County to 20.2% in Jerome County.

Cancer Screening

Mammogram – 2014, 2016, 2018
Statewide, 67.5% 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 (70.7% versus 34.0%). Mammography rates differed significantly by county, with a range in screening of 47.3% in Gooding County to 77.5% in Nez Perce County. In 2018, Idaho ranked 49th among states and the District of Columbia for mammography screening rates among women aged 50–74 and 50th among ages 40+.

Pap Test – 2016, 2018
Statewide, 72.5% 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 (77.3% versus 54.2% screened in the past 3 years). Pap screening differed significantly by county, with a range of 60.5% in Idaho County to 79.2% in Latah County. In 2018, Idaho ranked 51st among states and the District of Columbia for Pap screening rate.

Colorectal Cancer Screening – 2016, 2018
Statewide, 65.4% of adults aged 50–75 reported receiving colorectal cancer screening based on the most recent guidelines.** Persons with health insurance were over twice as likely to be current for colorectal cancer screening. In 2018, Idaho ranked 41st 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 Smoking – 2014–2018
Statewide, 14.6% of adults aged 18 and older were current smokers. Smoking prevalence differed significantly by age of respondent, with 19.2% of persons aged 30–39, and 8.4% of persons aged 65 and older reporting current smoking. Smoking prevalence was lower among white non-Hispanics (14.7%) than among Native Americans (32.4%). Smoking prevalence differed significantly by county, with a range of 4.3% in Madison County to 32.7% in Adams County. Counties with higher rates of current smoking had higher rates of lung cancer.

Smokeless Tobacco Use, Males – 2014–2018
Statewide, 9.5% of males aged 18 and older were current users of smokeless tobacco. Smokeless tobacco use differed significantly by age group, ranging from 12.8% of males aged 30–39 to 4.0% of males aged 65 and older. Smokeless tobacco use differed significantly by county, with a range of 3.4% in Franklin County to 21.1% in Custer County. Counties with higher rates of smokeless tobacco use had higher rates of oral cavity & pharynx cancer.

Other Cancer-Related

Sun Exposure – 2018
Statewide, 47.7% of adults aged 18 and older reported having sunburn in the past 12 months. Sunburn rates were higher for white non-Hispanics (49.6%) and Native Americans (48.7%) than for Hispanics (35.2%). Sunburn rates differed significantly by age group, with 67.2% of persons aged 30–39 and 17.9% of persons aged 65 and older having sunburn in the past 12 months. Sunburn rates differed significantly by county, with a range of 36.7% in Idaho County to 72.9% in Madison County having sunburn in the past 12 months.

Artificial Tanning Appliance Use – 2011, 2014, 2016
Statewide, 4.4% of adults aged 18 and older reported using an artificial tanning appliance, such as a tanning bed, in the past 12 months. Females (6.8%) were significantly more likely than males (2.1%) to have used an artificial tanning appliance in the past 12 months. Tanning appliance use differed significantly by age group, with 8.7% of persons aged 18–29 and 0.9% of persons aged 65 and older, using an appliance in the past 12 months. Tanning appliance use differed by county, with a range of less than 1% in Oneida, Power, and Valley Counties to over 9% in Bear Lake and Fremont Counties using an artificial tanning appliance in the past 12 months.

Healthy Weight by Body Mass Index – 2014–2018
Statewide, 32.6% 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 33.3% of white non-Hispanics, compared to 26.0% of Hispanics and 26.8% of Native Americans, being in the healthy weight range. Males (25.7%) were significantly less likely to be in the healthy weight range than females (39.4%). BMI differed significantly by age of respondent, with 45.0% of persons aged 18–29, and 27.1% of persons aged 50–64, being in the healthy weight range. BMI differed significantly by county, with a range of 19.5% in Minidoka County to 52.8% in Blaine County of adults being in the healthy weight range.

Physical Activity – 2011, 2013, 2015, 2017
Statewide, 22.1% of adults aged 18 and older met aerobic and strength physical activity guidelines during the past month or week. Physical activity differed significantly by age of respondent, with 26.3% of persons aged 18–29, and 19.3% of persons aged 50–64, meeting guidelines. The percentage of adults meeting physical activity guidelines differed significantly by county, with a range of 7.6% in Oneida County to 31.1% in Blaine County.

Home Radon Testing – 2016, 2018
Statewide, 22.7% of adults have ever tested their house for radon. Radon test usage varied significantly by race/ethnicity, with 24.7% of white non-Hispanics, 5.3% of Hispanics, and 27.9% 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 8.0% in Cassia County to 58.0% in Blaine County.

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BOISE COUNTY CANCER PROFILE

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

Cancer Incidence 2013–2017
Cancer Mortality 2014–2018
BRFSS 2011–2018

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 are due to personal lifestyle factors, such as smoking and sedentary lifestyle, and are preventable. Additional cancers are 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. 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.

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://health.gov/dietaryguidelines/2015.

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
615 N. 7th Street
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/contact-center

American Cancer Society
2676 S. Vista Avenue
Boise, ID 83705
208-343-4609
https://www.cancer.org

CANCER INCIDENCE 2013–2017

Nearly one in two Idahoans are estimated to develop cancer during their lifetime. During 2013–2017, 40,996 cases of invasive cancer were diagnosed among Idaho residents, and 234 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, 2013–2017

Cancer Incidence 2013–2017	Boise County	State of Idaho
All Sites/Types	**234**	**40,996**
Female Breast	**42**	**5,956**
Prostate	**40**	**5,027**
Lung & Bronchus	**32**	**4,657**
Colorectal	**17**	**3,235**

Table 3 (*Cancer Incidence 2013–2017, 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 rate of invasive cancer incidence in Boise County was 670.5 cases per 100,000 person-years per year during 2013–2017. Comparing this crude rate with the crude rate for the remainder of Idaho (493.4) 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 449.6 cases per 100,000 persons per year during 2013–2017. There were fewer cases of cancer in Boise County (234) than expected (256.8) 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 2014–2018

During 2014–2018, cancer was the second leading cause of death in Idaho; 14,585 Idaho residents and 70 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, 2014–2018

Mortality 2014–2018	Boise County	State of Idaho
All Deaths	**261**	**67,280**
Cancer Deaths	**70**	**14,585**
% of All Deaths	*26.8%*	*21.7%*
Lung & Bronchus	**19**	**3,125**
Colorectal	**5**	**1,226**
Pancreas	**5**	**1,079**
Female Breast	**5**	**1,077**
Prostate	**4**	**935**

Table 4 (*Cancer Mortality 2014–2018, 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 134.9 deaths per 100,000 persons per year during 2014–2018, compared with 172.7 for the remainder of the state. There were statistically significantly fewer cancer deaths in Boise County (70) than expected (89.6) based upon rates in the remainder of the state (p=.037).

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

TABLE 3: CANCER INCIDENCE 2013–2017
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	234	34,901	670.5	449.6	256.8	0.161	40,762	8,261,465	493.4
	Male	128	18,049	709.2	430.7	151.3	0.059	21,069	4,137,946	509.2
	Female	106	16,852	629.0	459.1	110.3	0.731	19,693	4,123,519	477.6
Bladder	Total	18	34,901	51.6	34.5	12.6	0.177	1,997	8,261,465	24.2
	Male	12	18,049	66.5	40.2	11.2	0.898	1,558	4,137,946	37.7
	Female	6	16,852	35.6	26.2	2.4	0.076	439	4,123,519	10.6
Brain - malignant	Total	5	34,901	14.3	10.8	3.4	0.510	605	8,261,465	7.3
	Male	4	18,049	22.2	15.4	2.3	0.403	367	4,137,946	8.9
	Female	1	16,852	5.9	4.8	1.2	1.000	238	4,123,519	5.8
Brain and other CNS - non-malignant	Total	10	34,901	28.7	21.1	6.1	0.180	1,062	8,261,465	12.9
	Male	5	18,049	27.7	19.8	2.1	0.130	349	4,137,946	8.4
	Female	5	16,852	29.7	22.7	3.8	0.669	713	4,123,519	17.3
Breast	Total	42	34,901	120.3	80.0	37.9	0.544	5,959	8,261,465	72.1
	Male	-	18,049	-	-	0.3	1.000	45	4,137,946	1.1
	Female	42	16,852	249.2	174.2	34.6	0.243	5,914	4,123,519	143.4
Breast - in situ	Total	7	34,901	20.1	13.3	6.8	1.000	1,057	8,261,465	12.8
	Male	1	18,049	5.5	3.0	0.0	0.032 >>	2	4,137,946	0.0
	Female	6	16,852	35.6	24.4	6.3	1.000	1,055	4,123,519	25.6
Cervix	Female	-	16,852	-	-	1.3	0.562	259	4,123,519	6.3
Colorectal	Total	17	34,901	48.7	33.1	20.0	0.591	3,218	8,261,465	39.0
	Male	10	18,049	55.4	34.5	12.1	0.678	1,725	4,137,946	41.7
	Female	7	16,852	41.5	30.8	8.2	0.846	1,493	4,123,519	36.2
Corpus Uteri	Female	4	16,852	23.7	15.5	7.5	0.260	1,205	4,123,519	29.2
Esophagus	Total	5	34,901	14.3	9.1	3.1	0.398	464	8,261,465	5.6
	Male	4	18,049	22.2	13.0	2.8	0.636	384	4,137,946	9.3
	Female	1	16,852	5.9	4.1	0.5	0.747	80	4,123,519	1.9
Hodgkin Lymphoma	Total	1	34,901	2.9	2.8	0.9	1.000	198	8,261,465	2.4
	Male	-	18,049	-	-	0.5	1.000	108	4,137,946	2.6
	Female	1	16,852	5.9	5.7	0.4	0.635	90	4,123,519	2.2
Kidney and Renal Pelvis	Total	4	34,901	11.5	7.6	9.9	0.061	1,550	8,261,465	18.8
	Male	1	18,049	5.5	3.4	7.1	0.013 <<	994	4,137,946	24.0
	Female	3	16,852	17.8	12.9	3.1	1.000	556	4,123,519	13.5
Larynx	Total	-	34,901	-	-	1.4	0.488	209	8,261,465	2.5
	Male	-	18,049	-	-	1.3	0.555	168	4,137,946	4.1
	Female	-	16,852	-	-	0.2	1.000	41	4,123,519	1.0
Leukemia	Total	6	34,901	17.2	12.6	8.5	0.510	1,480	8,261,465	17.9
	Male	3	18,049	16.6	10.9	5.8	0.334	878	4,137,946	21.2
	Female	3	16,852	17.8	14.9	2.9	1.000	602	4,123,519	14.6
Liver and Bile Duct	Total	7	34,901	20.1	12.4	5.0	0.469	726	8,261,465	8.8
	Male	5	18,049	27.7	15.8	4.0	0.751	527	4,137,946	12.7
	Female	2	16,852	11.9	8.3	1.2	0.645	199	4,123,519	4.8
Lung and Bronchus	Total	32	34,901	91.7	59.8	30.0	0.759	4,625	8,261,465	56.0
	Male	18	18,049	99.7	58.6	17.7	1.000	2,384	4,137,946	57.6
	Female	14	16,852	83.1	59.9	12.7	0.787	2,241	4,123,519	54.3
Melanoma of the Skin	Total	11	34,901	31.5	22.1	15.1	0.350	2,515	8,261,465	30.4
	Male	4	18,049	22.2	14.2	10.0	0.059	1,465	4,137,946	35.4
	Female	7	16,852	41.5	31.6	5.6	0.674	1,050	4,123,519	25.5
Myeloma	Total	2	34,901	5.7	3.8	3.8	0.524	606	8,261,465	7.3
	Male	2	18,049	11.1	6.5	2.6	1.000	355	4,137,946	8.6
	Female	-	16,852	-	-	1.4	0.518	251	4,123,519	6.1
Non-Hodgkin Lymphoma	Total	13	34,901	37.2	25.4	10.9	0.597	1,760	8,261,465	21.3
	Male	7	18,049	38.8	24.3	7.0	1.000	1,000	4,137,946	24.2
	Female	6	16,852	35.6	26.6	4.2	0.482	760	4,123,519	18.4
Oral Cavity and Pharynx	Total	6	34,901	17.2	11.0	7.6	0.719	1,162	8,261,465	14.1
	Male	5	18,049	27.7	16.6	6.0	0.899	821	4,137,946	19.8
	Female	1	16,852	5.9	4.2	2.0	0.832	341	4,123,519	8.3
Ovary	Female	-	16,852	-	-	3.0	0.104	519	4,123,519	12.6
Pancreas	Total	7	34,901	20.1	13.3	8.3	0.833	1,297	8,261,465	15.7
	Male	4	18,049	22.2	13.2	5.1	0.839	698	4,137,946	16.9
	Female	3	16,852	17.8	13.3	3.3	1.000	599	4,123,519	14.5
Prostate	Male	40	18,049	221.6	124.2	38.8	0.893	4,987	4,137,946	120.5
Stomach	Total	2	34,901	5.7	3.9	3.0	0.837	486	8,261,465	5.9
	Male	1	18,049	5.5	3.4	2.3	0.680	317	4,137,946	7.7
	Female	1	16,852	5.9	4.6	0.9	1.000	169	4,123,519	4.1
Testis	Male	1	18,049	5.5	7.1	0.9	1.000	266	4,137,946	6.4
Thyroid	Total	2	34,901	5.7	4.6	6.6	0.081	1,254	8,261,465	15.2
	Male	2	18,049	11.1	8.1	2.0	1.000	330	4,137,946	8.0
	Female	-	16,852	-	-	4.6	0.021 <<	924	4,123,519	22.4
Pediatric Age 0 to 19	Total	2	6,952	28.8	28.7	1.3	0.719	433	2,393,570	18.1
	Male	-	3,716	-	-	0.7	0.979	234	1,222,186	19.1
	Female	2	3,236	61.8	61.8	0.5	0.211	199	1,171,384	17.0

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

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

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

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

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

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

TABLE 4: CANCER MORTALITY 2014–2018
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	261	35,814	728.8	573.2	363.2	0.000 <<	67,019	8,403,230	797.5
	Male	154	18,569	829.3	571.2	224.4	0.000 <<	35,032	4,209,311	832.3
	Female	107	17,245	620.5	561.8	145.3	0.001 <<	31,987	4,193,919	762.7
All Malignant Cancers	Total	70	35,814	195.5	134.9	89.6	0.037 <<	14,515	8,403,230	172.7
	Male	38	18,569	204.6	126.6	56.0	0.014 <<	7,863	4,209,311	186.8
	Female	32	17,245	185.6	141.9	35.8	0.599	6,652	4,193,919	158.6
Bladder	Total	2	35,814	5.6	4.3	2.4	1.000	424	8,403,230	5.0
	Male	1	18,569	5.4	3.6	2.1	0.757	318	4,209,311	7.6
	Female	1	17,245	5.8	5.0	0.5	0.789	106	4,193,919	2.5
Brain and Other Nervous System	Total	4	35,814	11.2	7.5	3.1	0.766	493	8,403,230	5.9
	Male	4	18,569	21.5	13.7	2.2	0.346	311	4,209,311	7.4
	Female	-	17,245	-	-	1.1	0.681	182	4,193,919	4.3
Breast	Total	5	35,814	14.0	9.7	6.7	0.690	1,082	8,403,230	12.9
	Male	-	18,569	-	-	0.1	1.000	10	4,209,311	0.2
	Female	5	17,245	29.0	21.6	5.9	0.918	1,072	4,193,919	25.6
Cervix	Female	-	17,245	-	-	0.5	1.000	80	4,193,919	1.9
Colorectal	Total	5	35,814	14.0	9.8	7.4	0.497	1,221	8,403,230	14.5
	Male	3	18,569	16.2	10.1	4.6	0.640	659	4,209,311	15.7
	Female	2	17,245	11.6	9.1	2.9	0.872	562	4,193,919	13.4
Corpus Uteri	Female	-	17,245	-	-	0.9	0.828	153	4,193,919	3.6
Esophagus	Total	3	35,814	8.4	5.5	3.0	1.000	468	8,403,230	5.6
	Male	2	18,569	10.8	6.4	2.8	0.945	378	4,209,311	9.0
	Female	1	17,245	5.8	4.4	0.5	0.778	90	4,193,919	2.1
Hodgkin Lymphoma	Total	-	35,814	-	-	0.1	1.000	21	8,403,230	0.2
	Male	-	18,569	-	-	0.0	1.000	8	4,209,311	0.2
	Female	-	17,245	-	-	0.1	1.000	13	4,193,919	0.3
Kidney	Total	-	35,814	-	-	2.3	0.195	370	8,403,230	4.4
	Male	-	18,569	-	-	1.8	0.344	242	4,209,311	5.7
	Female	-	17,245	-	-	0.7	1.000	128	4,193,919	3.1
Larynx	Total	-	35,814	-	-	0.4	1.000	63	8,403,230	0.7
	Male	-	18,569	-	-	0.4	1.000	53	4,209,311	1.3
	Female	-	17,245	-	-	0.1	1.000	10	4,193,919	0.2
Leukemia	Total	3	35,814	8.4	6.2	3.5	1.000	613	8,403,230	7.3
	Male	3	18,569	16.2	10.4	2.4	0.877	355	4,209,311	8.4
	Female	-	17,245	-	-	1.2	0.598	258	4,193,919	6.2
Liver and Bile Duct	Total	6	35,814	16.8	10.5	4.0	0.432	592	8,403,230	7.0
	Male	4	18,569	21.5	12.3	3.2	0.777	408	4,209,311	9.7
	Female	2	17,245	11.6	8.5	1.0	0.556	184	4,193,919	4.4
Lung and Bronchus	Total	19	35,814	53.1	35.2	19.9	0.954	3,106	8,403,230	37.0
	Male	10	18,569	53.9	31.9	12.3	0.624	1,657	4,209,311	39.4
	Female	9	17,245	52.2	39.0	8.0	0.810	1,449	4,193,919	34.6
Melanoma of the Skin	Total	-	35,814	-	-	1.7	0.349	280	8,403,230	3.3
	Male	-	18,569	-	-	1.3	0.530	187	4,209,311	4.4
	Female	-	17,245	-	-	0.5	1.000	93	4,193,919	2.2
Myeloma	Total	1	35,814	2.8	2.0	2.0	0.834	328	8,403,230	3.9
	Male	1	18,569	5.4	3.4	1.4	1.000	194	4,209,311	4.6
	Female	-	17,245	-	-	0.7	1.000	134	4,193,919	3.2
Non-Hodgkin Lymphoma	Total	3	35,814	8.4	6.0	3.4	1.000	567	8,403,230	6.7
	Male	1	18,569	5.4	3.4	2.3	0.684	318	4,209,311	7.6
	Female	2	17,245	11.6	9.8	1.2	0.683	249	4,193,919	5.9
Oral Cavity and Pharynx	Total	1	35,814	2.8	1.9	1.4	1.000	222	8,403,230	2.6
	Male	1	18,569	5.4	3.2	1.1	1.000	151	4,209,311	3.6
	Female	-	17,245	-	-	0.4	1.000	71	4,193,919	1.7
Ovary	Female	1	17,245	5.8	4.1	2.1	0.760	362	4,193,919	8.6
Pancreas	Total	5	35,814	14.0	9.2	6.9	0.621	1,074	8,403,230	12.8
	Male	2	18,569	10.8	6.3	4.4	0.361	590	4,209,311	14.0
	Female	3	17,245	17.4	13.3	2.6	0.967	484	4,193,919	11.5
Prostate	Male	4	18,569	21.5	14.4	6.1	0.536	931	4,209,311	22.1
Stomach	Total	-	35,814	-	-	1.3	0.572	210	8,403,230	2.5
	Male	-	18,569	-	-	0.9	0.849	122	4,209,311	2.9
	Female	-	17,245	-	-	0.4	1.000	88	4,193,919	2.1

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, 2019.

Cancer Screening and Risk Factors

The Bureau of Vital Records and Health Statistics (BVRHS), Division of Public Health, 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) with randomly selected adult Idahoans to measure population prevalences of risk factors for the major causes of death, including cancer, since 1984. BVRHS provided data sets containing Behavioral Risk Factor Surveillance System (BRFSS) data from 2011 through 2018 to CDRI staff, who performed the analyses reported in these *County Profiles*. Analysis weights were poststratified to 2018 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, 2011–2018

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 (2014–2018)	81.2%	80.6%	84.5%	74.6%	84.7%	75.5%	83.3%	83.8%	83.5%
Not See Doctor Due to Cost in Past Year (2014–2018)	14.3%	13.9%	12.2%	18.1%	13.6%	14.3%	12.5%	13.9%	10.4%
Cancer Screening									
Mammogram Past 2 Years, Age 50–74 (2014, 2016, 2018)	67.5%	66.8%	72.1%	63.2%	72.9%	61.0%	64.6%	66.8%	.
Pap Test Past 3 Years, Cervix Intact Age 21–65 (2016, 2018)	72.5%	74.8%	74.3%	72.1%	73.0%	71.7%	72.7%	68.6%	.
Colorectal Cancer Screening, Age 50–75 (2016, 2018)	65.4%	64.9%	71.3%	62.6%	68.9%	60.3%	62.1%	65.3%	.
Tobacco Use									
Current Smoker (2014–2018)	14.6%	17.1%	15.1%	16.8%	13.1%	16.2%	14.4%	10.4%	14.6%
Current Smokeless Tobacco User, Males (2014–2018)	9.5%	10.6%	14.0%	11.1%	8.4%	8.9%	8.4%	7.3%	7.2%
Other Cancer-Related									
Sunburn in Previous 12 Months (2018)	47.7%	42.3%	49.0%	41.6%	50.8%	42.8%	49.9%	56.6%	.
Artificial Tanning Appliance Use (2011, 2014, 2016)	4.4%	5.5%	3.3%	3.3%	3.4%	4.2%	5.7%	6.8%	4.2%
Healthy Weight by Body Mass Index, Age 20+ (2014–2018)	32.6%	34.2%	32.9%	27.0%	36.3%	31.1%	29.4%	32.4%	33.6%
Meet Physical Activity Guidelines (2011, 2013, 2015, 2017)	22.1%	22.1%	19.9%	20.6%	26.1%	18.8%	20.0%	20.1%	24.3%
Home Ever Tested for Radon (2016, 2018)	22.7%	29.7%	19.5%	16.3%	24.1%	20.2%	23.3%	22.7%	27.1%

Access to Care

Have Health Insurance – 2014–2018
Statewide, 81.2% of adults aged 18–64 reported having health care coverage. Health care coverage differed significantly by race/ethnicity, with 84.5% of white non-Hispanics, compared to 59.8% of Hispanics and 79.9% of Native Americans, having health insurance. Spanish-speaking respondents were significantly less likely to be insured (33.1%) than English-speaking respondents (83.1%). Health care coverage differed significantly by age of respondent, with 76.4% of persons aged 30–39, and 86.5% of persons aged 50–64, having health insurance. Health care coverage differed significantly by county, with a range of 57.4% in Adams County to 91.7% in Oneida County having health insurance.

Not See Doctor Due to Cost in Past Year – 2014–2018
Statewide, 14.3% 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 (13.2% of white non-Hispanics, 21.4% of Hispanics, and 23.1% of Native Americans). Inability to see a doctor due to cost differed significantly by annual household income (27.4% for less than $15,000, 6.7% for greater than $50,000). Inability to see a doctor due to cost differed significantly by county, with a range of 7.0% in Caribou County to 20.2% in Jerome County.

Cancer Screening

Mammogram – 2014, 2016, 2018
Statewide, 67.5% 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 (70.7% versus 34.0%). Mammography rates differed significantly by county, with a range in screening of 47.3% in Gooding County to 77.5% in Nez Perce County. In 2018, Idaho ranked 49th among states and the District of Columbia for mammography screening rates among women aged 50–74 and 50th among ages 40+.

Pap Test – 2016, 2018
Statewide, 72.5% 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 (77.3% versus 54.2% screened in the past 3 years). Pap screening differed significantly by county, with a range of 60.5% in Idaho County to 79.2% in Latah County. In 2018, Idaho ranked 51st among states and the District of Columbia for Pap screening rate.

Colorectal Cancer Screening – 2016, 2018
Statewide, 65.4% of adults aged 50–75 reported receiving colorectal cancer screening based on the most recent guidelines.** Persons with health insurance were over twice as likely to be current for colorectal cancer screening. In 2018, Idaho ranked 41st 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 Smoking – 2014–2018
Statewide, 14.6% of adults aged 18 and older were current smokers. Smoking prevalence differed significantly by age of respondent, with 19.2% of persons aged 30–39, and 8.4% of persons aged 65 and older reporting current smoking. Smoking prevalence was lower among white non-Hispanics (14.7%) than among Native Americans (32.4%). Smoking prevalence differed significantly by county, with a range of 4.3% in Madison County to 32.7% in Adams County. Counties with higher rates of current smoking had higher rates of lung cancer.

Smokeless Tobacco Use, Males – 2014–2018
Statewide, 9.5% of males aged 18 and older were current users of smokeless tobacco. Smokeless tobacco use differed significantly by age group, ranging from 12.8% of males aged 30–39 to 4.0% of males aged 65 and older. Smokeless tobacco use differed significantly by county, with a range of 3.4% in Franklin County to 21.1% in Custer County. Counties with higher rates of smokeless tobacco use had higher rates of oral cavity & pharynx cancer.

Other Cancer-Related

Sun Exposure – 2018
Statewide, 47.7% of adults aged 18 and older reported having sunburn in the past 12 months. Sunburn rates were higher for white non-Hispanics (49.6%) and Native Americans (48.7%) than for Hispanics (35.2%). Sunburn rates differed significantly by age group, with 67.2% of persons aged 30–39 and 17.9% of persons aged 65 and older having sunburn in the past 12 months. Sunburn rates differed significantly by county, with a range of 36.7% in Idaho County to 72.9% in Madison County having sunburn in the past 12 months.

Artificial Tanning Appliance Use – 2011, 2014, 2016
Statewide, 4.4% of adults aged 18 and older reported using an artificial tanning appliance, such as a tanning bed, in the past 12 months. Females (6.8%) were significantly more likely than males (2.1%) to have used an artificial tanning appliance in the past 12 months. Tanning appliance use differed significantly by age group, with 8.7% of persons aged 18–29 and 0.9% of persons aged 65 and older, using an appliance in the past 12 months. Tanning appliance use differed by county, with a range of less than 1% in Oneida, Power, and Valley Counties to over 9% in Bear Lake and Fremont Counties using an artificial tanning appliance in the past 12 months.

Healthy Weight by Body Mass Index – 2014–2018
Statewide, 32.6% 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 33.3% of white non-Hispanics, compared to 26.0% of Hispanics and 26.8% of Native Americans, being in the healthy weight range. Males (25.7%) were significantly less likely to be in the healthy weight range than females (39.4%). BMI differed significantly by age of respondent, with 45.0% of persons aged 18–29, and 27.1% of persons aged 50–64, being in the healthy weight range. BMI differed significantly by county, with a range of 19.5% in Minidoka County to 52.8% in Blaine County of adults being in the healthy weight range.

Physical Activity – 2011, 2013, 2015, 2017
Statewide, 22.1% of adults aged 18 and older met aerobic and strength physical activity guidelines during the past month or week. Physical activity differed significantly by age of respondent, with 26.3% of persons aged 18–29, and 19.3% of persons aged 50–64, meeting guidelines. The percentage of adults meeting physical activity guidelines differed significantly by county, with a range of 7.6% in Oneida County to 31.1% in Blaine County.

Home Radon Testing – 2016, 2018
Statewide, 22.7% of adults have ever tested their house for radon. Radon test usage varied significantly by race/ethnicity, with 24.7% of white non-Hispanics, 5.3% of Hispanics, and 27.9% 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 8.0% in Cassia County to 58.0% in Blaine County.

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BONNER COUNTY CANCER PROFILE

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

Cancer Incidence 2013–2017
Cancer Mortality 2014–2018
BRFSS 2011–2018

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 are due to personal lifestyle factors, such as smoking and sedentary lifestyle, and are preventable. Additional cancers are 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. 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.

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://health.gov/dietaryguidelines/2015.

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
615 N. 7th Street
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/contact-center

American Cancer Society
2676 S. Vista Avenue
Boise, ID 83705
208-343-4609
https://www.cancer.org

CANCER INCIDENCE 2013–2017

Nearly one in two Idahoans are estimated to develop cancer during their lifetime. During 2013–2017, 40,996 cases of invasive cancer were diagnosed among Idaho residents, and 1,488 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, 2013–2017

Cancer Incidence 2013–2017	Bonner County	State of Idaho
All Sites/Types	**1,488**	**40,996**
Female Breast	**198**	**5,956**
Prostate	**200**	**5,027**
Lung & Bronchus	**194**	**4,657**
Colorectal	**134**	**3,235**

Table 3 (*Cancer Incidence 2013–2017, 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 rate of invasive cancer incidence in Bonner County was 710.7 cases per 100,000 person-years per year during 2013–2017. Comparing this crude rate with the crude rate for the remainder of Idaho (488.5) gives an estimate of the relative burden of disease in Bonner County.

The age- and sex-adjusted incidence rate of invasive cancer in Bonner County, all sites combined, was 503.2 cases per 100,000 persons per year during 2013–2017. There were more cases of cancer in Bonner County (1,488) than expected (1,444.5) 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 2014–2018

During 2014–2018, cancer was the second leading cause of death in Idaho; 14,585 Idaho residents and 607 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, 2014–2018

Mortality 2014–2018	Bonner County	State of Idaho
All Deaths	**2,208**	**67,280**
Cancer Deaths	**607**	**14,585**
% of All Deaths	*27.5%*	*21.7%*
Lung & Bronchus	**146**	**3,125**
Colorectal	**62**	**1,226**
Pancreas	**41**	**1,079**
Female Breast	**41**	**1,077**
Prostate	**45**	**935**

Table 4 (*Cancer Mortality 2014–2018, 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 197.3 deaths per 100,000 persons per year during 2014–2018, compared with 169.9 for the remainder of the state. There were statistically significantly more cancer deaths in Bonner County (607) than expected (522.9) 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 2013–2017
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	1,488	209,358	710.7	503.2	1,444.5	0.259	39,508	8,087,008	488.5
	Male	797	104,547	762.3	505.7	793.5	0.911	20,400	4,051,448	503.5
	Female	691	104,811	659.3	494.4	661.7	0.264	19,108	4,035,560	473.5
Bladder	Total	87	209,358	41.6	28.3	73.2	0.127	1,928	8,087,008	23.8
	Male	61	104,547	58.3	37.7	60.3	0.958	1,509	4,051,448	37.2
	Female	26	104,811	24.8	17.8	15.2	0.014 >>	419	4,035,560	10.4
Brain - malignant	Total	24	209,358	11.5	9.0	19.2	0.328	586	8,087,008	7.2
	Male	15	104,547	14.3	10.7	12.3	0.514	356	4,051,448	8.8
	Female	9	104,811	8.6	7.2	7.1	0.580	230	4,035,560	5.7
Brain and other CNS - non-malignant	Total	30	209,358	14.3	11.0	35.2	0.434	1,042	8,087,008	12.9
	Male	9	104,547	8.6	6.5	11.8	0.524	345	4,051,448	8.5
	Female	21	104,811	20.0	15.7	23.2	0.754	697	4,035,560	17.3
Breast	Total	203	209,358	97.0	69.7	208.9	0.716	5,798	8,087,008	71.7
	Male	5	104,547	4.8	3.1	1.6	0.048 >>	40	4,051,448	1.0
	Female	198	104,811	188.9	140.3	201.3	0.850	5,758	4,035,560	142.7
Breast - in situ	Total	46	209,358	22.0	16.1	36.0	0.123	1,018	8,087,008	12.6
	Male	-	104,547	-	-	0.1	1.000	3	4,051,448	0.1
	Female	46	104,811	43.9	33.1	35.0	0.085	1,015	4,035,560	25.2
Cervix	Female	9	104,811	8.6	7.6	7.3	0.619	250	4,035,560	6.2
Colorectal	Total	134	209,358	64.0	45.4	113.2	0.061	3,101	8,087,008	38.3
	Male	63	104,547	60.3	40.8	63.8	0.989	1,672	4,051,448	41.3
	Female	71	104,811	67.7	50.3	49.9	0.006 >>	1,429	4,035,560	35.4
Corpus Uteri	Female	54	104,811	51.5	37.2	41.6	0.073	1,155	4,035,560	28.6
Esophagus	Total	25	209,358	11.9	8.1	16.9	0.077	444	8,087,008	5.5
	Male	22	104,547	21.0	13.7	14.5	0.078	366	4,051,448	9.0
	Female	3	104,811	2.9	2.0	2.9	1.000	78	4,035,560	1.9
Hodgkin Lymphoma	Total	6	209,358	2.9	2.8	5.2	0.829	193	8,087,008	2.4
	Male	2	104,547	1.9	1.8	2.8	0.918	106	4,051,448	2.6
	Female	4	104,811	3.8	3.7	2.3	0.414	87	4,035,560	2.2
Kidney and Renal Pelvis	Total	51	209,358	24.4	17.2	55.2	0.631	1,503	8,087,008	18.6
	Male	26	104,547	24.9	16.7	37.2	0.068	969	4,051,448	23.9
	Female	25	104,811	23.9	17.7	18.7	0.191	534	4,035,560	13.2
Larynx	Total	6	209,358	2.9	1.9	7.8	0.676	203	8,087,008	2.5
	Male	3	104,547	2.9	1.8	6.7	0.198	165	4,051,448	4.1
	Female	3	104,811	2.9	2.1	1.3	0.304	38	4,035,560	0.9
Leukemia	Total	43	209,358	20.5	15.2	50.5	0.326	1,443	8,087,008	17.8
	Male	33	104,547	31.6	22.1	31.3	0.805	848	4,051,448	20.9
	Female	10	104,811	9.5	7.5	19.7	0.025 <<	595	4,035,560	14.7
Liver and Bile Duct	Total	30	209,358	14.3	9.7	27.0	0.607	703	8,087,008	8.7
	Male	22	104,547	21.0	13.6	20.4	0.784	510	4,051,448	12.6
	Female	8	104,811	7.6	5.5	7.0	0.793	193	4,035,560	4.8
Lung and Bronchus	Total	194	209,358	92.7	62.6	171.1	0.091	4,463	8,087,008	55.2
	Male	114	104,547	109.0	69.5	92.6	0.035 >>	2,288	4,051,448	56.5
	Female	80	104,811	76.3	54.4	79.3	0.963	2,175	4,035,560	53.9
Melanoma of the Skin	Total	67	209,358	32.0	23.7	86.1	0.039 <<	2,459	8,087,008	30.4
	Male	41	104,547	39.2	27.0	53.5	0.093	1,428	4,051,448	35.2
	Female	26	104,811	24.8	19.7	33.7	0.207	1,031	4,035,560	25.5
Myeloma	Total	16	209,358	7.6	5.2	22.4	0.206	592	8,087,008	7.3
	Male	9	104,547	8.6	5.5	14.0	0.219	348	4,051,448	8.6
	Female	7	104,811	6.7	4.9	8.7	0.725	244	4,035,560	6.0
Non-Hodgkin Lymphoma	Total	56	209,358	26.7	19.0	62.6	0.449	1,717	8,087,008	21.2
	Male	33	104,547	31.6	21.4	37.1	0.563	974	4,051,448	24.0
	Female	23	104,811	21.9	16.3	26.0	0.646	743	4,035,560	18.4
Oral Cavity and Pharynx	Total	55	209,358	26.3	18.4	41.2	0.045 >>	1,113	8,087,008	13.8
	Male	33	104,547	31.6	21.1	30.6	0.711	793	4,051,448	19.6
	Female	22	104,811	21.0	15.6	11.2	0.006 >>	320	4,035,560	7.9
Ovary	Female	20	104,811	19.1	14.3	17.3	0.573	499	4,035,560	12.4
Pancreas	Total	49	209,358	23.4	16.1	47.4	0.850	1,255	8,087,008	15.5
	Male	27	104,547	25.8	16.8	26.8	1.000	675	4,051,448	16.7
	Female	22	104,811	21.0	15.2	20.8	0.856	580	4,035,560	14.4
Prostate	Male	200	104,547	191.3	120.3	198.1	0.911	4,827	4,051,448	119.1
Stomach	Total	21	209,358	10.0	7.1	17.2	0.414	467	8,087,008	5.8
	Male	15	104,547	14.3	9.5	11.8	0.417	303	4,051,448	7.5
	Female	6	104,811	5.7	4.3	5.7	0.998	164	4,035,560	4.1
Testis	Male	7	104,547	6.7	7.9	5.7	0.698	260	4,051,448	6.4
Thyroid	Total	19	209,358	9.1	7.8	37.4	0.001 <<	1,237	8,087,008	15.3
	Male	5	104,547	4.8	3.8	10.7	0.089	327	4,051,448	8.1
	Female	14	104,811	13.4	11.8	26.7	0.011 <<	910	4,035,560	22.5
Pediatric Age 0 to 19	Total	6	46,246	13.0	13.0	8.4	0.526	429	2,354,276	18.2
	Male	3	23,436	12.8	12.9	4.5	0.691	231	1,202,466	19.2
	Female	3	22,810	13.2	13.1	3.9	0.893	198	1,151,810	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 2014–2018
COMPARISON BETWEEN BONNER COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cause of Death Cancer Site/Type	Sex	Bonner 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	2,208	213,557	1,033.9	760.2	2,297.6	0.062	65,072	8,225,487	791.1
	Male	1,154	106,598	1,082.6	760.4	1,253.2	0.005 <<	34,032	4,121,282	825.8
	Female	1,054	106,959	985.4	754.2	1,056.9	0.944	31,040	4,104,205	756.3
All Malignant Cancers	Total	607	213,557	284.2	197.3	522.9	0.000 >>	13,978	8,225,487	169.9
	Male	327	106,598	306.8	201.2	298.6	0.110	7,574	4,121,282	183.8
	Female	280	106,959	261.8	191.3	228.4	0.001 >>	6,404	4,104,205	156.0
Bladder	Total	18	213,557	8.4	5.9	15.0	0.510	408	8,225,487	5.0
	Male	12	106,598	11.3	7.5	11.9	1.000	307	4,121,282	7.4
	Female	6	106,959	5.6	4.2	3.5	0.296	101	4,104,205	2.5
Brain and Other Nervous System	Total	23	213,557	10.8	7.7	17.2	0.211	474	8,225,487	5.8
	Male	14	106,598	13.1	9.0	11.3	0.497	301	4,121,282	7.3
	Female	9	106,959	8.4	6.2	6.1	0.331	173	4,104,205	4.2
Breast	Total	42	213,557	19.7	13.9	38.3	0.594	1,045	8,225,487	12.7
	Male	1	106,598	0.9	0.6	0.4	0.606	9	4,121,282	0.2
	Female	41	106,959	38.3	28.2	36.7	0.523	1,036	4,104,205	25.2
Cervix	Female	4	106,959	3.7	2.9	2.5	0.494	76	4,104,205	1.9
Colorectal	Total	62	213,557	29.0	20.4	43.0	0.008 >>	1,164	8,225,487	14.2
	Male	34	106,598	31.9	21.3	24.3	0.073	628	4,121,282	15.2
	Female	28	106,959	26.2	19.3	19.0	0.062	536	4,104,205	13.1
Corpus Uteri	Female	8	106,959	7.5	5.3	5.3	0.338	145	4,104,205	3.5
Esophagus	Total	27	213,557	12.6	8.6	16.9	0.028 >>	444	8,225,487	5.4
	Male	22	106,598	20.6	13.4	14.2	0.067	358	4,121,282	8.7
	Female	5	106,959	4.7	3.4	3.1	0.406	86	4,104,205	2.1
Hodgkin Lymphoma	Total	-	213,557	-	-	0.7	1.000	21	8,225,487	0.3
	Male	-	106,598	-	-	0.2	1.000	8	4,121,282	0.2
	Female	-	106,959	-	-	0.4	1.000	13	4,104,205	0.3
Kidney	Total	12	213,557	5.6	3.9	13.6	0.806	358	8,225,487	4.4
	Male	4	106,598	3.8	2.4	9.4	0.083	238	4,121,282	5.8
	Female	8	106,959	7.5	5.4	4.3	0.149	120	4,104,205	2.9
Larynx	Total	-	213,557	-	-	2.4	0.182	63	8,225,487	0.8
	Male	-	106,598	-	-	2.1	0.254	53	4,121,282	1.3
	Female	-	106,959	-	-	0.4	1.000	10	4,104,205	0.2
Leukemia	Total	25	213,557	11.7	8.4	21.4	0.492	591	8,225,487	7.2
	Male	15	106,598	14.1	9.5	13.2	0.693	343	4,121,282	8.3
	Female	10	106,959	9.3	7.1	8.5	0.685	248	4,104,205	6.0
Liver and Bile Duct	Total	26	213,557	12.2	8.2	22.1	0.464	572	8,225,487	7.0
	Male	16	106,598	15.0	9.5	16.2	1.000	396	4,121,282	9.6
	Female	10	106,959	9.3	6.7	6.4	0.224	176	4,104,205	4.3
Lung and Bronchus	Total	146	213,557	68.4	46.2	114.3	0.005 >>	2,979	8,225,487	36.2
	Male	82	106,598	76.9	48.9	64.5	0.040 >>	1,585	4,121,282	38.5
	Female	64	106,959	59.8	42.9	50.7	0.079	1,394	4,104,205	34.0
Melanoma of the Skin	Total	11	213,557	5.2	3.6	9.9	0.805	269	8,225,487	3.3
	Male	8	106,598	7.5	5.0	6.9	0.778	179	4,121,282	4.3
	Female	3	106,959	2.8	2.1	3.1	1.000	90	4,104,205	2.2
Myeloma	Total	6	213,557	2.8	1.9	12.1	0.085	323	8,225,487	3.9
	Male	3	106,598	2.8	1.8	7.6	0.111	192	4,121,282	4.7
	Female	3	106,959	2.8	2.0	4.7	0.627	131	4,104,205	3.2
Non-Hodgkin Lymphoma	Total	16	213,557	7.5	5.2	20.7	0.357	554	8,225,487	6.7
	Male	9	106,598	8.4	5.5	12.2	0.448	310	4,121,282	7.5
	Female	7	106,959	6.5	4.8	8.7	0.721	244	4,104,205	5.9
Oral Cavity and Pharynx	Total	12	213,557	5.6	3.9	8.0	0.220	211	8,225,487	2.6
	Male	6	106,598	5.6	3.7	5.8	1.000	146	4,121,282	3.5
	Female	6	106,959	5.6	4.1	2.3	0.062	65	4,104,205	1.6
Ovary	Female	12	106,959	11.2	8.0	12.8	0.976	351	4,104,205	8.6
Pancreas	Total	41	213,557	19.2	13.0	39.7	0.873	1,038	8,225,487	12.6
	Male	21	106,598	19.7	12.6	23.0	0.778	571	4,121,282	13.9
	Female	20	106,959	18.7	13.5	16.9	0.514	467	4,104,205	11.4
Prostate	Male	45	106,598	42.2	28.1	34.6	0.102	890	4,121,282	21.6
Stomach	Total	6	213,557	2.8	2.0	7.4	0.794	204	8,225,487	2.5
	Male	2	106,598	1.9	1.3	4.6	0.329	120	4,121,282	2.9
	Female	4	106,959	3.7	2.9	2.9	0.640	84	4,104,205	2.0

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, 2019.

Cancer Screening and Risk Factors

The Bureau of Vital Records and Health Statistics (BVRHS), Division of Public Health, 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) with randomly selected adult Idahoans to measure population prevalences of risk factors for the major causes of death, including cancer, since 1984. BVRHS provided data sets containing Behavioral Risk Factor Surveillance System (BRFSS) data from 2011 through 2018 to CDRI staff, who performed the analyses reported in these *County Profiles*. Analysis weights were poststratified to 2018 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, 2011–2018

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 (2014–2018)	81.2%	80.6%	84.5%	74.6%	84.7%	75.5%	83.3%	83.8%	77.3%
Not See Doctor Due to Cost in Past Year (2014–2018)	14.3%	13.9%	12.2%	18.1%	13.6%	14.3%	12.5%	13.9%	14.6%
Cancer Screening									
Mammogram Past 2 Years, Age 50–74 (2014, 2016, 2018)	67.5%	66.8%	72.1%	63.2%	72.9%	61.0%	64.6%	66.8%	70.6%
Pap Test Past 3 Years, Cervix Intact Age 21–65 (2016, 2018)	72.5%	74.8%	74.3%	72.1%	73.0%	71.7%	72.7%	68.6%	74.3%
Colorectal Cancer Screening, Age 50–75 (2016, 2018)	65.4%	64.9%	71.3%	62.6%	68.9%	60.3%	62.1%	65.3%	56.1%
Tobacco Use									
Current Smoker (2014–2018)	14.6%	17.1%	15.1%	16.8%	13.1%	16.2%	14.4%	10.4%	16.5%
Current Smokeless Tobacco User, Males (2014–2018)	9.5%	10.6%	14.0%	11.1%	8.4%	8.9%	8.4%	7.3%	7.9%
Other Cancer-Related									
Sunburn in Previous 12 Months (2018)	47.7%	42.3%	49.0%	41.6%	50.8%	42.8%	49.9%	56.6%	51.7%
Artificial Tanning Appliance Use (2011, 2014, 2016)	4.4%	5.5%	3.3%	3.3%	3.4%	4.2%	5.7%	6.8%	4.6%
Healthy Weight by Body Mass Index, Age 20+ (2014–2018)	32.6%	34.2%	32.9%	27.0%	36.3%	31.1%	29.4%	32.4%	35.7%
Meet Physical Activity Guidelines (2011, 2013, 2015, 2017)	22.1%	22.1%	19.9%	20.6%	26.1%	18.8%	20.0%	20.1%	20.5%
Home Ever Tested for Radon (2016, 2018)	22.7%	29.7%	19.5%	16.3%	24.1%	20.2%	23.3%	22.7%	20.1%

Access to Care

Have Health Insurance – 2014–2018
Statewide, 81.2% of adults aged 18–64 reported having health care coverage. Health care coverage differed significantly by race/ethnicity, with 84.5% of white non-Hispanics, compared to 59.8% of Hispanics and 79.9% of Native Americans, having health insurance. Spanish-speaking respondents were significantly less likely to be insured (33.1%) than English-speaking respondents (83.1%). Health care coverage differed significantly by age of respondent, with 76.4% of persons aged 30–39, and 86.5% of persons aged 50–64, having health insurance. Health care coverage differed significantly by county, with a range of 57.4% in Adams County to 91.7% in Oneida County having health insurance.

Not See Doctor Due to Cost in Past Year – 2014–2018
Statewide, 14.3% 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 (13.2% of white non-Hispanics, 21.4% of Hispanics, and 23.1% of Native Americans). Inability to see a doctor due to cost differed significantly by annual household income (27.4% for less than $15,000, 6.7% for greater than $50,000). Inability to see a doctor due to cost differed significantly by county, with a range of 7.0% in Caribou County to 20.2% in Jerome County.

Cancer Screening

Mammogram – 2014, 2016, 2018
Statewide, 67.5% 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 (70.7% versus 34.0%). Mammography rates differed significantly by county, with a range in screening of 47.3% in Gooding County to 77.5% in Nez Perce County. In 2018, Idaho ranked 49th among states and the District of Columbia for mammography screening rates among women aged 50–74 and 50th among ages 40+.

Pap Test – 2016, 2018
Statewide, 72.5% 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 (77.3% versus 54.2% screened in the past 3 years). Pap screening differed significantly by county, with a range of 60.5% in Idaho County to 79.2% in Latah County. In 2018, Idaho ranked 51st among states and the District of Columbia for Pap screening rate.

Colorectal Cancer Screening – 2016, 2018
Statewide, 65.4% of adults aged 50–75 reported receiving colorectal cancer screening based on the most recent guidelines.** Persons with health insurance were over twice as likely to be current for colorectal cancer screening. In 2018, Idaho ranked 41st 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 Smoking – 2014–2018
Statewide, 14.6% of adults aged 18 and older were current smokers. Smoking prevalence differed significantly by age of respondent, with 19.2% of persons aged 30–39, and 8.4% of persons aged 65 and older reporting current smoking. Smoking prevalence was lower among white non-Hispanics (14.7%) than among Native Americans (32.4%). Smoking prevalence differed significantly by county, with a range of 4.3% in Madison County to 32.7% in Adams County. Counties with higher rates of current smoking had higher rates of lung cancer.

Smokeless Tobacco Use, Males – 2014–2018
Statewide, 9.5% of males aged 18 and older were current users of smokeless tobacco. Smokeless tobacco use differed significantly by age group, ranging from 12.8% of males aged 30–39 to 4.0% of males aged 65 and older. Smokeless tobacco use differed significantly by county, with a range of 3.4% in Franklin County to 21.1% in Custer County. Counties with higher rates of smokeless tobacco use had higher rates of oral cavity & pharynx cancer.

Other Cancer-Related

Sun Exposure – 2018
Statewide, 47.7% of adults aged 18 and older reported having sunburn in the past 12 months. Sunburn rates were higher for white non-Hispanics (49.6%) and Native Americans (48.7%) than for Hispanics (35.2%). Sunburn rates differed significantly by age group, with 67.2% of persons aged 30–39 and 17.9% of persons aged 65 and older having sunburn in the past 12 months. Sunburn rates differed significantly by county, with a range of 36.7% in Idaho County to 72.9% in Madison County having sunburn in the past 12 months.

Artificial Tanning Appliance Use – 2011, 2014, 2016
Statewide, 4.4% of adults aged 18 and older reported using an artificial tanning appliance, such as a tanning bed, in the past 12 months. Females (6.8%) were significantly more likely than males (2.1%) to have used an artificial tanning appliance in the past 12 months. Tanning appliance use differed significantly by age group, with 8.7% of persons aged 18–29 and 0.9% of persons aged 65 and older, using an appliance in the past 12 months. Tanning appliance use differed by county, with a range of less than 1% in Oneida, Power, and Valley Counties to over 9% in Bear Lake and Fremont Counties using an artificial tanning appliance in the past 12 months.

Healthy Weight by Body Mass Index – 2014–2018
Statewide, 32.6% 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 33.3% of white non-Hispanics, compared to 26.0% of Hispanics and 26.8% of Native Americans, being in the healthy weight range. Males (25.7%) were significantly less likely to be in the healthy weight range than females (39.4%). BMI differed significantly by age of respondent, with 45.0% of persons aged 18–29, and 27.1% of persons aged 50–64, being in the healthy weight range. BMI differed significantly by county, with a range of 19.5% in Minidoka County to 52.8% in Blaine County of adults being in the healthy weight range.

Physical Activity – 2011, 2013, 2015, 2017
Statewide, 22.1% of adults aged 18 and older met aerobic and strength physical activity guidelines during the past month or week. Physical activity differed significantly by age of respondent, with 26.3% of persons aged 18–29, and 19.3% of persons aged 50–64, meeting guidelines. The percentage of adults meeting physical activity guidelines differed significantly by county, with a range of 7.6% in Oneida County to 31.1% in Blaine County.

Home Radon Testing – 2016, 2018
Statewide, 22.7% of adults have ever tested their house for radon. Radon test usage varied significantly by race/ethnicity, with 24.7% of white non-Hispanics, 5.3% of Hispanics, and 27.9% 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 8.0% in Cassia County to 58.0% in Blaine County.

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BONNEVILLE COUNTY CANCER PROFILE

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

Cancer Incidence 2013–2017
Cancer Mortality 2014–2018
BRFSS 2011–2018

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 are due to personal lifestyle factors, such as smoking and sedentary lifestyle, and are preventable. Additional cancers are 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. 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.

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://health.gov/dietaryguidelines/2015.

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
615 N. 7th Street
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/contact-center

American Cancer Society
2676 S. Vista Avenue
Boise, ID 83705
208-343-4609
https://www.cancer.org

CANCER INCIDENCE 2013–2017

Nearly one in two Idahoans are estimated to develop cancer during their lifetime. During 2013–2017, 40,996 cases of invasive cancer were diagnosed among Idaho residents, and 2,400 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, 2013–2017

Cancer Incidence 2013–2017	Bonneville County	State of Idaho
All Sites/Types	**2,400**	**40,996**
Female Breast	**341**	**5,956**
Prostate	**316**	**5,027**
Lung & Bronchus	**203**	**4,657**
Colorectal	**188**	**3,235**

Table 3 (*Cancer Incidence 2013–2017, 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 rate of invasive cancer incidence in Bonneville County was 434.4 cases per 100,000 person-years per year during 2013–2017. Comparing this crude rate with the crude rate for the remainder of Idaho (498.4) 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 498.1 cases per 100,000 persons per year during 2013–2017. There were fewer cases of cancer in Bonneville County (2,400) than expected (2,401.4) 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 2014–2018

During 2014–2018, cancer was the second leading cause of death in Idaho; 14,585 Idaho residents and 750 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, 2014–2018

Mortality 2014–2018	Bonneville County	State of Idaho
All Deaths	**4,347**	**67,280**
Cancer Deaths	**750**	**14,585**
% of All Deaths	*17.3%*	*21.7%*
Lung & Bronchus	**123**	**3,125**
Colorectal	**74**	**1,226**
Pancreas	**59**	**1,079**
Female Breast	**59**	**1,077**
Prostate	**59**	**935**

Table 4 (*Cancer Mortality 2014–2018, 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 154.1 deaths per 100,000 persons per year during 2014–2018, compared with 175.6 for the remainder of the state. There were statistically significantly fewer cancer deaths in Bonneville County (750) than expected (855.1) 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 2013–2017
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	2,400	552,515	434.4	498.1	2,401.4	0.989	38,596	7,743,851	498.4
	Male	1,208	274,783	439.6	512.3	1,214.4	0.870	19,989	3,881,212	515.0
	Female	1,192	277,732	429.2	486.3	1,180.7	0.749	18,607	3,862,639	481.7
Bladder	Total	85	552,515	15.4	17.8	118.7	0.001 <<	1,930	7,743,851	24.9
	Male	63	274,783	22.9	27.0	90.7	0.003 <<	1,507	3,881,212	38.8
	Female	22	277,732	7.9	9.1	26.6	0.435	423	3,862,639	11.0
Brain - malignant	Total	32	552,515	5.8	6.3	38.0	0.377	578	7,743,851	7.5
	Male	22	274,783	8.0	8.8	22.4	1.000	349	3,881,212	9.0
	Female	10	277,732	3.6	3.8	15.4	0.197	229	3,862,639	5.9
Brain and other CNS - non-malignant	Total	70	552,515	12.7	14.1	64.1	0.495	1,002	7,743,851	12.9
	Male	26	274,783	9.5	10.5	20.9	0.312	328	3,881,212	8.5
	Female	44	277,732	15.8	17.7	43.4	0.972	674	3,862,639	17.4
Breast	Total	349	552,515	63.2	72.3	352.2	0.891	5,652	7,743,851	73.0
	Male	8	274,783	2.9	3.4	2.2	0.004 >>	37	3,881,212	1.0
	Female	341	277,732	122.8	140.3	353.4	0.530	5,615	3,862,639	145.4
Breast - in situ	Total	57	552,515	10.3	11.8	62.6	0.527	1,007	7,743,851	13.0
	Male	-	274,783	-	-	0.2	1.000	3	3,881,212	0.1
	Female	57	277,732	20.5	23.6	62.9	0.503	1,004	3,862,639	26.0
Cervix	Female	16	277,732	5.8	6.2	16.3	1.000	243	3,862,639	6.3
Colorectal	Total	188	552,515	34.0	39.0	189.8	0.935	3,047	7,743,851	39.3
	Male	95	274,783	34.6	40.0	100.5	0.630	1,640	3,881,212	42.3
	Female	93	277,732	33.5	38.1	89.0	0.701	1,407	3,862,639	36.4
Corpus Uteri	Female	74	277,732	26.6	30.7	70.8	0.738	1,135	3,862,639	29.4
Esophagus	Total	21	552,515	3.8	4.4	27.5	0.250	448	7,743,851	5.8
	Male	17	274,783	6.2	7.3	22.4	0.301	371	3,881,212	9.6
	Female	4	277,732	1.4	1.7	4.8	0.955	77	3,862,639	2.0
Hodgkin Lymphoma	Total	12	552,515	2.2	2.3	12.7	0.995	187	7,743,851	2.4
	Male	7	274,783	2.5	2.7	6.8	1.000	101	3,881,212	2.6
	Female	5	277,732	1.8	1.9	5.9	0.928	86	3,862,639	2.2
Kidney and Renal Pelvis	Total	88	552,515	15.9	18.3	90.9	0.815	1,466	7,743,851	18.9
	Male	52	274,783	18.9	22.0	57.5	0.518	943	3,881,212	24.3
	Female	36	277,732	13.0	14.7	33.1	0.656	523	3,862,639	13.5
Larynx	Total	5	552,515	0.9	1.1	12.5	0.030 <<	204	7,743,851	2.6
	Male	4	274,783	1.5	1.7	9.8	0.066	164	3,881,212	4.2
	Female	1	277,732	0.4	0.4	2.5	0.564	40	3,862,639	1.0
Leukemia	Total	90	552,515	16.3	18.2	89.3	0.969	1,396	7,743,851	18.0
	Male	55	274,783	20.0	22.6	51.7	0.685	826	3,881,212	21.3
	Female	35	277,732	12.6	13.9	37.2	0.798	570	3,862,639	14.8
Liver and Bile Duct	Total	25	552,515	4.5	5.3	43.5	0.003 <<	708	7,743,851	9.1
	Male	16	274,783	5.8	6.8	31.2	0.004 <<	516	3,881,212	13.3
	Female	9	277,732	3.2	3.7	12.1	0.474	192	3,862,639	5.0
Lung and Bronchus	Total	203	552,515	36.7	42.9	272.0	0.000 <<	4,454	7,743,851	57.5
	Male	100	274,783	36.4	43.2	137.4	0.001 <<	2,302	3,881,212	59.3
	Female	103	277,732	37.1	42.8	134.1	0.006 <<	2,152	3,862,639	55.7
Melanoma of the Skin	Total	186	552,515	33.7	38.1	147.7	0.003 >>	2,340	7,743,851	30.2
	Male	105	274,783	38.2	43.9	84.1	0.031 >>	1,364	3,881,212	35.1
	Female	81	277,732	29.2	32.4	63.1	0.034 >>	976	3,862,639	25.3
Myeloma	Total	41	552,515	7.4	8.6	34.8	0.332	567	7,743,851	7.3
	Male	23	274,783	8.4	9.9	19.9	0.543	334	3,881,212	8.6
	Female	18	277,732	6.5	7.4	14.7	0.447	233	3,862,639	6.0
Non-Hodgkin Lymphoma	Total	105	552,515	19.0	21.8	103.9	0.943	1,668	7,743,851	21.5
	Male	56	274,783	20.4	23.6	58.1	0.848	951	3,881,212	24.5
	Female	49	277,732	17.6	20.0	45.4	0.635	717	3,862,639	18.6
Oral Cavity and Pharynx	Total	68	552,515	12.3	14.2	67.9	1.000	1,100	7,743,851	14.2
	Male	53	274,783	19.3	22.4	47.1	0.426	773	3,881,212	19.9
	Female	15	277,732	5.4	6.2	20.5	0.261	327	3,862,639	8.5
Ovary	Female	40	277,732	14.4	16.3	30.4	0.108	479	3,862,639	12.4
Pancreas	Total	67	552,515	12.1	14.0	76.3	0.312	1,237	7,743,851	16.0
	Male	39	274,783	14.2	16.7	40.0	0.960	663	3,881,212	17.1
	Female	28	277,732	10.1	11.5	36.2	0.193	574	3,862,639	14.9
Prostate	Male	316	274,783	115.0	137.0	280.0	0.037 >>	4,711	3,881,212	121.4
Stomach	Total	23	552,515	4.2	4.8	28.9	0.312	465	7,743,851	6.0
	Male	16	274,783	5.8	6.8	18.4	0.684	302	3,881,212	7.8
	Female	7	277,732	2.5	2.8	10.4	0.375	163	3,862,639	4.2
Testis	Male	20	274,783	7.3	7.5	16.9	0.519	247	3,881,212	6.4
Thyroid	Total	156	552,515	28.2	30.7	72.3	0.000 >>	1,100	7,743,851	14.2
	Male	44	274,783	16.0	17.8	18.3	0.000 >>	288	3,881,212	7.4
	Female	112	277,732	40.3	43.5	54.2	0.000 >>	812	3,862,639	21.0
Pediatric Age 0 to 19	Total	33	185,905	17.8	17.9	33.4	1.000	402	2,214,617	18.2
	Male	18	94,731	19.0	19.3	17.8	1.000	216	1,131,171	19.1
	Female	15	91,174	16.5	16.5	15.6	1.000	186	1,083,446	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 2014–2018
COMPARISON BETWEEN BONNEVILLE COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cause of Death Cancer Site/Type	Sex	Bonneville 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	4,347	561,983	773.5	866.5	4,007.9	0.000 >>	62,933	7,877,061	798.9
	Male	2,199	279,818	785.9	890.7	2,062.8	0.003 >>	32,987	3,948,062	835.5
	Female	2,148	282,165	761.3	845.1	1,937.1	0.000 >>	29,946	3,928,999	762.2
All Malignant Cancers	Total	750	561,983	133.5	154.1	855.1	0.000 <<	13,835	7,877,061	175.6
	Male	388	279,818	138.7	162.1	455.4	0.001 <<	7,513	3,948,062	190.3
	Female	362	282,165	128.3	146.6	397.4	0.077	6,322	3,928,999	160.9
Bladder	Total	22	561,983	3.9	4.5	25.3	0.593	404	7,877,061	5.1
	Male	18	279,818	6.4	7.4	18.5	1.000	301	3,948,062	7.6
	Female	4	282,165	1.4	1.6	6.6	0.433	103	3,928,999	2.6
Brain and Other Nervous System	Total	26	561,983	4.6	5.3	29.4	0.602	471	7,877,061	6.0
	Male	19	279,818	6.8	7.8	18.2	0.921	296	3,948,062	7.5
	Female	7	282,165	2.5	2.8	11.0	0.280	175	3,928,999	4.5
Breast	Total	60	561,983	10.7	12.2	63.9	0.681	1,027	7,877,061	13.0
	Male	1	279,818	0.4	0.4	0.6	0.858	9	3,948,062	0.2
	Female	59	282,165	20.9	23.9	64.1	0.578	1,018	3,928,999	25.9
Cervix	Female	5	282,165	1.8	2.0	4.8	1.000	75	3,928,999	1.9
Colorectal	Total	74	561,983	13.2	15.1	71.7	0.815	1,152	7,877,061	14.6
	Male	41	279,818	14.7	17.0	38.0	0.666	621	3,948,062	15.7
	Female	33	282,165	11.7	13.3	33.6	1.000	531	3,928,999	13.5
Corpus Uteri	Female	7	282,165	2.5	2.9	9.1	0.632	146	3,928,999	3.7
Esophagus	Total	20	561,983	3.6	4.1	27.6	0.164	451	7,877,061	5.7
	Male	15	279,818	5.4	6.3	22.0	0.155	365	3,948,062	9.2
	Female	5	282,165	1.8	2.0	5.4	1.000	86	3,928,999	2.2
Hodgkin Lymphoma	Total	3	561,983	0.5	0.6	1.2	0.222	18	7,877,061	0.2
	Male	1	279,818	0.4	0.4	0.5	0.744	7	3,948,062	0.2
	Female	2	282,165	0.7	0.8	0.7	0.306	11	3,928,999	0.3
Kidney	Total	19	561,983	3.4	3.9	21.6	0.667	351	7,877,061	4.5
	Male	10	279,818	3.6	4.2	14.0	0.346	232	3,948,062	5.9
	Female	9	282,165	3.2	3.7	7.5	0.666	119	3,928,999	3.0
Larynx	Total	4	561,983	0.7	0.8	3.6	0.987	59	7,877,061	0.7
	Male	3	279,818	1.1	1.2	3.1	1.000	50	3,948,062	1.3
	Female	1	282,165	0.4	0.4	0.6	0.859	9	3,928,999	0.2
Leukemia	Total	26	561,983	4.6	5.3	36.9	0.077	590	7,877,061	7.5
	Male	18	279,818	6.4	7.5	20.7	0.652	340	3,948,062	8.6
	Female	8	282,165	2.8	3.2	16.0	0.044 <<	250	3,928,999	6.4
Liver and Bile Duct	Total	21	561,983	3.7	4.4	35.0	0.015 <<	577	7,877,061	7.3
	Male	9	279,818	3.2	3.8	24.0	0.001 <<	403	3,948,062	10.2
	Female	12	282,165	4.3	4.9	10.8	0.794	174	3,928,999	4.4
Lung and Bronchus	Total	123	561,983	21.9	25.6	183.2	0.000 <<	3,002	7,877,061	38.1
	Male	63	279,818	22.5	26.7	95.7	0.000 <<	1,604	3,948,062	40.6
	Female	60	282,165	21.3	24.6	87.0	0.003 <<	1,398	3,928,999	35.6
Melanoma of the Skin	Total	17	561,983	3.0	3.5	16.4	0.941	263	7,877,061	3.3
	Male	9	279,818	3.2	3.7	10.9	0.704	178	3,948,062	4.5
	Female	8	282,165	2.8	3.2	5.4	0.346	85	3,928,999	2.2
Myeloma	Total	23	561,983	4.1	4.7	18.9	0.397	306	7,877,061	3.9
	Male	14	279,818	5.0	5.9	10.9	0.428	181	3,948,062	4.6
	Female	9	282,165	3.2	3.7	7.8	0.769	125	3,928,999	3.2
Non-Hodgkin Lymphoma	Total	36	561,983	6.4	7.4	33.1	0.659	534	7,877,061	6.8
	Male	18	279,818	6.4	7.5	18.2	1.000	301	3,948,062	7.6
	Female	18	282,165	6.4	7.2	14.7	0.460	233	3,928,999	5.9
Oral Cavity and Pharynx	Total	4	561,983	0.7	0.8	13.5	0.005 <<	219	7,877,061	2.8
	Male	2	279,818	0.7	0.8	9.1	0.012 <<	150	3,948,062	3.8
	Female	2	282,165	0.7	0.8	4.3	0.386	69	3,928,999	1.8
Ovary	Female	32	282,165	11.3	13.1	20.6	0.024 >>	331	3,928,999	8.4
Pancreas	Total	59	561,983	10.5	12.2	62.4	0.725	1,020	7,877,061	12.9
	Male	27	279,818	9.6	11.4	33.8	0.277	565	3,948,062	14.3
	Female	32	282,165	11.3	13.0	28.5	0.559	455	3,928,999	11.6
Prostate	Male	59	279,818	21.1	24.3	53.9	0.522	876	3,948,062	22.2
Stomach	Total	9	561,983	1.6	1.8	12.5	0.398	201	7,877,061	2.6
	Male	5	279,818	1.8	2.1	7.2	0.556	117	3,948,062	3.0
	Female	4	282,165	1.4	1.6	5.3	0.765	84	3,928,999	2.1

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, 2019.

Cancer Screening and Risk Factors

The Bureau of Vital Records and Health Statistics (BVRHS), Division of Public Health, 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) with randomly selected adult Idahoans to measure population prevalences of risk factors for the major causes of death, including cancer, since 1984. BVRHS provided data sets containing Behavioral Risk Factor Surveillance System (BRFSS) data from 2011 through 2018 to CDRI staff, who performed the analyses reported in these *County Profiles*. Analysis weights were poststratified to 2018 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, 2011–2018

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 (2014–2018)	81.2%	80.6%	84.5%	74.6%	84.7%	75.5%	83.3%	83.8%	85.1%
Not See Doctor Due to Cost in Past Year (2014–2018)	14.3%	13.9%	12.2%	18.1%	13.6%	14.3%	12.5%	13.9%	15.1%
Cancer Screening									
Mammogram Past 2 Years, Age 50–74 (2014, 2016, 2018)	67.5%	66.8%	72.1%	63.2%	72.9%	61.0%	64.6%	66.8%	71.8%
Pap Test Past 3 Years, Cervix Intact Age 21–65 (2016, 2018)	72.5%	74.8%	74.3%	72.1%	73.0%	71.7%	72.7%	68.6%	70.7%
Colorectal Cancer Screening, Age 50–75 (2016, 2018)	65.4%	64.9%	71.3%	62.6%	68.9%	60.3%	62.1%	65.3%	68.1%
Tobacco Use									
Current Smoker (2014–2018)	14.6%	17.1%	15.1%	16.8%	13.1%	16.2%	14.4%	10.4%	12.1%
Current Smokeless Tobacco User, Males (2014–2018)	9.5%	10.6%	14.0%	11.1%	8.4%	8.9%	8.4%	7.3%	5.8%
Other Cancer-Related									
Sunburn in Previous 12 Months (2018)	47.7%	42.3%	49.0%	41.6%	50.8%	42.8%	49.9%	56.6%	51.4%
Artificial Tanning Appliance Use (2011, 2014, 2016)	4.4%	5.5%	3.3%	3.3%	3.4%	4.2%	5.7%	6.8%	7.2%
Healthy Weight by Body Mass Index, Age 20+ (2014–2018)	32.6%	34.2%	32.9%	27.0%	36.3%	31.1%	29.4%	32.4%	30.4%
Meet Physical Activity Guidelines (2011, 2013, 2015, 2017)	22.1%	22.1%	19.9%	20.6%	26.1%	18.8%	20.0%	20.1%	21.0%
Home Ever Tested for Radon (2016, 2018)	22.7%	29.7%	19.5%	16.3%	24.1%	20.2%	23.3%	22.7%	22.2%

Access to Care

Have Health Insurance – 2014–2018
Statewide, 81.2% of adults aged 18–64 reported having health care coverage. Health care coverage differed significantly by race/ethnicity, with 84.5% of white non-Hispanics, compared to 59.8% of Hispanics and 79.9% of Native Americans, having health insurance. Spanish-speaking respondents were significantly less likely to be insured (33.1%) than English-speaking respondents (83.1%). Health care coverage differed significantly by age of respondent, with 76.4% of persons aged 30–39, and 86.5% of persons aged 50–64, having health insurance. Health care coverage differed significantly by county, with a range of 57.4% in Adams County to 91.7% in Oneida County having health insurance.

Not See Doctor Due to Cost in Past Year – 2014–2018
Statewide, 14.3% 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 (13.2% of white non-Hispanics, 21.4% of Hispanics, and 23.1% of Native Americans). Inability to see a doctor due to cost differed significantly by annual household income (27.4% for less than $15,000, 6.7% for greater than $50,000). Inability to see a doctor due to cost differed significantly by county, with a range of 7.0% in Caribou County to 20.2% in Jerome County.

Cancer Screening

Mammogram – 2014, 2016, 2018
Statewide, 67.5% 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 (70.7% versus 34.0%). Mammography rates differed significantly by county, with a range in screening of 47.3% in Gooding County to 77.5% in Nez Perce County. In 2018, Idaho ranked 49th among states and the District of Columbia for mammography screening rates among women aged 50–74 and 50th among ages 40+.

Pap Test – 2016, 2018
Statewide, 72.5% 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 (77.3% versus 54.2% screened in the past 3 years). Pap screening differed significantly by county, with a range of 60.5% in Idaho County to 79.2% in Latah County. In 2018, Idaho ranked 51st among states and the District of Columbia for Pap screening rate.

Colorectal Cancer Screening – 2016, 2018
Statewide, 65.4% of adults aged 50–75 reported receiving colorectal cancer screening based on the most recent guidelines.** Persons with health insurance were over twice as likely to be current for colorectal cancer screening. In 2018, Idaho ranked 41st 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 Smoking – 2014–2018
Statewide, 14.6% of adults aged 18 and older were current smokers. Smoking prevalence differed significantly by age of respondent, with 19.2% of persons aged 30–39, and 8.4% of persons aged 65 and older reporting current smoking. Smoking prevalence was lower among white non-Hispanics (14.7%) than among Native Americans (32.4%). Smoking prevalence differed significantly by county, with a range of 4.3% in Madison County to 32.7% in Adams County. Counties with higher rates of current smoking had higher rates of lung cancer.

Smokeless Tobacco Use, Males – 2014–2018
Statewide, 9.5% of males aged 18 and older were current users of smokeless tobacco. Smokeless tobacco use differed significantly by age group, ranging from 12.8% of males aged 30–39 to 4.0% of males aged 65 and older. Smokeless tobacco use differed significantly by county, with a range of 3.4% in Franklin County to 21.1% in Custer County. Counties with higher rates of smokeless tobacco use had higher rates of oral cavity & pharynx cancer.

Other Cancer-Related

Sun Exposure – 2018
Statewide, 47.7% of adults aged 18 and older reported having sunburn in the past 12 months. Sunburn rates were higher for white non-Hispanics (49.6%) and Native Americans (48.7%) than for Hispanics (35.2%). Sunburn rates differed significantly by age group, with 67.2% of persons aged 30–39 and 17.9% of persons aged 65 and older having sunburn in the past 12 months. Sunburn rates differed significantly by county, with a range of 36.7% in Idaho County to 72.9% in Madison County having sunburn in the past 12 months.

Artificial Tanning Appliance Use – 2011, 2014, 2016
Statewide, 4.4% of adults aged 18 and older reported using an artificial tanning appliance, such as a tanning bed, in the past 12 months. Females (6.8%) were significantly more likely than males (2.1%) to have used an artificial tanning appliance in the past 12 months. Tanning appliance use differed significantly by age group, with 8.7% of persons aged 18–29 and 0.9% of persons aged 65 and older, using an appliance in the past 12 months. Tanning appliance use differed by county, with a range of less than 1% in Oneida, Power, and Valley Counties to over 9% in Bear Lake and Fremont Counties using an artificial tanning appliance in the past 12 months.

Healthy Weight by Body Mass Index – 2014–2018
Statewide, 32.6% 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 33.3% of white non-Hispanics, compared to 26.0% of Hispanics and 26.8% of Native Americans, being in the healthy weight range. Males (25.7%) were significantly less likely to be in the healthy weight range than females (39.4%). BMI differed significantly by age of respondent, with 45.0% of persons aged 18–29, and 27.1% of persons aged 50–64, being in the healthy weight range. BMI differed significantly by county, with a range of 19.5% in Minidoka County to 52.8% in Blaine County of adults being in the healthy weight range.

Physical Activity – 2011, 2013, 2015, 2017
Statewide, 22.1% of adults aged 18 and older met aerobic and strength physical activity guidelines during the past month or week. Physical activity differed significantly by age of respondent, with 26.3% of persons aged 18–29, and 19.3% of persons aged 50–64, meeting guidelines. The percentage of adults meeting physical activity guidelines differed significantly by county, with a range of 7.6% in Oneida County to 31.1% in Blaine County.

Home Radon Testing – 2016, 2018
Statewide, 22.7% of adults have ever tested their house for radon. Radon test usage varied significantly by race/ethnicity, with 24.7% of white non-Hispanics, 5.3% of Hispanics, and 27.9% 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 8.0% in Cassia County to 58.0% in Blaine County.

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BOUNDARY COUNTY CANCER PROFILE

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

Cancer Incidence 2013–2017
Cancer Mortality 2014–2018
BRFSS 2011–2018

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 are due to personal lifestyle factors, such as smoking and sedentary lifestyle, and are preventable. Additional cancers are 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. 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.

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://health.gov/dietaryguidelines/2015.

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
615 N. 7th Street
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/contact-center

American Cancer Society
2676 S. Vista Avenue
Boise, ID 83705
208-343-4609
https://www.cancer.org

CANCER INCIDENCE 2013–2017

Nearly one in two Idahoans are estimated to develop cancer during their lifetime. During 2013–2017, 40,996 cases of invasive cancer were diagnosed among Idaho residents, and 378 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, 2013–2017

Cancer Incidence 2013–2017	Boundary County	State of Idaho
All Sites/Types	**378**	**40,996**
Female Breast	**49**	**5,956**
Prostate	**56**	**5,027**
Lung & Bronchus	**45**	**4,657**
Colorectal	**38**	**3,235**

Table 3 (*Cancer Incidence 2013–2017, 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 rate of invasive cancer incidence in Boundary County was 667.3 cases per 100,000 person-years per year during 2013–2017. Comparing this crude rate with the crude rate for the remainder of Idaho (493.0) 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 512.5 cases per 100,000 persons per year during 2013–2017. There were more cases of cancer in Boundary County (378) than expected (363.6) 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 2014–2018

During 2014–2018, cancer was the second leading cause of death in Idaho; 14,585 Idaho residents and 129 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, 2014–2018

Mortality 2014–2018	Boundary County	State of Idaho
All Deaths	**575**	**67,280**
Cancer Deaths	**129**	**14,585**
% of All Deaths	*22.4%*	*21.7%*
Lung & Bronchus	**27**	**3,125**
Colorectal	**11**	**1,226**
Pancreas	**6**	**1,079**
Female Breast	**12**	**1,077**
Prostate	**9**	**935**

Table 4 (*Cancer Mortality 2014–2018, 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 167.5 deaths per 100,000 persons per year during 2014–2018, compared with 172.5 for the remainder of the state. There were fewer cancer deaths in Boundary County (129) than expected (132.8) 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 2013–2017
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	378	56,649	667.3	512.5	363.6	0.463	40,618	8,239,717	493.0
	Male	201	28,529	704.5	512.6	199.5	0.932	20,996	4,127,466	508.7
	Female	177	28,120	629.4	506.2	166.8	0.451	19,622	4,112,251	477.2
Bladder	Total	21	56,649	37.1	27.3	18.6	0.635	1,994	8,239,717	24.2
	Male	17	28,529	59.6	42.0	15.2	0.718	1,553	4,127,466	37.6
	Female	4	28,120	14.2	10.9	3.9	1.000	441	4,112,251	10.7
Brain - malignant	Total	6	56,649	10.6	8.9	5.0	0.755	604	8,239,717	7.3
	Male	4	28,529	14.0	11.2	3.2	0.782	367	4,127,466	8.9
	Female	2	28,120	7.1	6.2	1.9	1.000	237	4,112,251	5.8
Brain and other CNS - non-malignant	Total	9	56,649	15.9	13.0	8.9	1.000	1,063	8,239,717	12.9
	Male	2	28,529	7.0	5.7	3.0	0.843	352	4,127,466	8.5
	Female	7	28,120	24.9	20.6	5.9	0.743	711	4,112,251	17.3
Breast	Total	49	56,649	86.5	67.6	52.3	0.709	5,952	8,239,717	72.2
	Male	-	28,529	-	-	0.4	1.000	45	4,127,466	1.1
	Female	49	28,120	174.3	139.7	50.4	0.919	5,907	4,112,251	143.6
Breast - in situ	Total	7	56,649	12.4	9.9	9.1	0.622	1,057	8,239,717	12.8
	Male	-	28,529	-	-	0.0	1.000	3	4,127,466	0.1
	Female	7	28,120	24.9	20.3	8.8	0.685	1,054	4,112,251	25.6
Cervix	Female	2	28,120	7.1	6.6	1.9	1.000	257	4,112,251	6.2
Colorectal	Total	38	56,649	67.1	51.5	28.6	0.107	3,197	8,239,717	38.8
	Male	18	28,529	63.1	46.8	16.0	0.684	1,717	4,127,466	41.6
	Female	20	28,120	71.1	56.6	12.7	0.071	1,480	4,112,251	36.0
Corpus Uteri	Female	17	28,120	60.5	47.4	10.4	0.074	1,192	4,112,251	29.0
Esophagus	Total	5	56,649	8.8	6.6	4.3	0.852	464	8,239,717	5.6
	Male	4	28,529	14.0	10.1	3.7	1.000	384	4,127,466	9.3
	Female	1	28,120	3.6	2.7	0.7	1.000	80	4,112,251	1.9
Hodgkin Lymphoma	Total	1	56,649	1.8	1.7	1.4	1.000	198	8,239,717	2.4
	Male	-	28,529	-	-	0.8	0.930	108	4,127,466	2.6
	Female	1	28,120	3.6	3.5	0.6	0.925	90	4,112,251	2.2
Kidney and Renal Pelvis	Total	15	56,649	26.5	20.3	13.8	0.818	1,539	8,239,717	18.7
	Male	10	28,529	35.1	25.9	9.2	0.885	985	4,127,466	23.9
	Female	5	28,120	17.8	14.1	4.8	1.000	554	4,112,251	13.5
Larynx	Total	2	56,649	3.5	2.6	1.9	1.000	207	8,239,717	2.5
	Male	2	28,529	7.0	5.0	1.6	0.964	166	4,127,466	4.0
	Female	-	28,120	-	-	0.3	1.000	41	4,112,251	1.0
Leukemia	Total	14	56,649	24.7	19.4	12.9	0.826	1,472	8,239,717	17.9
	Male	7	28,529	24.5	18.5	8.0	0.902	874	4,127,466	21.2
	Female	7	28,120	24.9	20.4	5.0	0.473	598	4,112,251	14.5
Liver and Bile Duct	Total	4	56,649	7.1	5.3	6.7	0.396	729	8,239,717	8.8
	Male	2	28,529	7.0	5.1	5.1	0.237	530	4,127,466	12.8
	Female	2	28,120	7.1	5.5	1.8	1.000	199	4,112,251	4.8
Lung and Bronchus	Total	45	56,649	79.4	58.4	43.1	0.817	4,612	8,239,717	56.0
	Male	22	28,529	77.1	53.8	23.6	0.848	2,380	4,127,466	57.7
	Female	23	28,120	81.8	63.2	19.7	0.520	2,232	4,112,251	54.3
Melanoma of the Skin	Total	15	56,649	26.5	21.1	21.6	0.177	2,511	8,239,717	30.5
	Male	12	28,529	42.1	31.7	13.4	0.850	1,457	4,127,466	35.3
	Female	3	28,120	10.7	9.0	8.5	0.060	1,054	4,112,251	25.6
Myeloma	Total	4	56,649	7.1	5.2	5.6	0.681	604	8,239,717	7.3
	Male	4	28,529	14.0	9.8	3.5	0.923	353	4,127,466	8.6
	Female	-	28,120	-	-	2.2	0.218	251	4,112,251	6.1
Non-Hodgkin Lymphoma	Total	20	56,649	35.3	27.1	15.7	0.337	1,753	8,239,717	21.3
	Male	14	28,529	49.1	36.1	9.3	0.184	993	4,127,466	24.1
	Female	6	28,120	21.3	16.9	6.5	1.000	760	4,112,251	18.5
Oral Cavity and Pharynx	Total	5	56,649	8.8	6.8	10.4	0.104	1,163	8,239,717	14.1
	Male	5	28,529	17.5	13.0	7.6	0.452	821	4,127,466	19.9
	Female	-	28,120	-	-	2.9	0.107	342	4,112,251	8.3
Ovary	Female	12	28,120	42.7	34.3	4.3	0.003 >>	507	4,112,251	12.3
Pancreas	Total	9	56,649	15.9	11.8	12.0	0.491	1,295	8,239,717	15.7
	Male	3	28,529	10.5	7.5	6.8	0.188	699	4,127,466	16.9
	Female	6	28,120	21.3	16.5	5.3	0.864	596	4,112,251	14.5
Prostate	Male	56	28,529	196.3	137.7	49.0	0.351	4,971	4,127,466	120.4
Stomach	Total	6	56,649	10.6	8.0	4.4	0.547	482	8,239,717	5.8
	Male	5	28,529	17.5	12.8	3.0	0.358	313	4,127,466	7.6
	Female	1	28,120	3.6	2.8	1.5	1.000	169	4,112,251	4.1
Testis	Male	2	28,529	7.0	8.1	1.6	0.935	265	4,127,466	6.4
Thyroid	Total	3	56,649	5.3	4.8	9.5	0.030 <<	1,253	8,239,717	15.2
	Male	-	28,529	-	-	2.7	0.134	332	4,127,466	8.0
	Female	3	28,120	10.7	9.9	6.8	0.190	921	4,112,251	22.4
Pediatric Age 0 to 19	Total	5	14,654	34.1	33.8	2.7	0.264	430	2,385,868	18.0
	Male	3	7,555	39.7	39.0	1.5	0.361	231	1,218,347	19.0
	Female	2	7,099	28.2	28.1	1.2	0.685	199	1,167,521	17.0

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

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

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

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

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

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

TABLE 4: CANCER MORTALITY 2014–2018
COMPARISON BETWEEN BOUNDARY COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cause of Death Cancer Site/Type	Sex	Boundary 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	575	57,745	995.8	767.7	596.1	0.399	66,705	8,381,299	795.9
	Male	318	29,033	1,095.3	826.2	319.6	0.957	34,868	4,198,847	830.4
	Female	257	28,712	895.1	699.4	279.7	0.182	31,837	4,182,452	761.2
All Malignant Cancers	Total	129	57,745	223.4	167.5	132.8	0.784	14,456	8,381,299	172.5
	Male	68	29,033	234.2	168.1	75.5	0.426	7,833	4,198,847	186.6
	Female	61	28,712	212.5	165.8	58.3	0.754	6,623	4,182,452	158.4
Bladder	Total	2	57,745	3.5	2.6	3.9	0.497	424	8,381,299	5.1
	Male	2	29,033	6.9	4.9	3.1	0.824	317	4,198,847	7.5
	Female	-	28,712	-	-	1.0	0.767	107	4,182,452	2.6
Brain and Other Nervous System	Total	5	57,745	8.7	6.8	4.3	0.874	492	8,381,299	5.9
	Male	5	29,033	17.2	13.1	2.8	0.313	310	4,198,847	7.4
	Female	-	28,712	-	-	1.6	0.416	182	4,182,452	4.4
Breast	Total	13	57,745	22.5	17.2	9.7	0.359	1,074	8,381,299	12.8
	Male	1	29,033	3.4	2.5	0.1	0.164	9	4,198,847	0.2
	Female	12	28,712	41.8	32.9	9.3	0.453	1,065	4,182,452	25.5
Cervix	Female	-	28,712	-	-	0.7	1.000	80	4,182,452	1.9
Colorectal	Total	11	57,745	19.0	14.4	11.0	1.000	1,215	8,381,299	14.5
	Male	5	29,033	17.2	12.6	6.2	0.828	657	4,198,847	15.6
	Female	6	28,712	20.9	16.3	4.9	0.737	558	4,182,452	13.3
Corpus Uteri	Female	2	28,712	7.0	5.4	1.3	0.781	151	4,182,452	3.6
Esophagus	Total	6	57,745	10.4	7.7	4.3	0.526	465	8,381,299	5.5
	Male	5	29,033	17.2	12.4	3.6	0.590	375	4,198,847	8.9
	Female	1	28,712	3.5	2.7	0.8	1.000	90	4,182,452	2.2
Hodgkin Lymphoma	Total	-	57,745	-	-	0.2	1.000	21	8,381,299	0.3
	Male	-	29,033	-	-	0.1	1.000	8	4,198,847	0.2
	Female	-	28,712	-	-	0.1	1.000	13	4,182,452	0.3
Kidney	Total	2	57,745	3.5	2.6	3.4	0.677	368	8,381,299	4.4
	Male	2	29,033	6.9	4.9	2.3	1.000	240	4,198,847	5.7
	Female	-	28,712	-	-	1.1	0.635	128	4,182,452	3.1
Larynx	Total	-	57,745	-	-	0.6	1.000	63	8,381,299	0.8
	Male	-	29,033	-	-	0.5	1.000	53	4,198,847	1.3
	Female	-	28,712	-	-	0.1	1.000	10	4,182,452	0.2
Leukemia	Total	6	57,745	10.4	7.9	5.5	0.947	610	8,381,299	7.3
	Male	2	29,033	6.9	5.0	3.4	0.683	356	4,198,847	8.5
	Female	4	28,712	13.9	11.1	2.2	0.355	254	4,182,452	6.1
Liver and Bile Duct	Total	1	57,745	1.7	1.3	5.6	0.050	597	8,381,299	7.1
	Male	-	29,033	-	-	4.0	0.036 <<	412	4,198,847	9.8
	Female	1	28,712	3.5	2.7	1.6	1.000	185	4,182,452	4.4
Lung and Bronchus	Total	27	57,745	46.8	34.5	28.9	0.812	3,098	8,381,299	37.0
	Male	14	29,033	48.2	33.8	16.3	0.675	1,653	4,198,847	39.4
	Female	13	28,712	45.3	35.0	12.8	1.000	1,445	4,182,452	34.5
Melanoma of the Skin	Total	2	57,745	3.5	2.7	2.5	1.000	278	8,381,299	3.3
	Male	2	29,033	6.9	5.1	1.7	1.000	185	4,198,847	4.4
	Female	-	28,712	-	-	0.8	0.896	93	4,182,452	2.2
Myeloma	Total	2	57,745	3.5	2.6	3.0	0.830	327	8,381,299	3.9
	Male	2	29,033	6.9	4.9	1.9	1.000	193	4,198,847	4.6
	Female	-	28,712	-	-	1.2	0.613	134	4,182,452	3.2
Non-Hodgkin Lymphoma	Total	2	57,745	3.5	2.6	5.3	0.207	568	8,381,299	6.8
	Male	2	29,033	6.9	4.9	3.1	0.811	317	4,198,847	7.5
	Female	-	28,712	-	-	2.2	0.212	251	4,182,452	6.0
Oral Cavity and Pharynx	Total	3	57,745	5.2	3.9	2.0	0.658	220	8,381,299	2.6
	Male	2	29,033	6.9	5.0	1.4	0.837	150	4,198,847	3.6
	Female	1	28,712	3.5	2.7	0.6	0.921	70	4,182,452	1.7
Ovary	Female	6	28,712	20.9	16.1	3.2	0.205	357	4,182,452	8.5
Pancreas	Total	6	57,745	10.4	7.7	10.0	0.266	1,073	8,381,299	12.8
	Male	3	29,033	10.3	7.3	5.7	0.353	589	4,198,847	14.0
	Female	3	28,712	10.4	8.1	4.3	0.758	484	4,182,452	11.6
Prostate	Male	9	29,033	31.0	22.1	9.0	1.000	926	4,198,847	22.1
Stomach	Total	2	57,745	3.5	2.7	1.9	1.000	208	8,381,299	2.5
	Male	1	29,033	3.4	2.5	1.1	1.000	121	4,198,847	2.9
	Female	1	28,712	3.5	2.8	0.7	1.000	87	4,182,452	2.1

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, 2019.

Cancer Screening and Risk Factors

The Bureau of Vital Records and Health Statistics (BVRHS), Division of Public Health, 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) with randomly selected adult Idahoans to measure population prevalences of risk factors for the major causes of death, including cancer, since 1984. BVRHS provided data sets containing Behavioral Risk Factor Surveillance System (BRFSS) data from 2011 through 2018 to CDRI staff, who performed the analyses reported in these *County Profiles*. Analysis weights were poststratified to 2018 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, 2011–2018

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 (2014–2018)	81.2%	80.6%	84.5%	74.6%	84.7%	75.5%	83.3%	83.8%	71.7%
Not See Doctor Due to Cost in Past Year (2014–2018)	14.3%	13.9%	12.2%	18.1%	13.6%	14.3%	12.5%	13.9%	11.2%
Cancer Screening									
Mammogram Past 2 Years, Age 50–74 (2014, 2016, 2018)	67.5%	66.8%	72.1%	63.2%	72.9%	61.0%	64.6%	66.8%	.
Pap Test Past 3 Years, Cervix Intact Age 21–65 (2016, 2018)	72.5%	74.8%	74.3%	72.1%	73.0%	71.7%	72.7%	68.6%	.
Colorectal Cancer Screening, Age 50–75 (2016, 2018)	65.4%	64.9%	71.3%	62.6%	68.9%	60.3%	62.1%	65.3%	.
Tobacco Use									
Current Smoker (2014–2018)	14.6%	17.1%	15.1%	16.8%	13.1%	16.2%	14.4%	10.4%	13.1%
Current Smokeless Tobacco User, Males (2014–2018)	9.5%	10.6%	14.0%	11.1%	8.4%	8.9%	8.4%	7.3%	6.6%
Other Cancer-Related									
Sunburn in Previous 12 Months (2018)	47.7%	42.3%	49.0%	41.6%	50.8%	42.8%	49.9%	56.6%	.
Artificial Tanning Appliance Use (2011, 2014, 2016)	4.4%	5.5%	3.3%	3.3%	3.4%	4.2%	5.7%	6.8%	4.3%
Healthy Weight by Body Mass Index, Age 20+ (2014–2018)	32.6%	34.2%	32.9%	27.0%	36.3%	31.1%	29.4%	32.4%	34.6%
Meet Physical Activity Guidelines (2011, 2013, 2015, 2017)	22.1%	22.1%	19.9%	20.6%	26.1%	18.8%	20.0%	20.1%	15.6%
Home Ever Tested for Radon (2016, 2018)	22.7%	29.7%	19.5%	16.3%	24.1%	20.2%	23.3%	22.7%	16.3%

Access to Care

Have Health Insurance – 2014–2018
Statewide, 81.2% of adults aged 18–64 reported having health care coverage. Health care coverage differed significantly by race/ethnicity, with 84.5% of white non-Hispanics, compared to 59.8% of Hispanics and 79.9% of Native Americans, having health insurance. Spanish-speaking respondents were significantly less likely to be insured (33.1%) than English-speaking respondents (83.1%). Health care coverage differed significantly by age of respondent, with 76.4% of persons aged 30–39, and 86.5% of persons aged 50–64, having health insurance. Health care coverage differed significantly by county, with a range of 57.4% in Adams County to 91.7% in Oneida County having health insurance.

Not See Doctor Due to Cost in Past Year – 2014–2018
Statewide, 14.3% 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 (13.2% of white non-Hispanics, 21.4% of Hispanics, and 23.1% of Native Americans). Inability to see a doctor due to cost differed significantly by annual household income (27.4% for less than $15,000, 6.7% for greater than $50,000). Inability to see a doctor due to cost differed significantly by county, with a range of 7.0% in Caribou County to 20.2% in Jerome County.

Cancer Screening

Mammogram – 2014, 2016, 2018
Statewide, 67.5% 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 (70.7% versus 34.0%). Mammography rates differed significantly by county, with a range in screening of 47.3% in Gooding County to 77.5% in Nez Perce County. In 2018, Idaho ranked 49th among states and the District of Columbia for mammography screening rates among women aged 50–74 and 50th among ages 40+.

Pap Test – 2016, 2018
Statewide, 72.5% 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 (77.3% versus 54.2% screened in the past 3 years). Pap screening differed significantly by county, with a range of 60.5% in Idaho County to 79.2% in Latah County. In 2018, Idaho ranked 51st among states and the District of Columbia for Pap screening rate.

Colorectal Cancer Screening – 2016, 2018
Statewide, 65.4% of adults aged 50–75 reported receiving colorectal cancer screening based on the most recent guidelines.** Persons with health insurance were over twice as likely to be current for colorectal cancer screening. In 2018, Idaho ranked 41st 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 Smoking – 2014–2018
Statewide, 14.6% of adults aged 18 and older were current smokers. Smoking prevalence differed significantly by age of respondent, with 19.2% of persons aged 30–39, and 8.4% of persons aged 65 and older reporting current smoking. Smoking prevalence was lower among white non-Hispanics (14.7%) than among Native Americans (32.4%). Smoking prevalence differed significantly by county, with a range of 4.3% in Madison County to 32.7% in Adams County. Counties with higher rates of current smoking had higher rates of lung cancer.

Smokeless Tobacco Use, Males – 2014–2018
Statewide, 9.5% of males aged 18 and older were current users of smokeless tobacco. Smokeless tobacco use differed significantly by age group, ranging from 12.8% of males aged 30–39 to 4.0% of males aged 65 and older. Smokeless tobacco use differed significantly by county, with a range of 3.4% in Franklin County to 21.1% in Custer County. Counties with higher rates of smokeless tobacco use had higher rates of oral cavity & pharynx cancer.

Other Cancer-Related

Sun Exposure – 2018
Statewide, 47.7% of adults aged 18 and older reported having sunburn in the past 12 months. Sunburn rates were higher for white non-Hispanics (49.6%) and Native Americans (48.7%) than for Hispanics (35.2%). Sunburn rates differed significantly by age group, with 67.2% of persons aged 30–39 and 17.9% of persons aged 65 and older having sunburn in the past 12 months. Sunburn rates differed significantly by county, with a range of 36.7% in Idaho County to 72.9% in Madison County having sunburn in the past 12 months.

Artificial Tanning Appliance Use – 2011, 2014, 2016
Statewide, 4.4% of adults aged 18 and older reported using an artificial tanning appliance, such as a tanning bed, in the past 12 months. Females (6.8%) were significantly more likely than males (2.1%) to have used an artificial tanning appliance in the past 12 months. Tanning appliance use differed significantly by age group, with 8.7% of persons aged 18–29 and 0.9% of persons aged 65 and older, using an appliance in the past 12 months. Tanning appliance use differed by county, with a range of less than 1% in Oneida, Power, and Valley Counties to over 9% in Bear Lake and Fremont Counties using an artificial tanning appliance in the past 12 months.

Healthy Weight by Body Mass Index – 2014–2018
Statewide, 32.6% 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 33.3% of white non-Hispanics, compared to 26.0% of Hispanics and 26.8% of Native Americans, being in the healthy weight range. Males (25.7%) were significantly less likely to be in the healthy weight range than females (39.4%). BMI differed significantly by age of respondent, with 45.0% of persons aged 18–29, and 27.1% of persons aged 50–64, being in the healthy weight range. BMI differed significantly by county, with a range of 19.5% in Minidoka County to 52.8% in Blaine County of adults being in the healthy weight range.

Physical Activity – 2011, 2013, 2015, 2017
Statewide, 22.1% of adults aged 18 and older met aerobic and strength physical activity guidelines during the past month or week. Physical activity differed significantly by age of respondent, with 26.3% of persons aged 18–29, and 19.3% of persons aged 50–64, meeting guidelines. The percentage of adults meeting physical activity guidelines differed significantly by county, with a range of 7.6% in Oneida County to 31.1% in Blaine County.

Home Radon Testing – 2016, 2018
Statewide, 22.7% of adults have ever tested their house for radon. Radon test usage varied significantly by race/ethnicity, with 24.7% of white non-Hispanics, 5.3% of Hispanics, and 27.9% 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 8.0% in Cassia County to 58.0% in Blaine County.

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BUTTE COUNTY CANCER PROFILE

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

Cancer Incidence 2013–2017
Cancer Mortality 2014–2018
BRFSS 2011–2018

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 are due to personal lifestyle factors, such as smoking and sedentary lifestyle, and are preventable. Additional cancers are 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. 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.

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://health.gov/dietaryguidelines/2015.

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
615 N. 7th Street
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/contact-center

American Cancer Society
2676 S. Vista Avenue
Boise, ID 83705
208-343-4609
https://www.cancer.org

CANCER INCIDENCE 2013–2017

Nearly one in two Idahoans are estimated to develop cancer during their lifetime. During 2013–2017, 40,996 cases of invasive cancer were diagnosed among Idaho residents, and 94 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, 2013–2017

Cancer Incidence 2013–2017	Butte County	State of Idaho
All Sites/Types	**94**	**40,996**
Female Breast	**8**	**5,956**
Prostate	**4**	**5,027**
Lung & Bronchus	**10**	**4,657**
Colorectal	**7**	**3,235**

Table 3 (*Cancer Incidence 2013–2017, 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 rate of invasive cancer incidence in Butte County was 719.4 cases per 100,000 person-years per year during 2013–2017. Comparing this crude rate with the crude rate for the remainder of Idaho (493.8) 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 529.7 cases per 100,000 persons per year during 2013–2017. There were more cases of cancer in Butte County (94) than expected (87.6) 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 2014–2018

During 2014–2018, cancer was the second leading cause of death in Idaho; 14,585 Idaho residents and 33 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, 2014–2018

Mortality 2014–2018	Butte County	State of Idaho
All Deaths	**150**	**67,280**
Cancer Deaths	**33**	**14,585**
% of All Deaths	*22.0%*	*21.7%*
Lung & Bronchus	**7**	**3,125**
Colorectal	**2**	**1,226**
Pancreas	**1**	**1,079**
Female Breast	**3**	**1,077**
Prostate	**1**	**935**

Table 4 (*Cancer Mortality 2014–2018, 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 175.5 deaths per 100,000 persons per year during 2014–2018, compared with 172.7 for the remainder of the state. There were more cancer deaths in Butte County (33) than expected (32.5) 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 2013–2017
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	94	13,066	719.4	529.7	87.6	0.524	40,902	8,283,300	493.8
	Male	47	6,673	704.3	482.0	49.7	0.771	21,150	4,149,322	509.7
	Female	47	6,393	735.2	576.8	38.9	0.229	19,752	4,133,978	477.8
Bladder	Total	6	13,066	45.9	31.5	4.6	0.636	2,009	8,283,300	24.3
	Male	6	6,673	89.9	58.0	3.9	0.399	1,564	4,149,322	37.7
	Female	-	6,393	-	-	0.9	0.784	445	4,133,978	10.8
Brain - malignant	Total	1	13,066	7.7	6.2	1.2	1.000	609	8,283,300	7.4
	Male	1	6,673	15.0	11.5	0.8	1.000	370	4,149,322	8.9
	Female	-	6,393	-	-	0.4	1.000	239	4,133,978	5.8
Brain and other CNS - non-malignant	Total	2	13,066	15.3	12.2	2.1	1.000	1,070	8,283,300	12.9
	Male	2	6,673	30.0	23.2	0.7	0.333	352	4,149,322	8.5
	Female	-	6,393	-	-	1.4	0.516	718	4,133,978	17.4
Breast	Total	9	13,066	68.9	52.8	12.3	0.430	5,992	8,283,300	72.3
	Male	1	6,673	15.0	9.5	0.1	0.211	44	4,149,322	1.1
	Female	8	6,393	125.1	99.7	11.5	0.374	5,948	4,133,978	143.9
Breast - in situ	Total	2	13,066	15.3	12.3	2.1	1.000	1,062	8,283,300	12.8
	Male	-	6,673	-	-	0.0	1.000	3	4,149,322	0.1
	Female	2	6,393	31.3	26.1	2.0	1.000	1,059	4,133,978	25.6
Cervix	Female	-	6,393	-	-	0.4	1.000	259	4,133,978	6.3
Colorectal	Total	7	13,066	53.6	39.3	6.9	1.000	3,228	8,283,300	39.0
	Male	7	6,673	104.9	73.9	3.9	0.210	1,728	4,149,322	41.6
	Female	-	6,393	-	-	3.0	0.095	1,500	4,133,978	36.3
Corpus Uteri	Female	2	6,393	31.3	24.9	2.3	1.000	1,207	4,133,978	29.2
Esophagus	Total	-	13,066	-	-	1.0	0.705	469	8,283,300	5.7
	Male	-	6,673	-	-	0.9	0.796	388	4,149,322	9.4
	Female	-	6,393	-	-	0.2	1.000	81	4,133,978	2.0
Hodgkin Lymphoma	Total	-	13,066	-	-	0.3	1.000	199	8,283,300	2.4
	Male	-	6,673	-	-	0.2	1.000	108	4,149,322	2.6
	Female	-	6,393	-	-	0.1	1.000	91	4,133,978	2.2
Kidney and Renal Pelvis	Total	4	13,066	30.6	22.6	3.3	0.844	1,550	8,283,300	18.7
	Male	1	6,673	15.0	10.6	2.3	0.677	994	4,149,322	24.0
	Female	3	6,393	46.9	36.0	1.1	0.208	556	4,133,978	13.4
Larynx	Total	1	13,066	7.7	5.4	0.5	0.741	208	8,283,300	2.5
	Male	-	6,673	-	-	0.4	1.000	168	4,149,322	4.0
	Female	1	6,393	15.6	12.2	0.1	0.153	40	4,133,978	1.0
Leukemia	Total	8	13,066	61.2	45.3	3.2	0.031 >>	1,478	8,283,300	17.8
	Male	4	6,673	59.9	42.3	2.0	0.285	877	4,149,322	21.1
	Female	4	6,393	62.6	48.2	1.2	0.069	601	4,133,978	14.5
Liver and Bile Duct	Total	-	13,066	-	-	1.6	0.404	733	8,283,300	8.8
	Male	-	6,673	-	-	1.2	0.582	532	4,149,322	12.8
	Female	-	6,393	-	-	0.4	1.000	201	4,133,978	4.9
Lung and Bronchus	Total	10	13,066	76.5	52.3	10.7	0.986	4,647	8,283,300	56.1
	Male	4	6,673	59.9	38.5	6.0	0.571	2,398	4,149,322	57.8
	Female	6	6,393	93.9	67.8	4.8	0.704	2,249	4,133,978	54.4
Melanoma of the Skin	Total	5	13,066	38.3	29.7	5.1	1.000	2,521	8,283,300	30.4
	Male	-	6,673	-	-	3.3	0.074	1,469	4,149,322	35.4
	Female	5	6,393	78.2	66.1	1.9	0.092	1,052	4,133,978	25.4
Myeloma	Total	5	13,066	38.3	26.6	1.4	0.026 >>	603	8,283,300	7.3
	Male	4	6,673	59.9	39.2	0.9	0.024 >>	353	4,149,322	8.5
	Female	1	6,393	15.6	11.4	0.5	0.822	250	4,133,978	6.0
Non-Hodgkin Lymphoma	Total	7	13,066	53.6	38.8	3.8	0.191	1,766	8,283,300	21.3
	Male	6	6,673	89.9	62.0	2.3	0.064	1,001	4,149,322	24.1
	Female	1	6,393	15.6	11.8	1.6	1.000	765	4,133,978	18.5
Oral Cavity and Pharynx	Total	2	13,066	15.3	11.4	2.5	1.000	1,166	8,283,300	14.1
	Male	-	6,673	-	-	1.9	0.310	826	4,149,322	19.9
	Female	2	6,393	31.3	24.6	0.7	0.291	340	4,133,978	8.2
Ovary	Female	1	6,393	15.6	12.3	1.0	1.000	518	4,133,978	12.5
Pancreas	Total	1	13,066	7.7	5.3	2.9	0.414	1,303	8,283,300	15.7
	Male	1	6,673	15.0	10.0	1.7	0.988	701	4,149,322	16.9
	Female	-	6,393	-	-	1.3	0.558	602	4,133,978	14.6
Prostate	Male	4	6,673	59.9	39.7	12.2	0.013 <<	5,023	4,149,322	121.1
Stomach	Total	2	13,066	15.3	11.0	1.1	0.578	486	8,283,300	5.9
	Male	1	6,673	15.0	10.2	0.8	1.000	317	4,149,322	7.6
	Female	1	6,393	15.6	11.8	0.3	0.587	169	4,133,978	4.1
Testis	Male	1	6,673	15.0	18.1	0.4	0.596	266	4,149,322	6.4
Thyroid	Total	6	13,066	45.9	42.8	2.1	0.042 >>	1,250	8,283,300	15.1
	Male	1	6,673	15.0	12.7	0.6	0.931	331	4,149,322	8.0
	Female	5	6,393	78.2	75.6	1.5	0.034 >>	919	4,133,978	22.2
Pediatric Age 0 to 19	Total	2	3,541	56.5	57.0	0.6	0.266	433	2,396,981	18.1
	Male	1	1,830	54.6	54.6	0.3	0.589	233	1,224,072	19.0
	Female	1	1,711	58.4	59.2	0.3	0.501	200	1,172,909	17.1

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

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

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

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

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

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

TABLE 4: CANCER MORTALITY 2014–2018
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	150	13,010	1,153.0	809.4	147.7	0.869	67,130	8,426,034	796.7
	Male	85	6,619	1,284.2	881.3	80.2	0.621	35,101	4,221,261	831.5
	Female	65	6,391	1,017.1	722.9	68.5	0.731	32,029	4,204,773	761.7
All Malignant Cancers	Total	33	13,010	253.7	175.5	32.5	0.973	14,552	8,426,034	172.7
	Male	20	6,619	302.2	198.4	18.8	0.845	7,881	4,221,261	186.7
	Female	13	6,391	203.4	147.7	14.0	0.936	6,671	4,204,773	158.7
Bladder	Total	2	13,010	15.4	10.2	1.0	0.518	424	8,426,034	5.0
	Male	2	6,619	30.2	19.2	0.8	0.371	317	4,221,261	7.5
	Female	-	6,391	-	-	0.2	1.000	107	4,204,773	2.5
Brain and Other Nervous System	Total	-	13,010	-	-	1.0	0.718	497	8,426,034	5.9
	Male	-	6,619	-	-	0.7	1.000	315	4,221,261	7.5
	Female	-	6,391	-	-	0.4	1.000	182	4,204,773	4.3
Breast	Total	4	13,010	30.7	22.0	2.3	0.414	1,083	8,426,034	12.9
	Male	1	6,619	15.1	9.8	0.0	0.043 >>	9	4,221,261	0.2
	Female	3	6,391	46.9	34.9	2.2	0.751	1,074	4,204,773	25.5
Cervix	Female	-	6,391	-	-	0.1	1.000	80	4,204,773	1.9
Colorectal	Total	2	13,010	15.4	10.8	2.7	0.995	1,224	8,426,034	14.5
	Male	1	6,619	15.1	10.3	1.5	1.000	661	4,221,261	15.7
	Female	1	6,391	15.6	11.3	1.2	1.000	563	4,204,773	13.4
Corpus Uteri	Female	-	6,391	-	-	0.3	1.000	153	4,204,773	3.6
Esophagus	Total	1	13,010	7.7	5.3	1.0	1.000	470	8,426,034	5.6
	Male	1	6,619	15.1	10.0	0.9	1.000	379	4,221,261	9.0
	Female	-	6,391	-	-	0.2	1.000	91	4,204,773	2.2
Hodgkin Lymphoma	Total	1	13,010	7.7	6.2	0.0	0.075	20	8,426,034	0.2
	Male	1	6,619	15.1	13.7	0.0	0.024 >>	7	4,221,261	0.2
	Female	-	6,391	-	-	0.0	1.000	13	4,204,773	0.3
Kidney	Total	2	13,010	15.4	10.6	0.8	0.400	368	8,426,034	4.4
	Male	1	6,619	15.1	10.0	0.6	0.869	241	4,221,261	5.7
	Female	1	6,391	15.6	11.0	0.3	0.480	127	4,204,773	3.0
Larynx	Total	-	13,010	-	-	0.1	1.000	63	8,426,034	0.7
	Male	-	6,619	-	-	0.1	1.000	53	4,221,261	1.3
	Female	-	6,391	-	-	0.0	1.000	10	4,204,773	0.2
Leukemia	Total	2	13,010	15.4	10.6	1.4	0.798	614	8,426,034	7.3
	Male	1	6,619	15.1	10.0	0.8	1.000	357	4,221,261	8.5
	Female	1	6,391	15.6	11.2	0.5	0.842	257	4,204,773	6.1
Liver and Bile Duct	Total	-	13,010	-	-	1.3	0.535	598	8,426,034	7.1
	Male	-	6,619	-	-	1.0	0.760	412	4,221,261	9.8
	Female	-	6,391	-	-	0.4	1.000	186	4,204,773	4.4
Lung and Bronchus	Total	7	13,010	53.8	36.4	7.1	1.000	3,118	8,426,034	37.0
	Male	4	6,619	60.4	38.7	4.1	1.000	1,663	4,221,261	39.4
	Female	3	6,391	46.9	33.5	3.1	1.000	1,455	4,204,773	34.6
Melanoma of the Skin	Total	-	13,010	-	-	0.6	1.000	280	8,426,034	3.3
	Male	-	6,619	-	-	0.4	1.000	187	4,221,261	4.4
	Female	-	6,391	-	-	0.2	1.000	93	4,204,773	2.2
Myeloma	Total	1	13,010	7.7	5.1	0.8	1.000	328	8,426,034	3.9
	Male	1	6,619	15.1	9.7	0.5	0.757	194	4,221,261	4.6
	Female	-	6,391	-	-	0.3	1.000	134	4,204,773	3.2
Non-Hodgkin Lymphoma	Total	1	13,010	7.7	5.1	1.3	1.000	569	8,426,034	6.8
	Male	1	6,619	15.1	9.7	0.8	1.000	318	4,221,261	7.5
	Female	-	6,391	-	-	0.6	1.000	251	4,204,773	6.0
Oral Cavity and Pharynx	Total	2	13,010	15.4	10.7	0.5	0.174	221	8,426,034	2.6
	Male	1	6,619	15.1	10.2	0.3	0.590	151	4,221,261	3.6
	Female	1	6,391	15.6	11.0	0.2	0.281	70	4,204,773	1.7
Ovary	Female	-	6,391	-	-	0.7	0.946	363	4,204,773	8.6
Pancreas	Total	1	13,010	7.7	5.3	2.4	0.606	1,078	8,426,034	12.8
	Male	1	6,619	15.1	9.9	1.4	1.000	591	4,221,261	14.0
	Female	-	6,391	-	-	1.0	0.710	487	4,204,773	11.6
Prostate	Male	1	6,619	15.1	9.5	2.3	0.649	934	4,221,261	22.1
Stomach	Total	1	13,010	7.7	5.5	0.5	0.728	209	8,426,034	2.5
	Male	-	6,619	-	-	0.3	1.000	122	4,221,261	2.9
	Female	1	6,391	15.6	11.5	0.2	0.329	87	4,204,773	2.1

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, 2019.

Cancer Screening and Risk Factors

The Bureau of Vital Records and Health Statistics (BVRHS), Division of Public Health, 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) with randomly selected adult Idahoans to measure population prevalences of risk factors for the major causes of death, including cancer, since 1984. BVRHS provided data sets containing Behavioral Risk Factor Surveillance System (BRFSS) data from 2011 through 2018 to CDRI staff, who performed the analyses reported in these *County Profiles*. Analysis weights were poststratified to 2018 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, 2011–2018

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 (2014–2018)	81.2%	80.6%	84.5%	74.6%	84.7%	75.5%	83.3%	83.8%	80.1%
Not See Doctor Due to Cost in Past Year (2014–2018)	14.3%	13.9%	12.2%	18.1%	13.6%	14.3%	12.5%	13.9%	10.0%
Cancer Screening									
Mammogram Past 2 Years, Age 50–74 (2014, 2016, 2018)	67.5%	66.8%	72.1%	63.2%	72.9%	61.0%	64.6%	66.8%	.
Pap Test Past 3 Years, Cervix Intact Age 21–65 (2016, 2018)	72.5%	74.8%	74.3%	72.1%	73.0%	71.7%	72.7%	68.6%	.
Colorectal Cancer Screening, Age 50–75 (2016, 2018)	65.4%	64.9%	71.3%	62.6%	68.9%	60.3%	62.1%	65.3%	.
Tobacco Use									
Current Smoker (2014–2018)	14.6%	17.1%	15.1%	16.8%	13.1%	16.2%	14.4%	10.4%	8.2%
Current Smokeless Tobacco User, Males (2014–2018)	9.5%	10.6%	14.0%	11.1%	8.4%	8.9%	8.4%	7.3%	.
Other Cancer-Related									
Sunburn in Previous 12 Months (2018)	47.7%	42.3%	49.0%	41.6%	50.8%	42.8%	49.9%	56.6%	.
Artificial Tanning Appliance Use (2011, 2014, 2016)	4.4%	5.5%	3.3%	3.3%	3.4%	4.2%	5.7%	6.8%	7.8%
Healthy Weight by Body Mass Index, Age 20+ (2014–2018)	32.6%	34.2%	32.9%	27.0%	36.3%	31.1%	29.4%	32.4%	30.0%
Meet Physical Activity Guidelines (2011, 2013, 2015, 2017)	22.1%	22.1%	19.9%	20.6%	26.1%	18.8%	20.0%	20.1%	12.9%
Home Ever Tested for Radon (2016, 2018)	22.7%	29.7%	19.5%	16.3%	24.1%	20.2%	23.3%	22.7%	.

Access to Care

Have Health Insurance – 2014–2018
Statewide, 81.2% of adults aged 18–64 reported having health care coverage. Health care coverage differed significantly by race/ethnicity, with 84.5% of white non-Hispanics, compared to 59.8% of Hispanics and 79.9% of Native Americans, having health insurance. Spanish-speaking respondents were significantly less likely to be insured (33.1%) than English-speaking respondents (83.1%). Health care coverage differed significantly by age of respondent, with 76.4% of persons aged 30–39, and 86.5% of persons aged 50–64, having health insurance. Health care coverage differed significantly by county, with a range of 57.4% in Adams County to 91.7% in Oneida County having health insurance.

Not See Doctor Due to Cost in Past Year – 2014–2018
Statewide, 14.3% 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 (13.2% of white non-Hispanics, 21.4% of Hispanics, and 23.1% of Native Americans). Inability to see a doctor due to cost differed significantly by annual household income (27.4% for less than $15,000, 6.7% for greater than $50,000). Inability to see a doctor due to cost differed significantly by county, with a range of 7.0% in Caribou County to 20.2% in Jerome County.

Cancer Screening

Mammogram – 2014, 2016, 2018
Statewide, 67.5% 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 (70.7% versus 34.0%). Mammography rates differed significantly by county, with a range in screening of 47.3% in Gooding County to 77.5% in Nez Perce County. In 2018, Idaho ranked 49th among states and the District of Columbia for mammography screening rates among women aged 50–74 and 50th among ages 40+.

Pap Test – 2016, 2018
Statewide, 72.5% 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 (77.3% versus 54.2% screened in the past 3 years). Pap screening differed significantly by county, with a range of 60.5% in Idaho County to 79.2% in Latah County. In 2018, Idaho ranked 51st among states and the District of Columbia for Pap screening rate.

Colorectal Cancer Screening – 2016, 2018
Statewide, 65.4% of adults aged 50–75 reported receiving colorectal cancer screening based on the most recent guidelines.** Persons with health insurance were over twice as likely to be current for colorectal cancer screening. In 2018, Idaho ranked 41st 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 Smoking – 2014–2018
Statewide, 14.6% of adults aged 18 and older were current smokers. Smoking prevalence differed significantly by age of respondent, with 19.2% of persons aged 30–39, and 8.4% of persons aged 65 and older reporting current smoking. Smoking prevalence was lower among white non-Hispanics (14.7%) than among Native Americans (32.4%). Smoking prevalence differed significantly by county, with a range of 4.3% in Madison County to 32.7% in Adams County. Counties with higher rates of current smoking had higher rates of lung cancer.

Smokeless Tobacco Use, Males – 2014–2018
Statewide, 9.5% of males aged 18 and older were current users of smokeless tobacco. Smokeless tobacco use differed significantly by age group, ranging from 12.8% of males aged 30–39 to 4.0% of males aged 65 and older. Smokeless tobacco use differed significantly by county, with a range of 3.4% in Franklin County to 21.1% in Custer County. Counties with higher rates of smokeless tobacco use had higher rates of oral cavity & pharynx cancer.

Other Cancer-Related

Sun Exposure – 2018
Statewide, 47.7% of adults aged 18 and older reported having sunburn in the past 12 months. Sunburn rates were higher for white non-Hispanics (49.6%) and Native Americans (48.7%) than for Hispanics (35.2%). Sunburn rates differed significantly by age group, with 67.2% of persons aged 30–39 and 17.9% of persons aged 65 and older having sunburn in the past 12 months. Sunburn rates differed significantly by county, with a range of 36.7% in Idaho County to 72.9% in Madison County having sunburn in the past 12 months.

Artificial Tanning Appliance Use – 2011, 2014, 2016
Statewide, 4.4% of adults aged 18 and older reported using an artificial tanning appliance, such as a tanning bed, in the past 12 months. Females (6.8%) were significantly more likely than males (2.1%) to have used an artificial tanning appliance in the past 12 months. Tanning appliance use differed significantly by age group, with 8.7% of persons aged 18–29 and 0.9% of persons aged 65 and older, using an appliance in the past 12 months. Tanning appliance use differed by county, with a range of less than 1% in Oneida, Power, and Valley Counties to over 9% in Bear Lake and Fremont Counties using an artificial tanning appliance in the past 12 months.

Healthy Weight by Body Mass Index – 2014–2018
Statewide, 32.6% 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 33.3% of white non-Hispanics, compared to 26.0% of Hispanics and 26.8% of Native Americans, being in the healthy weight range. Males (25.7%) were significantly less likely to be in the healthy weight range than females (39.4%). BMI differed significantly by age of respondent, with 45.0% of persons aged 18–29, and 27.1% of persons aged 50–64, being in the healthy weight range. BMI differed significantly by county, with a range of 19.5% in Minidoka County to 52.8% in Blaine County of adults being in the healthy weight range.

Physical Activity – 2011, 2013, 2015, 2017
Statewide, 22.1% of adults aged 18 and older met aerobic and strength physical activity guidelines during the past month or week. Physical activity differed significantly by age of respondent, with 26.3% of persons aged 18–29, and 19.3% of persons aged 50–64, meeting guidelines. The percentage of adults meeting physical activity guidelines differed significantly by county, with a range of 7.6% in Oneida County to 31.1% in Blaine County.

Home Radon Testing – 2016, 2018
Statewide, 22.7% of adults have ever tested their house for radon. Radon test usage varied significantly by race/ethnicity, with 24.7% of white non-Hispanics, 5.3% of Hispanics, and 27.9% 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 8.0% in Cassia County to 58.0% in Blaine County.

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CAMAS COUNTY CANCER PROFILE

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

Cancer Incidence 2013–2017
Cancer Mortality 2014–2018
BRFSS 2011–2018

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 are due to personal lifestyle factors, such as smoking and sedentary lifestyle, and are preventable. Additional cancers are 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. 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.

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://health.gov/dietaryguidelines/2015.

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
615 N. 7th Street
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/contact-center

American Cancer Society
2676 S. Vista Avenue
Boise, ID 83705
208-343-4609
https://www.cancer.org

CANCER INCIDENCE 2013–2017

Nearly one in two Idahoans are estimated to develop cancer during their lifetime. During 2013–2017, 40,996 cases of invasive cancer were diagnosed among Idaho residents, and 33 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, 2013–2017

Cancer Incidence 2013–2017	Camas County	State of Idaho
All Sites/Types	**33**	**40,996**
Female Breast	**1**	**5,956**
Prostate	**4**	**5,027**
Lung & Bronchus	**3**	**4,657**
Colorectal	**3**	**3,235**

Table 3 (*Cancer Incidence 2013–2017, 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 rate of invasive cancer incidence in Camas County was 616.9 cases per 100,000 person-years per year during 2013–2017. Comparing this crude rate with the crude rate for the remainder of Idaho (494.1) 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 476.6 cases per 100,000 persons per year during 2013–2017. There were fewer cases of cancer in Camas County (33) than expected (34.2) 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 2014–2018

During 2014–2018, cancer was the second leading cause of death in Idaho; 14,585 Idaho residents and 19 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, 2014–2018

Mortality 2014–2018	Camas County	State of Idaho
All Deaths	**43**	**67,280**
Cancer Deaths	**19**	**14,585**
% of All Deaths	*44.2%*	*21.7%*
Lung & Bronchus	**2**	**3,125**
Colorectal	**3**	**1,226**
Pancreas	**0**	**1,079**
Female Breast	**0**	**1,077**
Prostate	**1**	**935**

Table 4 (*Cancer Mortality 2014–2018, 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 267.0 deaths per 100,000 persons per year during 2014–2018, compared with 172.7 for the remainder of the state. There were more cancer deaths in Camas County (19) than expected (12.3) 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 2013–2017
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	33	5,349	616.9	476.6	34.2	0.926	40,963	8,291,017	494.1
	Male	18	2,749	654.8	446.9	20.5	0.674	21,179	4,153,246	509.9
	Female	15	2,600	576.9	498.2	14.4	0.943	19,784	4,137,771	478.1
Bladder	Total	2	5,349	37.4	28.2	1.7	1.000	2,013	8,291,017	24.3
	Male	2	2,749	72.8	48.0	1.6	0.932	1,568	4,153,246	37.8
	Female	-	2,600	-	-	0.3	1.000	445	4,137,771	10.8
Brain - malignant	Total	-	5,349	-	-	0.5	1.000	610	8,291,017	7.4
	Male	-	2,749	-	-	0.3	1.000	371	4,153,246	8.9
	Female	-	2,600	-	-	0.2	1.000	239	4,137,771	5.8
Brain and other CNS - non-malignant	Total	2	5,349	37.4	30.4	0.8	0.417	1,070	8,291,017	12.9
	Male	1	2,749	36.4	27.4	0.3	0.534	353	4,153,246	8.5
	Female	1	2,600	38.5	33.8	0.5	0.802	717	4,137,771	17.3
Breast	Total	1	5,349	18.7	14.5	5.0	0.080	6,000	8,291,017	72.4
	Male	-	2,749	-	-	0.0	1.000	45	4,153,246	1.1
	Female	1	2,600	38.5	32.7	4.4	0.132	5,955	4,137,771	143.9
Breast - in situ	Total	-	5,349	-	-	0.9	0.826	1,064	8,291,017	12.8
	Male	-	2,749	-	-	0.0	1.000	3	4,153,246	0.1
	Female	-	2,600	-	-	0.8	0.907	1,061	4,137,771	25.6
Cervix	Female	-	2,600	-	-	0.2	1.000	259	4,137,771	6.3
Colorectal	Total	3	5,349	56.1	43.6	2.7	1.000	3,232	8,291,017	39.0
	Male	3	2,749	109.1	76.5	1.6	0.451	1,732	4,153,246	41.7
	Female	-	2,600	-	-	1.1	0.670	1,500	4,137,771	36.3
Corpus Uteri	Female	1	2,600	38.5	32.1	0.9	1.000	1,208	4,137,771	29.2
Esophagus	Total	-	5,349	-	-	0.4	1.000	469	8,291,017	5.7
	Male	-	2,749	-	-	0.4	1.000	388	4,153,246	9.3
	Female	-	2,600	-	-	0.1	1.000	81	4,137,771	2.0
Hodgkin Lymphoma	Total	-	5,349	-	-	0.1	1.000	199	8,291,017	2.4
	Male	-	2,749	-	-	0.1	1.000	108	4,153,246	2.6
	Female	-	2,600	-	-	0.1	1.000	91	4,137,771	2.2
Kidney and Renal Pelvis	Total	1	5,349	18.7	14.3	1.3	1.000	1,553	8,291,017	18.7
	Male	-	2,749	-	-	1.0	0.772	995	4,153,246	24.0
	Female	1	2,600	38.5	33.0	0.4	0.670	558	4,137,771	13.5
Larynx	Total	-	5,349	-	-	0.2	1.000	209	8,291,017	2.5
	Male	-	2,749	-	-	0.2	1.000	168	4,153,246	4.0
	Female	-	2,600	-	-	0.0	1.000	41	4,137,771	1.0
Leukemia	Total	2	5,349	37.4	30.3	1.2	0.660	1,484	8,291,017	17.9
	Male	2	2,749	72.8	52.7	0.8	0.385	879	4,153,246	21.2
	Female	-	2,600	-	-	0.4	1.000	605	4,137,771	14.6
Liver and Bile Duct	Total	3	5,349	56.1	42.0	0.6	0.052	730	8,291,017	8.8
	Male	1	2,749	36.4	24.6	0.5	0.810	531	4,153,246	12.8
	Female	2	2,600	76.9	65.1	0.1	0.020 >>	199	4,137,771	4.8
Lung and Bronchus	Total	3	5,349	56.1	42.1	4.0	0.867	4,654	8,291,017	56.1
	Male	1	2,749	36.4	23.9	2.4	0.611	2,401	4,153,246	57.8
	Female	2	2,600	76.9	65.8	1.7	0.986	2,253	4,137,771	54.4
Melanoma of the Skin	Total	2	5,349	37.4	29.9	2.0	1.000	2,524	8,291,017	30.4
	Male	-	2,749	-	-	1.4	0.518	1,469	4,153,246	35.4
	Female	2	2,600	76.9	67.8	0.8	0.348	1,055	4,137,771	25.5
Myeloma	Total	-	5,349	-	-	0.5	1.000	608	8,291,017	7.3
	Male	-	2,749	-	-	0.4	1.000	357	4,153,246	8.6
	Female	-	2,600	-	-	0.2	1.000	251	4,137,771	6.1
Non-Hodgkin Lymphoma	Total	-	5,349	-	-	1.5	0.460	1,773	8,291,017	21.4
	Male	-	2,749	-	-	1.0	0.772	1,007	4,153,246	24.2
	Female	-	2,600	-	-	0.6	1.000	766	4,137,771	18.5
Oral Cavity and Pharynx	Total	2	5,349	37.4	28.5	1.0	0.520	1,166	8,291,017	14.1
	Male	-	2,749	-	-	0.8	0.899	826	4,153,246	19.9
	Female	2	2,600	76.9	66.0	0.2	0.053	340	4,137,771	8.2
Ovary	Female	1	2,600	38.5	33.2	0.4	0.628	518	4,137,771	12.5
Pancreas	Total	-	5,349	-	-	1.1	0.663	1,304	8,291,017	15.7
	Male	-	2,749	-	-	0.7	1.000	702	4,153,246	16.9
	Female	-	2,600	-	-	0.4	1.000	602	4,137,771	14.5
Prostate	Male	4	2,749	145.5	93.3	5.2	0.818	5,023	4,153,246	120.9
Stomach	Total	-	5,349	-	-	0.4	1.000	488	8,291,017	5.9
	Male	-	2,749	-	-	0.3	1.000	318	4,153,246	7.7
	Female	-	2,600	-	-	0.1	1.000	170	4,137,771	4.1
Testis	Male	-	2,749	-	-	0.1	1.000	267	4,153,246	6.4
Thyroid	Total	2	5,349	37.4	32.9	0.9	0.469	1,254	8,291,017	15.1
	Male	-	2,749	-	-	0.3	1.000	332	4,153,246	8.0
	Female	2	2,600	76.9	71.0	0.6	0.262	922	4,137,771	22.3
Pediatric Age 0 to 19	Total	-	1,358	-	-	0.2	1.000	435	2,399,164	18.1
	Male	-	654	-	-	0.1	1.000	234	1,225,248	19.1
	Female	-	704	-	-	0.1	1.000	201	1,173,916	17.1

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

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

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

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

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

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

TABLE 4: CANCER MORTALITY 2014–2018
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	43	5,432	791.6	626.5	54.7	0.121	67,237	8,433,612	797.3
	Male	27	2,781	970.9	698.8	32.2	0.417	35,159	4,225,099	832.1
	Female	16	2,651	603.5	521.4	23.4	0.142	32,078	4,208,513	762.2
All Malignant Cancers	Total	19	5,432	349.8	267.0	12.3	0.091	14,566	8,433,612	172.7
	Male	14	2,781	503.4	344.1	7.6	0.047 **>>**	7,887	4,225,099	186.7
	Female	5	2,651	188.6	160.0	5.0	1.000	6,679	4,208,513	158.7
Bladder	Total	2	5,432	36.8	28.3	0.4	0.100	424	8,433,612	5.0
	Male	2	2,781	71.9	49.6	0.3	0.075	317	4,225,099	7.5
	Female	-	2,651	-	-	0.1	1.000	107	4,208,513	2.5
Brain and Other Nervous System	Total	1	5,432	18.4	14.2	0.4	0.677	496	8,433,612	5.9
	Male	1	2,781	36.0	25.3	0.3	0.508	314	4,225,099	7.4
	Female	-	2,651	-	-	0.1	1.000	182	4,208,513	4.3
Breast	Total	-	5,432	-	-	0.9	0.800	1,087	8,433,612	12.9
	Male	-	2,781	-	-	0.0	1.000	10	4,225,099	0.2
	Female	-	2,651	-	-	0.8	0.897	1,077	4,208,513	25.6
Cervix	Female	-	2,651	-	-	0.1	1.000	80	4,208,513	1.9
Colorectal	Total	3	5,432	55.2	42.5	1.0	0.169	1,223	8,433,612	14.5
	Male	2	2,781	71.9	50.6	0.6	0.255	660	4,225,099	15.6
	Female	1	2,651	37.7	31.9	0.4	0.685	563	4,208,513	13.4
Corpus Uteri	Female	-	2,651	-	-	0.1	1.000	153	4,208,513	3.6
Esophagus	Total	-	5,432	-	-	0.4	1.000	471	8,433,612	5.6
	Male	-	2,781	-	-	0.4	1.000	380	4,225,099	9.0
	Female	-	2,651	-	-	0.1	1.000	91	4,208,513	2.2
Hodgkin Lymphoma	Total	-	5,432	-	-	0.0	1.000	21	8,433,612	0.2
	Male	-	2,781	-	-	0.0	1.000	8	4,225,099	0.2
	Female	-	2,651	-	-	0.0	1.000	13	4,208,513	0.3
Kidney	Total	-	5,432	-	-	0.3	1.000	370	8,433,612	4.4
	Male	-	2,781	-	-	0.2	1.000	242	4,225,099	5.7
	Female	-	2,651	-	-	0.1	1.000	128	4,208,513	3.0
Larynx	Total	1	5,432	18.4	14.4	0.1	0.099	62	8,433,612	0.7
	Male	1	2,781	36.0	27.1	0.0	0.089	52	4,225,099	1.2
	Female	-	2,651	-	-	0.0	1.000	10	4,208,513	0.2
Leukemia	Total	-	5,432	-	-	0.5	1.000	616	8,433,612	7.3
	Male	-	2,781	-	-	0.3	1.000	358	4,225,099	8.5
	Female	-	2,651	-	-	0.2	1.000	258	4,208,513	6.1
Liver and Bile Duct	Total	2	5,432	36.8	27.6	0.5	0.188	596	8,433,612	7.1
	Male	1	2,781	36.0	24.2	0.4	0.663	411	4,225,099	9.7
	Female	1	2,651	37.7	31.7	0.1	0.259	185	4,208,513	4.4
Lung and Bronchus	Total	2	5,432	36.8	27.6	2.7	0.997	3,123	8,433,612	37.0
	Male	1	2,781	36.0	23.9	1.6	1.000	1,666	4,225,099	39.4
	Female	1	2,651	37.7	31.9	1.1	1.000	1,457	4,208,513	34.6
Melanoma of the Skin	Total	1	5,432	18.4	14.4	0.2	0.410	279	8,433,612	3.3
	Male	-	2,781	-	-	0.2	1.000	187	4,225,099	4.4
	Female	1	2,651	37.7	32.6	0.1	0.130	92	4,208,513	2.2
Myeloma	Total	-	5,432	-	-	0.3	1.000	329	8,433,612	3.9
	Male	-	2,781	-	-	0.2	1.000	195	4,225,099	4.6
	Female	-	2,651	-	-	0.1	1.000	134	4,208,513	3.2
Non-Hodgkin Lymphoma	Total	-	5,432	-	-	0.5	1.000	570	8,433,612	6.8
	Male	-	2,781	-	-	0.3	1.000	319	4,225,099	7.6
	Female	-	2,651	-	-	0.2	1.000	251	4,208,513	6.0
Oral Cavity and Pharynx	Total	1	5,432	18.4	14.0	0.2	0.343	222	8,433,612	2.6
	Male	-	2,781	-	-	0.1	1.000	152	4,225,099	3.6
	Female	1	2,651	37.7	32.1	0.1	0.101	70	4,208,513	1.7
Ovary	Female	-	2,651	-	-	0.3	1.000	363	4,208,513	8.6
Pancreas	Total	-	5,432	-	-	0.9	0.794	1,079	8,433,612	12.8
	Male	-	2,781	-	-	0.6	1.000	592	4,225,099	14.0
	Female	-	2,651	-	-	0.4	1.000	487	4,208,513	11.6
Prostate	Male	1	2,781	36.0	24.6	0.9	1.000	934	4,225,099	22.1
Stomach	Total	-	5,432	-	-	0.2	1.000	210	8,433,612	2.5
	Male	-	2,781	-	-	0.1	1.000	122	4,225,099	2.9
	Female	-	2,651	-	-	0.1	1.000	88	4,208,513	2.1

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, 2019.

Cancer Screening and Risk Factors

The Bureau of Vital Records and Health Statistics (BVRHS), Division of Public Health, 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) with randomly selected adult Idahoans to measure population prevalences of risk factors for the major causes of death, including cancer, since 1984. BVRHS provided data sets containing Behavioral Risk Factor Surveillance System (BRFSS) data from 2011 through 2018 to CDRI staff, who performed the analyses reported in these *County Profiles*. Analysis weights were poststratified to 2018 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, 2011–2018

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 (2014–2018)	81.2%	80.6%	84.5%	74.6%	84.7%	75.5%	83.3%	83.8%	.
Not See Doctor Due to Cost in Past Year (2014–2018)	14.3%	13.9%	12.2%	18.1%	13.6%	14.3%	12.5%	13.9%	.
Cancer Screening									
Mammogram Past 2 Years, Age 50–74 (2014, 2016, 2018)	67.5%	66.8%	72.1%	63.2%	72.9%	61.0%	64.6%	66.8%	.
Pap Test Past 3 Years, Cervix Intact Age 21–65 (2016, 2018)	72.5%	74.8%	74.3%	72.1%	73.0%	71.7%	72.7%	68.6%	.
Colorectal Cancer Screening, Age 50–75 (2016, 2018)	65.4%	64.9%	71.3%	62.6%	68.9%	60.3%	62.1%	65.3%	.
Tobacco Use									
Current Smoker (2014–2018)	14.6%	17.1%	15.1%	16.8%	13.1%	16.2%	14.4%	10.4%	.
Current Smokeless Tobacco User, Males (2014–2018)	9.5%	10.6%	14.0%	11.1%	8.4%	8.9%	8.4%	7.3%	.
Other Cancer-Related									
Sunburn in Previous 12 Months (2018)	47.7%	42.3%	49.0%	41.6%	50.8%	42.8%	49.9%	56.6%	.
Artificial Tanning Appliance Use (2011, 2014, 2016)	4.4%	5.5%	3.3%	3.3%	3.4%	4.2%	5.7%	6.8%	.
Healthy Weight by Body Mass Index, Age 20+ (2014–2018)	32.6%	34.2%	32.9%	27.0%	36.3%	31.1%	29.4%	32.4%	.
Meet Physical Activity Guidelines (2011, 2013, 2015, 2017)	22.1%	22.1%	19.9%	20.6%	26.1%	18.8%	20.0%	20.1%	.
Home Ever Tested for Radon (2016, 2018)	22.7%	29.7%	19.5%	16.3%	24.1%	20.2%	23.3%	22.7%	.

Access to Care

Have Health Insurance – 2014–2018
Statewide, 81.2% of adults aged 18–64 reported having health care coverage. Health care coverage differed significantly by race/ethnicity, with 84.5% of white non-Hispanics, compared to 59.8% of Hispanics and 79.9% of Native Americans, having health insurance. Spanish-speaking respondents were significantly less likely to be insured (33.1%) than English-speaking respondents (83.1%). Health care coverage differed significantly by age of respondent, with 76.4% of persons aged 30–39, and 86.5% of persons aged 50–64, having health insurance. Health care coverage differed significantly by county, with a range of 57.4% in Adams County to 91.7% in Oneida County having health insurance.

Not See Doctor Due to Cost in Past Year – 2014–2018
Statewide, 14.3% 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 (13.2% of white non-Hispanics, 21.4% of Hispanics, and 23.1% of Native Americans). Inability to see a doctor due to cost differed significantly by annual household income (27.4% for less than $15,000, 6.7% for greater than $50,000). Inability to see a doctor due to cost differed significantly by county, with a range of 7.0% in Caribou County to 20.2% in Jerome County.

Cancer Screening

Mammogram – 2014, 2016, 2018
Statewide, 67.5% 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 (70.7% versus 34.0%). Mammography rates differed significantly by county, with a range in screening of 47.3% in Gooding County to 77.5% in Nez Perce County. In 2018, Idaho ranked 49th among states and the District of Columbia for mammography screening rates among women aged 50–74 and 50th among ages 40+.

Pap Test – 2016, 2018
Statewide, 72.5% 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 (77.3% versus 54.2% screened in the past 3 years). Pap screening differed significantly by county, with a range of 60.5% in Idaho County to 79.2% in Latah County. In 2018, Idaho ranked 51st among states and the District of Columbia for Pap screening rate.

Colorectal Cancer Screening – 2016, 2018
Statewide, 65.4% of adults aged 50–75 reported receiving colorectal cancer screening based on the most recent guidelines.** Persons with health insurance were over twice as likely to be current for colorectal cancer screening. In 2018, Idaho ranked 41st 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 Smoking – 2014–2018
Statewide, 14.6% of adults aged 18 and older were current smokers. Smoking prevalence differed significantly by age of respondent, with 19.2% of persons aged 30–39, and 8.4% of persons aged 65 and older reporting current smoking. Smoking prevalence was lower among white non-Hispanics (14.7%) than among Native Americans (32.4%). Smoking prevalence differed significantly by county, with a range of 4.3% in Madison County to 32.7% in Adams County. Counties with higher rates of current smoking had higher rates of lung cancer.

Smokeless Tobacco Use, Males – 2014–2018
Statewide, 9.5% of males aged 18 and older were current users of smokeless tobacco. Smokeless tobacco use differed significantly by age group, ranging from 12.8% of males aged 30–39 to 4.0% of males aged 65 and older. Smokeless tobacco use differed significantly by county, with a range of 3.4% in Franklin County to 21.1% in Custer County. Counties with higher rates of smokeless tobacco use had higher rates of oral cavity & pharynx cancer.

Other Cancer-Related

Sun Exposure – 2018
Statewide, 47.7% of adults aged 18 and older reported having sunburn in the past 12 months. Sunburn rates were higher for white non-Hispanics (49.6%) and Native Americans (48.7%) than for Hispanics (35.2%). Sunburn rates differed significantly by age group, with 67.2% of persons aged 30–39 and 17.9% of persons aged 65 and older having sunburn in the past 12 months. Sunburn rates differed significantly by county, with a range of 36.7% in Idaho County to 72.9% in Madison County having sunburn in the past 12 months.

Artificial Tanning Appliance Use – 2011, 2014, 2016
Statewide, 4.4% of adults aged 18 and older reported using an artificial tanning appliance, such as a tanning bed, in the past 12 months. Females (6.8%) were significantly more likely than males (2.1%) to have used an artificial tanning appliance in the past 12 months. Tanning appliance use differed significantly by age group, with 8.7% of persons aged 18–29 and 0.9% of persons aged 65 and older, using an appliance in the past 12 months. Tanning appliance use differed by county, with a range of less than 1% in Oneida, Power, and Valley Counties to over 9% in Bear Lake and Fremont Counties using an artificial tanning appliance in the past 12 months.

Healthy Weight by Body Mass Index – 2014–2018
Statewide, 32.6% 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 33.3% of white non-Hispanics, compared to 26.0% of Hispanics and 26.8% of Native Americans, being in the healthy weight range. Males (25.7%) were significantly less likely to be in the healthy weight range than females (39.4%). BMI differed significantly by age of respondent, with 45.0% of persons aged 18–29, and 27.1% of persons aged 50–64, being in the healthy weight range. BMI differed significantly by county, with a range of 19.5% in Minidoka County to 52.8% in Blaine County of adults being in the healthy weight range.

Physical Activity – 2011, 2013, 2015, 2017
Statewide, 22.1% of adults aged 18 and older met aerobic and strength physical activity guidelines during the past month or week. Physical activity differed significantly by age of respondent, with 26.3% of persons aged 18–29, and 19.3% of persons aged 50–64, meeting guidelines. The percentage of adults meeting physical activity guidelines differed significantly by county, with a range of 7.6% in Oneida County to 31.1% in Blaine County.

Home Radon Testing – 2016, 2018
Statewide, 22.7% of adults have ever tested their house for radon. Radon test usage varied significantly by race/ethnicity, with 24.7% of white non-Hispanics, 5.3% of Hispanics, and 27.9% 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 8.0% in Cassia County to 58.0% in Blaine County.

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CANYON COUNTY CANCER PROFILE

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

Cancer Incidence 2013–2017
Cancer Mortality 2014–2018
BRFSS 2011–2018

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 are due to personal lifestyle factors, such as smoking and sedentary lifestyle, and are preventable. Additional cancers are 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. 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.

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://health.gov/dietaryguidelines/2015.

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
615 N. 7th Street
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/contact-center

American Cancer Society
2676 S. Vista Avenue
Boise, ID 83705
208-343-4609
https://www.cancer.org

CANCER INCIDENCE 2013–2017

Nearly one in two Idahoans are estimated to develop cancer during their lifetime. During 2013–2017, 40,996 cases of invasive cancer were diagnosed among Idaho residents, and 4,760 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, 2013–2017

Cancer Incidence 2013–2017	Canyon County	State of Idaho
All Sites/Types	**4,760**	**40,996**
Female Breast	**705**	**5,956**
Prostate	**544**	**5,027**
Lung & Bronchus	**553**	**4,657**
Colorectal	**384**	**3,235**

Table 3 (*Cancer Incidence 2013–2017, 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 rate of invasive cancer incidence in Canyon County was 459.3 cases per 100,000 person-years per year during 2013–2017. Comparing this crude rate with the crude rate for the remainder of Idaho (499.1) 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 525.2 cases per 100,000 persons per year during 2013–2017. There were statistically significantly more cases of cancer in Canyon County (4,760) than expected (4,524.0) 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 2014–2018

During 2014–2018, cancer was the second leading cause of death in Idaho; 14,585 Idaho residents and 1,623 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, 2014–2018

Mortality 2014–2018	Canyon County	State of Idaho
All Deaths	**7,524**	**67,280**
Cancer Deaths	**1,623**	**14,585**
% of All Deaths	*21.6%*	*21.7%*
Lung & Bronchus	**342**	**3,125**
Colorectal	**143**	**1,226**
Pancreas	**129**	**1,079**
Female Breast	**131**	**1,077**
Prostate	**91**	**935**

Table 4 (*Cancer Mortality 2014–2018, 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 179.0 deaths per 100,000 persons per year during 2014–2018, compared with 175.7 for the remainder of the state. There were more cancer deaths in Canyon County (1,623) than expected (1,592.8) 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 2013–2017
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	4,760	1,036,291	459.3	525.2	4,524.0	0.001 >>	36,236	7,260,075	499.1
	Male	2,373	512,687	462.9	538.4	2,277.4	0.047 >>	18,824	3,643,308	516.7
	Female	2,387	523,604	455.9	514.1	2,235.1	0.002 >>	17,412	3,616,767	481.4
Bladder	Total	208	1,036,291	20.1	23.5	220.3	0.427	1,807	7,260,075	24.9
	Male	161	512,687	31.4	37.3	167.1	0.673	1,409	3,643,308	38.7
	Female	47	523,604	9.0	10.4	49.7	0.774	398	3,616,767	11.0
Brain - malignant	Total	68	1,036,291	6.6	7.1	71.1	0.769	542	7,260,075	7.5
	Male	45	512,687	8.8	9.7	41.5	0.630	326	3,643,308	8.9
	Female	23	523,604	4.4	4.7	29.2	0.288	216	3,616,767	6.0
Brain and other CNS - non-malignant	Total	152	1,036,291	14.7	16.3	118.5	0.003 >>	920	7,260,075	12.7
	Male	54	512,687	10.5	11.6	38.2	0.019 >>	300	3,643,308	8.2
	Female	98	523,604	18.7	20.7	81.0	0.073	620	3,616,767	17.1
Breast	Total	706	1,036,291	68.1	77.0	668.3	0.152	5,295	7,260,075	72.9
	Male	1	512,687	0.2	0.2	5.2	0.068	44	3,643,308	1.2
	Female	705	523,604	134.6	151.4	675.9	0.272	5,251	3,616,767	145.2
Breast - in situ	Total	125	1,036,291	12.1	13.4	120.5	0.703	939	7,260,075	12.9
	Male	-	512,687	-	-	0.4	1.000	3	3,643,308	0.1
	Female	125	523,604	23.9	26.5	122.2	0.824	936	3,616,767	25.9
Cervix	Female	38	523,604	7.3	7.6	30.6	0.217	221	3,616,767	6.1
Colorectal	Total	384	1,036,291	37.1	42.6	354.2	0.122	2,851	7,260,075	39.3
	Male	192	512,687	37.4	43.4	187.3	0.750	1,543	3,643,308	42.4
	Female	192	523,604	36.7	41.9	165.9	0.051	1,308	3,616,767	36.2
Corpus Uteri	Female	145	523,604	27.7	31.4	135.6	0.444	1,064	3,616,767	29.4
Esophagus	Total	46	1,036,291	4.4	5.1	52.1	0.444	423	7,260,075	5.8
	Male	36	512,687	7.0	8.2	42.4	0.365	352	3,643,308	9.7
	Female	10	523,604	1.9	2.2	8.9	0.787	71	3,616,767	2.0
Hodgkin Lymphoma	Total	29	1,036,291	2.8	2.9	23.5	0.306	170	7,260,075	2.3
	Male	18	512,687	3.5	3.6	12.3	0.147	90	3,643,308	2.5
	Female	11	523,604	2.1	2.2	11.2	1.000	80	3,616,767	2.2
Kidney and Renal Pelvis	Total	213	1,036,291	20.6	23.5	167.3	0.001 >>	1,341	7,260,075	18.5
	Male	127	512,687	24.8	28.6	105.9	0.050	868	3,643,308	23.8
	Female	86	523,604	16.4	18.7	60.2	0.002 >>	473	3,616,767	13.1
Larynx	Total	23	1,036,291	2.2	2.6	22.7	1.000	186	7,260,075	2.6
	Male	19	512,687	3.7	4.4	17.7	0.814	149	3,643,308	4.1
	Female	4	523,604	0.8	0.9	4.7	0.984	37	3,616,767	1.0
Leukemia	Total	195	1,036,291	18.8	21.2	163.4	0.017 >>	1,291	7,260,075	17.8
	Male	106	512,687	20.7	23.5	95.8	0.320	775	3,643,308	21.3
	Female	89	523,604	17.0	19.0	66.7	0.010 >>	516	3,616,767	14.3
Liver and Bile Duct	Total	90	1,036,291	8.7	10.1	78.9	0.235	643	7,260,075	8.9
	Male	64	512,687	12.5	14.7	56.0	0.319	468	3,643,308	12.8
	Female	26	523,604	5.0	5.7	22.1	0.454	175	3,616,767	4.8
Lung and Bronchus	Total	553	1,036,291	53.4	62.4	501.2	0.024 >>	4,104	7,260,075	56.5
	Male	292	512,687	57.0	67.5	250.7	0.012 >>	2,110	3,643,308	57.9
	Female	261	523,604	49.8	57.8	249.1	0.468	1,994	3,616,767	55.1
Melanoma of the Skin	Total	230	1,036,291	22.2	25.0	291.0	0.000 <<	2,296	7,260,075	31.6
	Male	126	512,687	24.6	28.3	164.0	0.002 <<	1,343	3,643,308	36.9
	Female	104	523,604	19.9	21.8	125.7	0.054	953	3,616,767	26.3
Myeloma	Total	64	1,036,291	6.2	7.2	66.7	0.801	544	7,260,075	7.5
	Male	31	512,687	6.0	7.1	39.2	0.215	326	3,643,308	8.9
	Female	33	523,604	6.3	7.3	27.2	0.309	218	3,616,767	6.0
Non-Hodgkin Lymphoma	Total	212	1,036,291	20.5	23.4	194.5	0.224	1,561	7,260,075	21.5
	Male	122	512,687	23.8	27.5	107.8	0.191	885	3,643,308	24.3
	Female	90	523,604	17.2	19.6	85.8	0.678	676	3,616,767	18.7
Oral Cavity and Pharynx	Total	150	1,036,291	14.5	16.6	126.9	0.049 >>	1,018	7,260,075	14.0
	Male	101	512,687	19.7	22.8	88.2	0.193	725	3,643,308	19.9
	Female	49	523,604	9.4	10.6	37.4	0.079	293	3,616,767	8.1
Ovary	Female	55	523,604	10.5	11.9	59.4	0.624	464	3,616,767	12.8
Pancreas	Total	151	1,036,291	14.6	17.0	141.1	0.425	1,153	7,260,075	15.9
	Male	77	512,687	15.0	17.7	74.8	0.832	625	3,643,308	17.2
	Female	74	523,604	14.1	16.4	65.9	0.348	528	3,616,767	14.6
Prostate	Male	544	512,687	106.1	124.8	536.4	0.755	4,483	3,643,308	123.0
Stomach	Total	67	1,036,291	6.5	7.5	51.9	0.049 >>	421	7,260,075	5.8
	Male	36	512,687	7.0	8.2	33.8	0.754	282	3,643,308	7.7
	Female	31	523,604	5.9	6.8	17.5	0.005 >>	139	3,616,767	3.8
Testis	Male	34	512,687	6.6	6.7	32.4	0.829	233	3,643,308	6.4
Thyroid	Total	126	1,036,291	12.2	12.9	151.6	0.037 <<	1,130	7,260,075	15.6
	Male	33	512,687	6.4	7.0	38.7	0.411	299	3,643,308	8.2
	Female	93	523,604	17.8	18.7	114.4	0.045 <<	831	3,616,767	23.0
Pediatric Age 0 to 19	Total	55	337,492	16.3	16.4	61.9	0.419	380	2,063,030	18.4
	Male	32	172,185	18.6	18.7	32.8	0.976	202	1,053,717	19.2
	Female	23	165,307	13.9	13.9	29.1	0.299	178	1,009,313	17.6

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

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

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

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

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

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

TABLE 4: CANCER MORTALITY 2014–2018
COMPARISON BETWEEN CANYON COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cause of Death Cancer Site/Type	Sex	Canyon 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	7,524	1,061,148	709.0	830.6	7,336.9	0.030 >>	59,756	7,377,896	809.9
	Male	3,924	525,075	747.3	881.0	3,760.4	0.008 >>	31,262	3,702,805	844.3
	Female	3,600	536,073	671.6	785.6	3,552.9	0.434	28,494	3,675,091	775.3
All Malignant Cancers	Total	1,623	1,061,148	152.9	179.0	1,592.8	0.455	12,962	7,377,896	175.7
	Male	864	525,075	164.5	195.4	840.2	0.420	7,037	3,702,805	190.0
	Female	759	536,073	141.6	164.1	745.8	0.638	5,925	3,675,091	161.2
Bladder	Total	43	1,061,148	4.1	4.8	46.0	0.725	383	7,377,896	5.2
	Male	32	525,075	6.1	7.4	33.3	0.906	287	3,702,805	7.8
	Female	11	536,073	2.1	2.4	11.9	0.954	96	3,675,091	2.6
Brain and Other Nervous System	Total	54	1,061,148	5.1	5.8	56.2	0.838	443	7,377,896	6.0
	Male	37	525,075	7.0	8.1	34.5	0.711	278	3,702,805	7.5
	Female	17	536,073	3.2	3.6	21.3	0.413	165	3,675,091	4.5
Breast	Total	131	1,061,148	12.3	14.3	118.7	0.281	956	7,377,896	13.0
	Male	-	525,075	-	-	1.2	0.626	10	3,702,805	0.3
	Female	131	536,073	24.4	28.1	120.0	0.339	946	3,675,091	25.7
Cervix	Female	11	536,073	2.1	2.3	9.2	0.626	69	3,675,091	1.9
Colorectal	Total	143	1,061,148	13.5	15.7	133.4	0.426	1,083	7,377,896	14.7
	Male	69	525,075	13.1	15.5	71.4	0.837	593	3,702,805	16.0
	Female	74	536,073	13.8	16.0	61.5	0.133	490	3,675,091	13.3
Corpus Uteri	Female	20	536,073	3.7	4.3	16.7	0.479	133	3,675,091	3.6
Esophagus	Total	57	1,061,148	5.4	6.3	50.8	0.422	414	7,377,896	5.6
	Male	44	525,075	8.4	9.9	40.3	0.601	336	3,702,805	9.1
	Female	13	536,073	2.4	2.9	9.7	0.356	78	3,675,091	2.1
Hodgkin Lymphoma	Total	3	1,061,148	0.3	0.3	2.3	0.832	18	7,377,896	0.2
	Male	1	525,075	0.2	0.2	0.9	1.000	7	3,702,805	0.2
	Female	2	536,073	0.4	0.4	1.4	0.842	11	3,675,091	0.3
Kidney	Total	53	1,061,148	5.0	5.9	38.8	0.035 >>	317	7,377,896	4.3
	Male	36	525,075	6.9	8.1	24.7	0.038 >>	206	3,702,805	5.6
	Female	17	536,073	3.2	3.7	13.8	0.449	111	3,675,091	3.0
Larynx	Total	8	1,061,148	0.8	0.9	6.6	0.684	55	7,377,896	0.7
	Male	6	525,075	1.1	1.4	5.5	0.940	47	3,702,805	1.3
	Female	2	536,073	0.4	0.4	1.0	0.518	8	3,675,091	0.2
Leukemia	Total	69	1,061,148	6.5	7.6	67.5	0.891	547	7,377,896	7.4
	Male	38	525,075	7.2	8.5	38.5	1.000	320	3,702,805	8.6
	Female	31	536,073	5.8	6.7	28.6	0.702	227	3,675,091	6.2
Liver and Bile Duct	Total	69	1,061,148	6.5	7.6	65.2	0.666	529	7,377,896	7.2
	Male	47	525,075	9.0	10.6	43.9	0.676	365	3,702,805	9.9
	Female	22	536,073	4.1	4.7	20.7	0.832	164	3,675,091	4.5
Lung and Bronchus	Total	342	1,061,148	32.2	37.8	340.9	0.968	2,783	7,377,896	37.7
	Male	191	525,075	36.4	43.3	176.0	0.276	1,476	3,702,805	39.9
	Female	151	536,073	28.2	32.8	163.7	0.339	1,307	3,675,091	35.6
Melanoma of the Skin	Total	19	1,061,148	1.8	2.1	32.3	0.016 <<	261	7,377,896	3.5
	Male	10	525,075	1.9	2.2	21.3	0.010 <<	177	3,702,805	4.8
	Female	9	536,073	1.7	1.9	10.6	0.764	84	3,675,091	2.3
Myeloma	Total	35	1,061,148	3.3	3.9	35.6	1.000	294	7,377,896	4.0
	Male	20	525,075	3.8	4.6	20.7	1.000	175	3,702,805	4.7
	Female	15	536,073	2.8	3.3	14.7	1.000	119	3,675,091	3.2
Non-Hodgkin Lymphoma	Total	57	1,061,148	5.4	6.4	62.4	0.544	513	7,377,896	7.0
	Male	33	525,075	6.3	7.5	34.1	0.939	286	3,702,805	7.7
	Female	24	536,073	4.5	5.3	28.0	0.525	227	3,675,091	6.2
Oral Cavity and Pharynx	Total	16	1,061,148	1.5	1.8	25.4	0.064	207	7,377,896	2.8
	Male	9	525,075	1.7	2.0	17.2	0.047 <<	143	3,702,805	3.9
	Female	7	536,073	1.3	1.5	7.9	0.923	64	3,675,091	1.7
Ovary	Female	40	536,073	7.5	8.6	40.7	1.000	323	3,675,091	8.8
Pancreas	Total	129	1,061,148	12.2	14.2	117.0	0.289	950	7,377,896	12.9
	Male	76	525,075	14.5	17.0	62.2	0.100	516	3,702,805	13.9
	Female	53	536,073	9.9	11.5	54.5	0.908	434	3,675,091	11.8
Prostate	Male	91	525,075	17.3	21.2	97.7	0.540	844	3,702,805	22.8
Stomach	Total	33	1,061,148	3.1	3.6	21.9	0.032 >>	177	7,377,896	2.4
	Male	18	525,075	3.4	4.0	12.6	0.174	104	3,702,805	2.8
	Female	15	536,073	2.8	3.2	9.2	0.100	73	3,675,091	2.0

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, 2019.

Cancer Screening and Risk Factors

The Bureau of Vital Records and Health Statistics (BVRHS), Division of Public Health, 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) with randomly selected adult Idahoans to measure population prevalences of risk factors for the major causes of death, including cancer, since 1984. BVRHS provided data sets containing Behavioral Risk Factor Surveillance System (BRFSS) data from 2011 through 2018 to CDRI staff, who performed the analyses reported in these *County Profiles*. Analysis weights were poststratified to 2018 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, 2011–2018

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 (2014–2018)	81.2%	80.6%	84.5%	74.6%	84.7%	75.5%	83.3%	83.8%	74.6%
Not See Doctor Due to Cost in Past Year (2014–2018)	14.3%	13.9%	12.2%	18.1%	13.6%	14.3%	12.5%	13.9%	18.5%
Cancer Screening									
Mammogram Past 2 Years, Age 50–74 (2014, 2016, 2018)	67.5%	66.8%	72.1%	63.2%	72.9%	61.0%	64.6%	66.8%	62.6%
Pap Test Past 3 Years, Cervix Intact Age 21–65 (2016, 2018)	72.5%	74.8%	74.3%	72.1%	73.0%	71.7%	72.7%	68.6%	73.4%
Colorectal Cancer Screening, Age 50–75 (2016, 2018)	65.4%	64.9%	71.3%	62.6%	68.9%	60.3%	62.1%	65.3%	62.4%
Tobacco Use									
Current Smoker (2014–2018)	14.6%	17.1%	15.1%	16.8%	13.1%	16.2%	14.4%	10.4%	15.8%
Current Smokeless Tobacco User, Males (2014–2018)	9.5%	10.6%	14.0%	11.1%	8.4%	8.9%	8.4%	7.3%	10.6%
Other Cancer-Related									
Sunburn in Previous 12 Months (2018)	47.7%	42.3%	49.0%	41.6%	50.8%	42.8%	49.9%	56.6%	40.7%
Artificial Tanning Appliance Use (2011, 2014, 2016)	4.4%	5.5%	3.3%	3.3%	3.4%	4.2%	5.7%	6.8%	3.2%
Healthy Weight by Body Mass Index, Age 20+ (2014–2018)	32.6%	34.2%	32.9%	27.0%	36.3%	31.1%	29.4%	32.4%	27.6%
Meet Physical Activity Guidelines (2011, 2013, 2015, 2017)	22.1%	22.1%	19.9%	20.6%	26.1%	18.8%	20.0%	20.1%	21.2%
Home Ever Tested for Radon (2016, 2018)	22.7%	29.7%	19.5%	16.3%	24.1%	20.2%	23.3%	22.7%	15.0%

Access to Care

Have Health Insurance – 2014–2018
Statewide, 81.2% of adults aged 18–64 reported having health care coverage. Health care coverage differed significantly by race/ethnicity, with 84.5% of white non-Hispanics, compared to 59.8% of Hispanics and 79.9% of Native Americans, having health insurance. Spanish-speaking respondents were significantly less likely to be insured (33.1%) than English-speaking respondents (83.1%). Health care coverage differed significantly by age of respondent, with 76.4% of persons aged 30–39, and 86.5% of persons aged 50–64, having health insurance. Health care coverage differed significantly by county, with a range of 57.4% in Adams County to 91.7% in Oneida County having health insurance.

Not See Doctor Due to Cost in Past Year – 2014–2018
Statewide, 14.3% 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 (13.2% of white non-Hispanics, 21.4% of Hispanics, and 23.1% of Native Americans). Inability to see a doctor due to cost differed significantly by annual household income (27.4% for less than $15,000, 6.7% for greater than $50,000). Inability to see a doctor due to cost differed significantly by county, with a range of 7.0% in Caribou County to 20.2% in Jerome County.

Cancer Screening

Mammogram – 2014, 2016, 2018
Statewide, 67.5% 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 (70.7% versus 34.0%). Mammography rates differed significantly by county, with a range in screening of 47.3% in Gooding County to 77.5% in Nez Perce County. In 2018, Idaho ranked 49th among states and the District of Columbia for mammography screening rates among women aged 50–74 and 50th among ages 40+.

Pap Test – 2016, 2018
Statewide, 72.5% 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 (77.3% versus 54.2% screened in the past 3 years). Pap screening differed significantly by county, with a range of 60.5% in Idaho County to 79.2% in Latah County. In 2018, Idaho ranked 51st among states and the District of Columbia for Pap screening rate.

Colorectal Cancer Screening – 2016, 2018
Statewide, 65.4% of adults aged 50–75 reported receiving colorectal cancer screening based on the most recent guidelines.** Persons with health insurance were over twice as likely to be current for colorectal cancer screening. In 2018, Idaho ranked 41st 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 Smoking – 2014–2018
Statewide, 14.6% of adults aged 18 and older were current smokers. Smoking prevalence differed significantly by age of respondent, with 19.2% of persons aged 30–39, and 8.4% of persons aged 65 and older reporting current smoking. Smoking prevalence was lower among white non-Hispanics (14.7%) than among Native Americans (32.4%). Smoking prevalence differed significantly by county, with a range of 4.3% in Madison County to 32.7% in Adams County. Counties with higher rates of current smoking had higher rates of lung cancer.

Smokeless Tobacco Use, Males – 2014–2018
Statewide, 9.5% of males aged 18 and older were current users of smokeless tobacco. Smokeless tobacco use differed significantly by age group, ranging from 12.8% of males aged 30–39 to 4.0% of males aged 65 and older. Smokeless tobacco use differed significantly by county, with a range of 3.4% in Franklin County to 21.1% in Custer County. Counties with higher rates of smokeless tobacco use had higher rates of oral cavity & pharynx cancer.

Other Cancer-Related

Sun Exposure – 2018
Statewide, 47.7% of adults aged 18 and older reported having sunburn in the past 12 months. Sunburn rates were higher for white non-Hispanics (49.6%) and Native Americans (48.7%) than for Hispanics (35.2%). Sunburn rates differed significantly by age group, with 67.2% of persons aged 30–39 and 17.9% of persons aged 65 and older having sunburn in the past 12 months. Sunburn rates differed significantly by county, with a range of 36.7% in Idaho County to 72.9% in Madison County having sunburn in the past 12 months.

Artificial Tanning Appliance Use – 2011, 2014, 2016
Statewide, 4.4% of adults aged 18 and older reported using an artificial tanning appliance, such as a tanning bed, in the past 12 months. Females (6.8%) were significantly more likely than males (2.1%) to have used an artificial tanning appliance in the past 12 months. Tanning appliance use differed significantly by age group, with 8.7% of persons aged 18–29 and 0.9% of persons aged 65 and older, using an appliance in the past 12 months. Tanning appliance use differed by county, with a range of less than 1% in Oneida, Power, and Valley Counties to over 9% in Bear Lake and Fremont Counties using an artificial tanning appliance in the past 12 months.

Healthy Weight by Body Mass Index – 2014–2018
Statewide, 32.6% 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 33.3% of white non-Hispanics, compared to 26.0% of Hispanics and 26.8% of Native Americans, being in the healthy weight range. Males (25.7%) were significantly less likely to be in the healthy weight range than females (39.4%). BMI differed significantly by age of respondent, with 45.0% of persons aged 18–29, and 27.1% of persons aged 50–64, being in the healthy weight range. BMI differed significantly by county, with a range of 19.5% in Minidoka County to 52.8% in Blaine County of adults being in the healthy weight range.

Physical Activity – 2011, 2013, 2015, 2017
Statewide, 22.1% of adults aged 18 and older met aerobic and strength physical activity guidelines during the past month or week. Physical activity differed significantly by age of respondent, with 26.3% of persons aged 18–29, and 19.3% of persons aged 50–64, meeting guidelines. The percentage of adults meeting physical activity guidelines differed significantly by county, with a range of 7.6% in Oneida County to 31.1% in Blaine County.

Home Radon Testing – 2016, 2018
Statewide, 22.7% of adults have ever tested their house for radon. Radon test usage varied significantly by race/ethnicity, with 24.7% of white non-Hispanics, 5.3% of Hispanics, and 27.9% 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 8.0% in Cassia County to 58.0% in Blaine County.

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CARIBOU COUNTY CANCER PROFILE

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

Cancer Incidence 2013–2017
Cancer Mortality 2014–2018
BRFSS 2011–2018

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 are due to personal lifestyle factors, such as smoking and sedentary lifestyle, and are preventable. Additional cancers are 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. 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.

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://health.gov/dietaryguidelines/2015.

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
615 N. 7th Street
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/contact-center

American Cancer Society
2676 S. Vista Avenue
Boise, ID 83705
208-343-4609
https://www.cancer.org

CANCER INCIDENCE 2013–2017

Nearly one in two Idahoans are estimated to develop cancer during their lifetime. During 2013–2017, 40,996 cases of invasive cancer were diagnosed among Idaho residents, and 165 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, 2013–2017

Cancer Incidence 2013–2017	Caribou County	State of Idaho
All Sites/Types	**165**	**40,996**
Female Breast	**20**	**5,956**
Prostate	**36**	**5,027**
Lung & Bronchus	**16**	**4,657**
Colorectal	**12**	**3,235**

Table 3 (*Cancer Incidence 2013–2017, 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 rate of invasive cancer incidence in Caribou County was 480.3 cases per 100,000 person-years per year during 2013–2017. Comparing this crude rate with the crude rate for the remainder of Idaho (494.2) gives an estimate of the relative burden of disease in Caribou County.

The age- and sex-adjusted incidence rate of invasive cancer in Caribou County, all sites combined, was 430.7 cases per 100,000 persons per year during 2013–2017. There were fewer cases of cancer in Caribou County (165) than expected (189.3) 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 2014–2018

During 2014–2018, cancer was the second leading cause of death in Idaho; 14,585 Idaho residents and 56 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, 2014–2018

Mortality 2014–2018	Caribou County	State of Idaho
All Deaths	**325**	**67,280**
Cancer Deaths	**56**	**14,585**
% of All Deaths	*17.2%*	*21.7%*
Lung & Bronchus	**7**	**3,125**
Colorectal	**4**	**1,226**
Pancreas	**7**	**1,079**
Female Breast	**5**	**1,077**
Prostate	**1**	**935**

Table 4 (*Cancer Mortality 2014–2018, 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 141.3 deaths per 100,000 persons per year during 2014–2018, compared with 172.9 for the remainder of the state. There were fewer cancer deaths in Caribou County (56) than expected (68.5) 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 2013–2017
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	165	34,356	480.3	430.7	189.3	0.079	40,831	8,262,010	494.2
	Male	94	17,451	538.7	485.1	98.8	0.675	21,103	4,138,544	509.9
	Female	71	16,905	420.0	377.0	90.1	0.044 <<	19,728	4,123,466	478.4
Bladder	Total	4	34,356	11.6	10.0	9.7	0.071	2,011	8,262,010	24.3
	Male	4	17,451	22.9	20.1	7.5	0.262	1,566	4,138,544	37.8
	Female	-	16,905	-	-	2.1	0.238	445	4,123,466	10.8
Brain - malignant	Total	4	34,356	11.6	10.8	2.7	0.579	606	8,262,010	7.3
	Male	2	17,451	11.5	10.7	1.7	0.994	369	4,138,544	8.9
	Female	2	16,905	11.8	11.0	1.0	0.558	237	4,123,466	5.7
Brain and other CNS - non-malignant	Total	4	34,356	11.6	10.8	4.8	0.954	1,068	8,262,010	12.9
	Male	1	17,451	5.7	5.4	1.6	1.000	353	4,138,544	8.5
	Female	3	16,905	17.7	16.3	3.2	1.000	715	4,123,466	17.3
Breast	Total	20	34,356	58.2	53.5	27.1	0.198	5,981	8,262,010	72.4
	Male	-	17,451	-	-	0.2	1.000	45	4,138,544	1.1
	Female	20	16,905	118.3	107.9	26.7	0.225	5,936	4,123,466	144.0
Breast - in situ	Total	3	34,356	8.7	8.3	4.6	0.637	1,061	8,262,010	12.8
	Male	-	17,451	-	-	0.0	1.000	3	4,138,544	0.1
	Female	3	16,905	17.7	16.8	4.6	0.653	1,058	4,123,466	25.7
Cervix	Female	3	16,905	17.7	17.9	1.0	0.176	256	4,123,466	6.2
Colorectal	Total	12	34,356	34.9	31.2	15.0	0.537	3,223	8,262,010	39.0
	Male	8	17,451	45.8	41.5	8.0	1.000	1,727	4,138,544	41.7
	Female	4	16,905	23.7	20.8	7.0	0.353	1,496	4,123,466	36.3
Corpus Uteri	Female	8	16,905	47.3	43.8	5.3	0.337	1,201	4,123,466	29.1
Esophagus	Total	-	34,356	-	-	2.2	0.222	469	8,262,010	5.7
	Male	-	17,451	-	-	1.8	0.325	388	4,138,544	9.4
	Female	-	16,905	-	-	0.4	1.000	81	4,123,466	2.0
Hodgkin Lymphoma	Total	1	34,356	2.9	3.0	0.8	1.000	198	8,262,010	2.4
	Male	1	17,451	5.7	5.9	0.4	0.714	107	4,138,544	2.6
	Female	-	16,905	-	-	0.4	1.000	91	4,123,466	2.2
Kidney and Renal Pelvis	Total	3	34,356	8.7	7.8	7.2	0.146	1,551	8,262,010	18.8
	Male	2	17,451	11.5	10.5	4.6	0.329	993	4,138,544	24.0
	Female	1	16,905	5.9	5.2	2.6	0.540	558	4,123,466	13.5
Larynx	Total	1	34,356	2.9	2.6	1.0	1.000	208	8,262,010	2.5
	Male	-	17,451	-	-	0.8	0.899	168	4,138,544	4.1
	Female	1	16,905	5.9	5.4	0.2	0.331	40	4,123,466	1.0
Leukemia	Total	3	34,356	8.7	7.7	7.0	0.166	1,483	8,262,010	17.9
	Male	2	17,451	11.5	10.3	4.1	0.444	879	4,138,544	21.2
	Female	1	16,905	5.9	5.1	2.9	0.441	604	4,123,466	14.6
Liver and Bile Duct	Total	1	34,356	2.9	2.6	3.4	0.293	732	8,262,010	8.9
	Male	1	17,451	5.7	5.1	2.5	0.577	531	4,138,544	12.8
	Female	-	16,905	-	-	0.9	0.786	201	4,123,466	4.9
Lung and Bronchus	Total	16	34,356	46.6	40.1	22.4	0.205	4,641	8,262,010	56.2
	Male	7	17,451	40.1	35.3	11.5	0.231	2,395	4,138,544	57.9
	Female	9	16,905	53.2	45.0	10.9	0.705	2,246	4,123,466	54.5
Melanoma of the Skin	Total	14	34,356	40.7	37.4	11.4	0.508	2,512	8,262,010	30.4
	Male	10	17,451	57.3	52.4	6.7	0.287	1,459	4,138,544	35.3
	Female	4	16,905	23.7	22.2	4.6	1.000	1,053	4,123,466	25.5
Myeloma	Total	1	34,356	2.9	2.5	2.9	0.420	607	8,262,010	7.3
	Male	1	17,451	5.7	5.1	1.7	0.986	356	4,138,544	8.6
	Female	-	16,905	-	-	1.2	0.591	251	4,123,466	6.1
Non-Hodgkin Lymphoma	Total	10	34,356	29.1	25.8	8.3	0.633	1,763	8,262,010	21.3
	Male	7	17,451	40.1	36.2	4.7	0.383	1,000	4,138,544	24.2
	Female	3	16,905	17.7	15.5	3.6	1.000	763	4,123,466	18.5
Oral Cavity and Pharynx	Total	1	34,356	2.9	2.6	5.3	0.061	1,167	8,262,010	14.1
	Male	1	17,451	5.7	5.2	3.8	0.214	825	4,138,544	19.9
	Female	-	16,905	-	-	1.6	0.424	342	4,123,466	8.3
Ovary	Female	1	16,905	5.9	5.4	2.3	0.642	518	4,123,466	12.6
Pancreas	Total	7	34,356	20.4	17.7	6.2	0.851	1,297	8,262,010	15.7
	Male	4	17,451	22.9	20.4	3.3	0.841	698	4,138,544	16.9
	Female	3	16,905	17.7	15.1	2.9	1.000	599	4,123,466	14.5
Prostate	Male	36	17,451	206.3	185.2	23.4	0.019 >>	4,991	4,138,544	120.6
Stomach	Total	-	34,356	-	-	2.3	0.200	488	8,262,010	5.9
	Male	-	17,451	-	-	1.5	0.445	318	4,138,544	7.7
	Female	-	16,905	-	-	0.8	0.897	170	4,123,466	4.1
Testis	Male	2	17,451	11.5	12.6	1.0	0.542	265	4,138,544	6.4
Thyroid	Total	3	34,356	8.7	8.7	5.2	0.470	1,253	8,262,010	15.2
	Male	2	17,451	11.5	11.1	1.4	0.844	330	4,138,544	8.0
	Female	1	16,905	5.9	6.0	3.7	0.225	923	4,123,466	22.4
Pediatric Age 0 to 19	Total	-	10,610	-	-	1.9	0.296	435	2,389,912	18.2
	Male	-	5,475	-	-	1.0	0.704	234	1,220,427	19.2
	Female	-	5,135	-	-	0.9	0.835	201	1,169,485	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 2014–2018
COMPARISON BETWEEN CARIBOU COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cause of Death Cancer Site/Type	Sex	Caribou 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	325	34,591	939.6	814.7	317.8	0.702	66,955	8,404,453	796.7
	Male	174	17,605	988.4	880.8	164.3	0.468	35,012	4,210,275	831.6
	Female	151	16,986	889.0	748.8	153.6	0.877	31,943	4,194,178	761.6
All Malignant Cancers	Total	56	34,591	161.9	141.3	68.5	0.140	14,529	8,404,453	172.9
	Male	29	17,605	164.7	146.3	37.1	0.208	7,872	4,210,275	187.0
	Female	27	16,986	159.0	136.7	31.4	0.502	6,657	4,194,178	158.7
Bladder	Total	-	34,591	-	-	2.1	0.250	426	8,404,453	5.1
	Male	-	17,605	-	-	1.5	0.425	319	4,210,275	7.6
	Female	-	16,986	-	-	0.5	1.000	107	4,194,178	2.6
Brain and Other Nervous System	Total	5	34,591	14.5	13.3	2.2	0.146	492	8,404,453	5.9
	Male	3	17,605	17.0	15.8	1.4	0.336	312	4,210,275	7.4
	Female	2	16,986	11.8	10.8	0.8	0.379	180	4,194,178	4.3
Breast	Total	5	34,591	14.5	12.9	5.0	1.000	1,082	8,404,453	12.9
	Male	-	17,605	-	-	0.0	1.000	10	4,210,275	0.2
	Female	5	16,986	29.4	25.9	4.9	1.000	1,072	4,194,178	25.6
Cervix	Female	-	16,986	-	-	0.3	1.000	80	4,194,178	1.9
Colorectal	Total	4	34,591	11.6	10.2	5.7	0.651	1,222	8,404,453	14.5
	Male	2	17,605	11.4	10.2	3.1	0.814	660	4,210,275	15.7
	Female	2	16,986	11.8	10.2	2.6	1.000	562	4,194,178	13.4
Corpus Uteri	Female	-	16,986	-	-	0.7	0.978	153	4,194,178	3.6
Esophagus	Total	-	34,591	-	-	2.2	0.222	471	8,404,453	5.6
	Male	-	17,605	-	-	1.8	0.341	380	4,210,275	9.0
	Female	-	16,986	-	-	0.4	1.000	91	4,194,178	2.2
Hodgkin Lymphoma	Total	-	34,591	-	-	0.1	1.000	21	8,404,453	0.2
	Male	-	17,605	-	-	0.0	1.000	8	4,210,275	0.2
	Female	-	16,986	-	-	0.1	1.000	13	4,194,178	0.3
Kidney	Total	2	34,591	5.8	5.0	1.7	1.000	368	8,404,453	4.4
	Male	2	17,605	11.4	10.1	1.1	0.619	240	4,210,275	5.7
	Female	-	16,986	-	-	0.6	1.000	128	4,194,178	3.1
Larynx	Total	-	34,591	-	-	0.3	1.000	63	8,404,453	0.7
	Male	-	17,605	-	-	0.3	1.000	53	4,210,275	1.3
	Female	-	16,986	-	-	0.0	1.000	10	4,194,178	0.2
Leukemia	Total	3	34,591	8.7	7.5	2.9	1.000	613	8,404,453	7.3
	Male	-	17,605	-	-	1.7	0.371	358	4,210,275	8.5
	Female	3	16,986	17.7	14.7	1.2	0.258	255	4,194,178	6.1
Liver and Bile Duct	Total	1	34,591	2.9	2.6	2.8	0.472	597	8,404,453	7.1
	Male	1	17,605	5.7	5.1	1.9	0.864	411	4,210,275	9.8
	Female	-	16,986	-	-	0.9	0.836	186	4,194,178	4.4
Lung and Bronchus	Total	7	34,591	20.2	17.5	14.8	0.040 <<	3,118	8,404,453	37.1
	Male	4	17,605	22.7	20.2	7.8	0.220	1,663	4,210,275	39.5
	Female	3	16,986	17.7	15.0	6.9	0.169	1,455	4,194,178	34.7
Melanoma of the Skin	Total	1	34,591	2.9	2.6	1.3	1.000	279	8,404,453	3.3
	Male	1	17,605	5.7	5.1	0.9	1.000	186	4,210,275	4.4
	Female	-	16,986	-	-	0.4	1.000	93	4,194,178	2.2
Myeloma	Total	2	34,591	5.8	4.9	1.6	0.945	327	8,404,453	3.9
	Male	1	17,605	5.7	5.0	0.9	1.000	194	4,210,275	4.6
	Female	1	16,986	5.9	4.8	0.7	0.966	133	4,194,178	3.2
Non-Hodgkin Lymphoma	Total	9	34,591	26.0	22.2	2.7	0.004 >>	561	8,404,453	6.7
	Male	5	17,605	28.4	25.0	1.5	0.036 >>	314	4,210,275	7.5
	Female	4	16,986	23.5	19.4	1.2	0.070	247	4,194,178	5.9
Oral Cavity and Pharynx	Total	-	34,591	-	-	1.0	0.706	223	8,404,453	2.7
	Male	-	17,605	-	-	0.7	0.989	152	4,210,275	3.6
	Female	-	16,986	-	-	0.3	1.000	71	4,194,178	1.7
Ovary	Female	2	16,986	11.8	10.3	1.7	0.994	361	4,194,178	8.6
Pancreas	Total	7	34,591	20.2	17.7	5.0	0.490	1,072	8,404,453	12.8
	Male	4	17,605	22.7	20.4	2.7	0.587	588	4,210,275	14.0
	Female	3	16,986	17.7	15.0	2.3	0.815	484	4,194,178	11.5
Prostate	Male	1	17,605	5.7	4.9	4.6	0.117	934	4,210,275	22.2
Stomach	Total	-	34,591	-	-	1.0	0.747	210	8,404,453	2.5
	Male	-	17,605	-	-	0.6	1.000	122	4,210,275	2.9
	Female	-	16,986	-	-	0.4	1.000	88	4,194,178	2.1

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, 2019.

Cancer Screening and Risk Factors

The Bureau of Vital Records and Health Statistics (BVRHS), Division of Public Health, 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) with randomly selected adult Idahoans to measure population prevalences of risk factors for the major causes of death, including cancer, since 1984. BVRHS provided data sets containing Behavioral Risk Factor Surveillance System (BRFSS) data from 2011 through 2018 to CDRI staff, who performed the analyses reported in these *County Profiles*. Analysis weights were poststratified to 2018 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, 2011–2018

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 (2014–2018)	81.2%	80.6%	84.5%	74.6%	84.7%	75.5%	83.3%	83.8%	85.7%
Not See Doctor Due to Cost in Past Year (2014–2018)	14.3%	13.9%	12.2%	18.1%	13.6%	14.3%	12.5%	13.9%	7.0%
Cancer Screening									
Mammogram Past 2 Years, Age 50–74 (2014, 2016, 2018)	67.5%	66.8%	72.1%	63.2%	72.9%	61.0%	64.6%	66.8%	.
Pap Test Past 3 Years, Cervix Intact Age 21–65 (2016, 2018)	72.5%	74.8%	74.3%	72.1%	73.0%	71.7%	72.7%	68.6%	.
Colorectal Cancer Screening, Age 50–75 (2016, 2018)	65.4%	64.9%	71.3%	62.6%	68.9%	60.3%	62.1%	65.3%	.
Tobacco Use									
Current Smoker (2014–2018)	14.6%	17.1%	15.1%	16.8%	13.1%	16.2%	14.4%	10.4%	14.2%
Current Smokeless Tobacco User, Males (2014–2018)	9.5%	10.6%	14.0%	11.1%	8.4%	8.9%	8.4%	7.3%	12.7%
Other Cancer-Related									
Sunburn in Previous 12 Months (2018)	47.7%	42.3%	49.0%	41.6%	50.8%	42.8%	49.9%	56.6%	.
Artificial Tanning Appliance Use (2011, 2014, 2016)	4.4%	5.5%	3.3%	3.3%	3.4%	4.2%	5.7%	6.8%	3.7%
Healthy Weight by Body Mass Index, Age 20+ (2014–2018)	32.6%	34.2%	32.9%	27.0%	36.3%	31.1%	29.4%	32.4%	27.2%
Meet Physical Activity Guidelines (2011, 2013, 2015, 2017)	22.1%	22.1%	19.9%	20.6%	26.1%	18.8%	20.0%	20.1%	17.9%
Home Ever Tested for Radon (2016, 2018)	22.7%	29.7%	19.5%	16.3%	24.1%	20.2%	23.3%	22.7%	.

Access to Care

Have Health Insurance – 2014–2018
Statewide, 81.2% of adults aged 18–64 reported having health care coverage. Health care coverage differed significantly by race/ethnicity, with 84.5% of white non-Hispanics, compared to 59.8% of Hispanics and 79.9% of Native Americans, having health insurance. Spanish-speaking respondents were significantly less likely to be insured (33.1%) than English-speaking respondents (83.1%). Health care coverage differed significantly by age of respondent, with 76.4% of persons aged 30–39, and 86.5% of persons aged 50–64, having health insurance. Health care coverage differed significantly by county, with a range of 57.4% in Adams County to 91.7% in Oneida County having health insurance.

Not See Doctor Due to Cost in Past Year – 2014–2018
Statewide, 14.3% 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 (13.2% of white non-Hispanics, 21.4% of Hispanics, and 23.1% of Native Americans). Inability to see a doctor due to cost differed significantly by annual household income (27.4% for less than $15,000, 6.7% for greater than $50,000). Inability to see a doctor due to cost differed significantly by county, with a range of 7.0% in Caribou County to 20.2% in Jerome County.

Cancer Screening

Mammogram – 2014, 2016, 2018
Statewide, 67.5% 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 (70.7% versus 34.0%). Mammography rates differed significantly by county, with a range in screening of 47.3% in Gooding County to 77.5% in Nez Perce County. In 2018, Idaho ranked 49th among states and the District of Columbia for mammography screening rates among women aged 50–74 and 50th among ages 40+.

Pap Test – 2016, 2018
Statewide, 72.5% 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 (77.3% versus 54.2% screened in the past 3 years). Pap screening differed significantly by county, with a range of 60.5% in Idaho County to 79.2% in Latah County. In 2018, Idaho ranked 51st among states and the District of Columbia for Pap screening rate.

Colorectal Cancer Screening – 2016, 2018
Statewide, 65.4% of adults aged 50–75 reported receiving colorectal cancer screening based on the most recent guidelines.** Persons with health insurance were over twice as likely to be current for colorectal cancer screening. In 2018, Idaho ranked 41st 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 Smoking – 2014–2018
Statewide, 14.6% of adults aged 18 and older were current smokers. Smoking prevalence differed significantly by age of respondent, with 19.2% of persons aged 30–39, and 8.4% of persons aged 65 and older reporting current smoking. Smoking prevalence was lower among white non-Hispanics (14.7%) than among Native Americans (32.4%). Smoking prevalence differed significantly by county, with a range of 4.3% in Madison County to 32.7% in Adams County. Counties with higher rates of current smoking had higher rates of lung cancer.

Smokeless Tobacco Use, Males – 2014–2018
Statewide, 9.5% of males aged 18 and older were current users of smokeless tobacco. Smokeless tobacco use differed significantly by age group, ranging from 12.8% of males aged 30–39 to 4.0% of males aged 65 and older. Smokeless tobacco use differed significantly by county, with a range of 3.4% in Franklin County to 21.1% in Custer County. Counties with higher rates of smokeless tobacco use had higher rates of oral cavity & pharynx cancer.

Other Cancer-Related

Sun Exposure – 2018
Statewide, 47.7% of adults aged 18 and older reported having sunburn in the past 12 months. Sunburn rates were higher for white non-Hispanics (49.6%) and Native Americans (48.7%) than for Hispanics (35.2%). Sunburn rates differed significantly by age group, with 67.2% of persons aged 30–39 and 17.9% of persons aged 65 and older having sunburn in the past 12 months. Sunburn rates differed significantly by county, with a range of 36.7% in Idaho County to 72.9% in Madison County having sunburn in the past 12 months.

Artificial Tanning Appliance Use – 2011, 2014, 2016
Statewide, 4.4% of adults aged 18 and older reported using an artificial tanning appliance, such as a tanning bed, in the past 12 months. Females (6.8%) were significantly more likely than males (2.1%) to have used an artificial tanning appliance in the past 12 months. Tanning appliance use differed significantly by age group, with 8.7% of persons aged 18–29 and 0.9% of persons aged 65 and older, using an appliance in the past 12 months. Tanning appliance use differed by county, with a range of less than 1% in Oneida, Power, and Valley Counties to over 9% in Bear Lake and Fremont Counties using an artificial tanning appliance in the past 12 months.

Healthy Weight by Body Mass Index – 2014–2018
Statewide, 32.6% 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 33.3% of white non-Hispanics, compared to 26.0% of Hispanics and 26.8% of Native Americans, being in the healthy weight range. Males (25.7%) were significantly less likely to be in the healthy weight range than females (39.4%). BMI differed significantly by age of respondent, with 45.0% of persons aged 18–29, and 27.1% of persons aged 50–64, being in the healthy weight range. BMI differed significantly by county, with a range of 19.5% in Minidoka County to 52.8% in Blaine County of adults being in the healthy weight range.

Physical Activity – 2011, 2013, 2015, 2017
Statewide, 22.1% of adults aged 18 and older met aerobic and strength physical activity guidelines during the past month or week. Physical activity differed significantly by age of respondent, with 26.3% of persons aged 18–29, and 19.3% of persons aged 50–64, meeting guidelines. The percentage of adults meeting physical activity guidelines differed significantly by county, with a range of 7.6% in Oneida County to 31.1% in Blaine County.

Home Radon Testing – 2016, 2018
Statewide, 22.7% of adults have ever tested their house for radon. Radon test usage varied significantly by race/ethnicity, with 24.7% of white non-Hispanics, 5.3% of Hispanics, and 27.9% 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 8.0% in Cassia County to 58.0% in Blaine County.

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CASSIA COUNTY CANCER PROFILE

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

Cancer Incidence 2013–2017
Cancer Mortality 2014–2018
BRFSS 2011–2018

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 are due to personal lifestyle factors, such as smoking and sedentary lifestyle, and are preventable. Additional cancers are 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. 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.

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://health.gov/dietaryguidelines/2015.

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
615 N. 7th Street
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/contact-center

American Cancer Society
2676 S. Vista Avenue
Boise, ID 83705
208-343-4609
https://www.cancer.org

CANCER INCIDENCE 2013–2017

Nearly one in two Idahoans are estimated to develop cancer during their lifetime. During 2013–2017, 40,996 cases of invasive cancer were diagnosed among Idaho residents, and 448 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, 2013–2017

Cancer Incidence 2013–2017	Cassia County	State of Idaho
All Sites/Types	**448**	**40,996**
Female Breast	**70**	**5,956**
Prostate	**46**	**5,027**
Lung & Bronchus	**41**	**4,657**
Colorectal	**33**	**3,235**

Table 3 (*Cancer Incidence 2013–2017, 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 rate of invasive cancer incidence in Cassia County was 381.1 cases per 100,000 person-years per year during 2013–2017. Comparing this crude rate with the crude rate for the remainder of Idaho (495.8) 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 413.2 cases per 100,000 persons per year during 2013–2017. There were statistically significantly fewer cases of cancer in Cassia County (448) than expected (537.5) 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 2014–2018

During 2014–2018, cancer was the second leading cause of death in Idaho; 14,585 Idaho residents and 180 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, 2014–2018

Mortality 2014–2018	Cassia County	State of Idaho
All Deaths	**1,009**	**67,280**
Cancer Deaths	**180**	**14,585**
% of All Deaths	*17.8%*	*21.7%*
Lung & Bronchus	**36**	**3,125**
Colorectal	**14**	**1,226**
Pancreas	**14**	**1,079**
Female Breast	**14**	**1,077**
Prostate	**16**	**935**

Table 4 (*Cancer Mortality 2014–2018, 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 162.7 deaths per 100,000 persons per year during 2014–2018, compared with 173.1 for the remainder of the state. There were fewer cancer deaths in Cassia County (180) than expected (191.5) 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 2013–2017
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	448	117,562	381.1	413.2	537.5	0.000 <<	40,548	8,178,804	495.8
	Male	219	59,989	365.1	403.6	277.9	0.000 <<	20,978	4,096,006	512.2
	Female	229	57,573	397.8	425.3	258.1	0.072	19,570	4,082,798	479.3
Bladder	Total	23	117,562	19.6	21.0	26.7	0.545	1,992	8,178,804	24.4
	Male	17	59,989	28.3	31.4	20.6	0.513	1,553	4,096,006	37.9
	Female	6	57,573	10.4	10.9	5.9	1.000	439	4,082,798	10.8
Brain - malignant	Total	7	117,562	6.0	6.3	8.2	0.837	603	8,178,804	7.4
	Male	4	59,989	6.7	7.2	5.0	0.877	367	4,096,006	9.0
	Female	3	57,573	5.2	5.4	3.2	1.000	236	4,082,798	5.8
Brain and other CNS - non-malignant	Total	12	117,562	10.2	11.0	14.2	0.684	1,060	8,178,804	13.0
	Male	2	59,989	3.3	3.6	4.8	0.293	352	4,096,006	8.6
	Female	10	57,573	17.4	18.5	9.4	0.917	708	4,082,798	17.3
Breast	Total	70	117,562	59.5	65.4	77.6	0.422	5,931	8,178,804	72.5
	Male	-	59,989	-	-	0.6	1.000	45	4,096,006	1.1
	Female	70	57,573	121.6	132.4	76.2	0.517	5,886	4,082,798	144.2
Breast - in situ	Total	14	117,562	11.9	13.2	13.6	0.978	1,050	8,178,804	12.8
	Male	-	59,989	-	-	0.0	1.000	3	4,096,006	0.1
	Female	14	57,573	24.3	27.0	13.3	0.921	1,047	4,082,798	25.6
Cervix	Female	3	57,573	5.2	5.7	3.3	1.000	256	4,082,798	6.3
Colorectal	Total	33	117,562	28.1	30.3	42.6	0.156	3,202	8,178,804	39.1
	Male	19	59,989	31.7	35.0	22.7	0.508	1,716	4,096,006	41.9
	Female	14	57,573	24.3	25.7	19.8	0.223	1,486	4,082,798	36.4
Corpus Uteri	Female	15	57,573	26.1	28.9	15.2	1.000	1,194	4,082,798	29.2
Esophagus	Total	6	117,562	5.1	5.6	6.1	1.000	463	8,178,804	5.7
	Male	6	59,989	10.0	11.1	5.0	0.781	382	4,096,006	9.3
	Female	-	57,573	-	-	1.1	0.684	81	4,082,798	2.0
Hodgkin Lymphoma	Total	4	117,562	3.4	3.6	2.7	0.559	195	8,178,804	2.4
	Male	3	59,989	5.0	5.3	1.5	0.360	105	4,096,006	2.6
	Female	1	57,573	1.7	1.8	1.2	1.000	90	4,082,798	2.2
Kidney and Renal Pelvis	Total	21	117,562	17.9	19.5	20.2	0.922	1,533	8,178,804	18.7
	Male	15	59,989	25.0	27.8	12.9	0.634	980	4,096,006	23.9
	Female	6	57,573	10.4	11.1	7.3	0.801	553	4,082,798	13.5
Larynx	Total	1	117,562	0.9	0.9	2.7	0.481	208	8,178,804	2.5
	Male	1	59,989	1.7	1.8	2.2	0.706	167	4,096,006	4.1
	Female	-	57,573	-	-	0.5	1.000	41	4,082,798	1.0
Leukemia	Total	17	117,562	14.5	15.2	20.1	0.575	1,469	8,178,804	18.0
	Male	7	59,989	11.7	12.6	11.9	0.192	874	4,096,006	21.3
	Female	10	57,573	17.4	17.6	8.3	0.635	595	4,082,798	14.6
Liver and Bile Duct	Total	10	117,562	8.5	9.3	9.5	0.953	723	8,178,804	8.8
	Male	7	59,989	11.7	12.9	6.9	1.000	525	4,096,006	12.8
	Female	3	57,573	5.2	5.6	2.6	0.971	198	4,082,798	4.8
Lung and Bronchus	Total	41	117,562	34.9	37.6	61.6	0.007 <<	4,616	8,178,804	56.4
	Male	23	59,989	38.3	42.5	31.4	0.148	2,379	4,096,006	58.1
	Female	18	57,573	31.3	32.8	30.1	0.025 <<	2,237	4,082,798	54.8
Melanoma of the Skin	Total	28	117,562	23.8	25.9	33.0	0.441	2,498	8,178,804	30.5
	Male	14	59,989	23.3	25.8	19.3	0.272	1,455	4,096,006	35.5
	Female	14	57,573	24.3	26.3	13.6	0.984	1,043	4,082,798	25.5
Myeloma	Total	13	117,562	11.1	11.9	8.0	0.124	595	8,178,804	7.3
	Male	4	59,989	6.7	7.4	4.6	1.000	353	4,096,006	8.6
	Female	9	57,573	15.6	16.2	3.3	0.014 >>	242	4,082,798	5.9
Non-Hodgkin Lymphoma	Total	23	117,562	19.6	21.0	23.4	1.000	1,750	8,178,804	21.4
	Male	15	59,989	25.0	27.5	13.2	0.695	992	4,096,006	24.2
	Female	8	57,573	13.9	14.6	10.2	0.631	758	4,082,798	18.6
Oral Cavity and Pharynx	Total	8	117,562	6.8	7.5	15.2	0.068	1,160	8,178,804	14.2
	Male	5	59,989	8.3	9.2	10.8	0.083	821	4,096,006	20.0
	Female	3	57,573	5.2	5.6	4.4	0.712	339	4,082,798	8.3
Ovary	Female	4	57,573	6.9	7.5	6.8	0.393	515	4,082,798	12.6
Pancreas	Total	14	117,562	11.9	12.8	17.2	0.527	1,290	8,178,804	15.8
	Male	5	59,989	8.3	9.2	9.2	0.207	697	4,096,006	17.0
	Female	9	57,573	15.6	16.3	8.0	0.819	593	4,082,798	14.5
Prostate	Male	46	59,989	76.7	85.7	65.3	0.015 <<	4,981	4,096,006	121.6
Stomach	Total	5	117,562	4.3	4.6	6.5	0.750	483	8,178,804	5.9
	Male	1	59,989	1.7	1.8	4.2	0.155	317	4,096,006	7.7
	Female	4	57,573	6.9	7.2	2.2	0.380	166	4,082,798	4.1
Testis	Male	1	59,989	1.7	1.8	3.6	0.247	266	4,096,006	6.5
Thyroid	Total	16	117,562	13.6	15.0	16.2	1.000	1,240	8,178,804	15.2
	Male	4	59,989	6.7	7.3	4.4	1.000	328	4,096,006	8.0
	Female	12	57,573	20.8	22.9	11.7	1.000	912	4,082,798	22.3
Pediatric Age 0 to 19	Total	7	41,314	16.9	17.1	7.4	1.000	428	2,359,208	18.1
	Male	3	21,474	14.0	14.1	4.1	0.840	231	1,204,428	19.2
	Female	4	19,840	20.2	20.3	3.4	0.870	197	1,154,780	17.1

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

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

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

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

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

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

TABLE 4: CANCER MORTALITY 2014–2018
COMPARISON BETWEEN CASSIA COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cause of Death Cancer Site/Type	Sex	Cassia 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	1,009	118,073	854.6	887.9	905.1	0.001 >>	66,271	8,320,971	796.4
	Male	523	60,286	867.5	949.6	458.1	0.003 >>	34,663	4,167,594	831.7
	Female	486	57,787	841.0	828.3	446.5	0.068	31,608	4,153,377	761.0
All Malignant Cancers	Total	180	118,073	152.4	162.7	191.5	0.430	14,405	8,320,971	173.1
	Male	103	60,286	170.9	189.4	101.8	0.928	7,798	4,167,594	187.1
	Female	77	57,787	133.2	137.9	88.8	0.227	6,607	4,153,377	159.1
Bladder	Total	6	118,073	5.1	5.3	5.8	1.000	420	8,320,971	5.0
	Male	4	60,286	6.6	7.3	4.1	1.000	315	4,167,594	7.6
	Female	2	57,787	3.5	3.4	1.5	0.867	105	4,153,377	2.5
Brain and Other Nervous System	Total	3	118,073	2.5	2.8	6.4	0.232	494	8,320,971	5.9
	Male	2	60,286	3.3	3.7	4.1	0.450	313	4,167,594	7.5
	Female	1	57,787	1.7	1.9	2.3	0.643	181	4,153,377	4.4
Breast	Total	14	118,073	11.9	12.8	14.2	1.000	1,073	8,320,971	12.9
	Male	-	60,286	-	-	0.1	1.000	10	4,167,594	0.2
	Female	14	57,787	24.2	25.4	14.1	1.000	1,063	4,153,377	25.6
Cervix	Female	-	57,787	-	-	1.0	0.730	80	4,153,377	1.9
Colorectal	Total	14	118,073	11.9	12.7	16.1	0.716	1,212	8,320,971	14.6
	Male	5	60,286	8.3	9.2	8.6	0.288	657	4,167,594	15.8
	Female	9	57,787	15.6	16.0	7.5	0.681	555	4,153,377	13.4
Corpus Uteri	Female	3	57,787	5.2	5.5	2.0	0.637	150	4,153,377	3.6
Esophagus	Total	2	118,073	1.7	1.8	6.2	0.110	469	8,320,971	5.6
	Male	2	60,286	3.3	3.7	4.9	0.266	378	4,167,594	9.1
	Female	-	57,787	-	-	1.2	0.587	91	4,153,377	2.2
Hodgkin Lymphoma	Total	-	118,073	-	-	0.3	1.000	21	8,320,971	0.3
	Male	-	60,286	-	-	0.1	1.000	8	4,167,594	0.2
	Female	-	57,787	-	-	0.2	1.000	13	4,153,377	0.3
Kidney	Total	6	118,073	5.1	5.4	4.8	0.712	364	8,320,971	4.4
	Male	6	60,286	10.0	11.0	3.1	0.185	236	4,167,594	5.7
	Female	-	57,787	-	-	1.7	0.349	128	4,153,377	3.1
Larynx	Total	-	118,073	-	-	0.8	0.865	63	8,320,971	0.8
	Male	-	60,286	-	-	0.7	0.994	53	4,167,594	1.3
	Female	-	57,787	-	-	0.1	1.000	10	4,153,377	0.2
Leukemia	Total	7	118,073	5.9	6.2	8.2	0.838	609	8,320,971	7.3
	Male	4	60,286	6.6	7.3	4.6	1.000	354	4,167,594	8.5
	Female	3	57,787	5.2	5.2	3.6	1.000	255	4,153,377	6.1
Liver and Bile Duct	Total	8	118,073	6.8	7.4	7.7	1.000	590	8,320,971	7.1
	Male	6	60,286	10.0	11.1	5.3	0.859	406	4,167,594	9.7
	Female	2	57,787	3.5	3.6	2.4	1.000	184	4,153,377	4.4
Lung and Bronchus	Total	36	118,073	30.5	32.7	40.8	0.508	3,089	8,320,971	37.1
	Male	24	60,286	39.8	44.4	21.3	0.616	1,643	4,167,594	39.4
	Female	12	57,787	20.8	21.6	19.4	0.103	1,446	4,153,377	34.8
Melanoma of the Skin	Total	2	118,073	1.7	1.8	3.7	0.581	278	8,320,971	3.3
	Male	2	60,286	3.3	3.7	2.4	1.000	185	4,167,594	4.4
	Female	-	57,787	-	-	1.2	0.578	93	4,153,377	2.2
Myeloma	Total	6	118,073	5.1	5.3	4.4	0.551	323	8,320,971	3.9
	Male	2	60,286	3.3	3.7	2.5	1.000	193	4,167,594	4.6
	Female	4	57,787	6.9	7.0	1.8	0.218	130	4,153,377	3.1
Non-Hodgkin Lymphoma	Total	11	118,073	9.3	9.8	7.5	0.284	559	8,320,971	6.7
	Male	8	60,286	13.3	14.7	4.1	0.111	311	4,167,594	7.5
	Female	3	57,787	5.2	5.2	3.5	1.000	248	4,153,377	6.0
Oral Cavity and Pharynx	Total	1	118,073	0.8	0.9	2.9	0.421	222	8,320,971	2.7
	Male	1	60,286	1.7	1.8	2.0	0.832	151	4,167,594	3.6
	Female	-	57,787	-	-	1.0	0.761	71	4,153,377	1.7
Ovary	Female	4	57,787	6.9	7.3	4.7	0.986	359	4,153,377	8.6
Pancreas	Total	14	118,073	11.9	12.8	14.0	1.000	1,065	8,320,971	12.8
	Male	4	60,286	6.6	7.4	7.6	0.246	588	4,167,594	14.1
	Female	10	57,787	17.3	17.9	6.4	0.232	477	4,153,377	11.5
Prostate	Male	16	60,286	26.5	29.2	12.1	0.323	919	4,167,594	22.1
Stomach	Total	2	118,073	1.7	1.8	2.8	0.949	208	8,320,971	2.5
	Male	-	60,286	-	-	1.6	0.404	122	4,167,594	2.9
	Female	2	57,787	3.5	3.5	1.2	0.659	86	4,153,377	2.1

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, 2019.

Cancer Screening and Risk Factors

The Bureau of Vital Records and Health Statistics (BVRHS), Division of Public Health, 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) with randomly selected adult Idahoans to measure population prevalences of risk factors for the major causes of death, including cancer, since 1984. BVRHS provided data sets containing Behavioral Risk Factor Surveillance System (BRFSS) data from 2011 through 2018 to CDRI staff, who performed the analyses reported in these *County Profiles*. Analysis weights were poststratified to 2018 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, 2011–2018

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 (2014–2018)	81.2%	80.6%	84.5%	74.6%	84.7%	75.5%	83.3%	83.8%	74.1%
Not See Doctor Due to Cost in Past Year (2014–2018)	14.3%	13.9%	12.2%	18.1%	13.6%	14.3%	12.5%	13.9%	15.4%
Cancer Screening									
Mammogram Past 2 Years, Age 50–74 (2014, 2016, 2018)	67.5%	66.8%	72.1%	63.2%	72.9%	61.0%	64.6%	66.8%	49.1%
Pap Test Past 3 Years, Cervix Intact Age 21–65 (2016, 2018)	72.5%	74.8%	74.3%	72.1%	73.0%	71.7%	72.7%	68.6%	.
Colorectal Cancer Screening, Age 50–75 (2016, 2018)	65.4%	64.9%	71.3%	62.6%	68.9%	60.3%	62.1%	65.3%	46.8%
Tobacco Use									
Current Smoker (2014–2018)	14.6%	17.1%	15.1%	16.8%	13.1%	16.2%	14.4%	10.4%	17.2%
Current Smokeless Tobacco User, Males (2014–2018)	9.5%	10.6%	14.0%	11.1%	8.4%	8.9%	8.4%	7.3%	11.6%
Other Cancer-Related									
Sunburn in Previous 12 Months (2018)	47.7%	42.3%	49.0%	41.6%	50.8%	42.8%	49.9%	56.6%	.
Artificial Tanning Appliance Use (2011, 2014, 2016)	4.4%	5.5%	3.3%	3.3%	3.4%	4.2%	5.7%	6.8%	4.0%
Healthy Weight by Body Mass Index, Age 20+ (2014–2018)	32.6%	34.2%	32.9%	27.0%	36.3%	31.1%	29.4%	32.4%	31.1%
Meet Physical Activity Guidelines (2011, 2013, 2015, 2017)	22.1%	22.1%	19.9%	20.6%	26.1%	18.8%	20.0%	20.1%	14.5%
Home Ever Tested for Radon (2016, 2018)	22.7%	29.7%	19.5%	16.3%	24.1%	20.2%	23.3%	22.7%	8.0%

Access to Care

Have Health Insurance – 2014–2018
Statewide, 81.2% of adults aged 18–64 reported having health care coverage. Health care coverage differed significantly by race/ethnicity, with 84.5% of white non-Hispanics, compared to 59.8% of Hispanics and 79.9% of Native Americans, having health insurance. Spanish-speaking respondents were significantly less likely to be insured (33.1%) than English-speaking respondents (83.1%). Health care coverage differed significantly by age of respondent, with 76.4% of persons aged 30–39, and 86.5% of persons aged 50–64, having health insurance. Health care coverage differed significantly by county, with a range of 57.4% in Adams County to 91.7% in Oneida County having health insurance.

Not See Doctor Due to Cost in Past Year – 2014–2018
Statewide, 14.3% 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 (13.2% of white non-Hispanics, 21.4% of Hispanics, and 23.1% of Native Americans). Inability to see a doctor due to cost differed significantly by annual household income (27.4% for less than $15,000, 6.7% for greater than $50,000). Inability to see a doctor due to cost differed significantly by county, with a range of 7.0% in Caribou County to 20.2% in Jerome County.

Cancer Screening

Mammogram – 2014, 2016, 2018
Statewide, 67.5% 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 (70.7% versus 34.0%). Mammography rates differed significantly by county, with a range in screening of 47.3% in Gooding County to 77.5% in Nez Perce County. In 2018, Idaho ranked 49th among states and the District of Columbia for mammography screening rates among women aged 50–74 and 50th among ages 40+.

Pap Test – 2016, 2018
Statewide, 72.5% 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 (77.3% versus 54.2% screened in the past 3 years). Pap screening differed significantly by county, with a range of 60.5% in Idaho County to 79.2% in Latah County. In 2018, Idaho ranked 51st among states and the District of Columbia for Pap screening rate.

Colorectal Cancer Screening – 2016, 2018
Statewide, 65.4% of adults aged 50–75 reported receiving colorectal cancer screening based on the most recent guidelines.** Persons with health insurance were over twice as likely to be current for colorectal cancer screening. In 2018, Idaho ranked 41st 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 Smoking – 2014–2018
Statewide, 14.6% of adults aged 18 and older were current smokers. Smoking prevalence differed significantly by age of respondent, with 19.2% of persons aged 30–39, and 8.4% of persons aged 65 and older reporting current smoking. Smoking prevalence was lower among white non-Hispanics (14.7%) than among Native Americans (32.4%). Smoking prevalence differed significantly by county, with a range of 4.3% in Madison County to 32.7% in Adams County. Counties with higher rates of current smoking had higher rates of lung cancer.

Smokeless Tobacco Use, Males – 2014–2018
Statewide, 9.5% of males aged 18 and older were current users of smokeless tobacco. Smokeless tobacco use differed significantly by age group, ranging from 12.8% of males aged 30–39 to 4.0% of males aged 65 and older. Smokeless tobacco use differed significantly by county, with a range of 3.4% in Franklin County to 21.1% in Custer County. Counties with higher rates of smokeless tobacco use had higher rates of oral cavity & pharynx cancer.

Other Cancer-Related

Sun Exposure – 2018
Statewide, 47.7% of adults aged 18 and older reported having sunburn in the past 12 months. Sunburn rates were higher for white non-Hispanics (49.6%) and Native Americans (48.7%) than for Hispanics (35.2%). Sunburn rates differed significantly by age group, with 67.2% of persons aged 30–39 and 17.9% of persons aged 65 and older having sunburn in the past 12 months. Sunburn rates differed significantly by county, with a range of 36.7% in Idaho County to 72.9% in Madison County having sunburn in the past 12 months.

Artificial Tanning Appliance Use – 2011, 2014, 2016
Statewide, 4.4% of adults aged 18 and older reported using an artificial tanning appliance, such as a tanning bed, in the past 12 months. Females (6.8%) were significantly more likely than males (2.1%) to have used an artificial tanning appliance in the past 12 months. Tanning appliance use differed significantly by age group, with 8.7% of persons aged 18–29 and 0.9% of persons aged 65 and older, using an appliance in the past 12 months. Tanning appliance use differed by county, with a range of less than 1% in Oneida, Power, and Valley Counties to over 9% in Bear Lake and Fremont Counties using an artificial tanning appliance in the past 12 months.

Healthy Weight by Body Mass Index – 2014–2018
Statewide, 32.6% 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 33.3% of white non-Hispanics, compared to 26.0% of Hispanics and 26.8% of Native Americans, being in the healthy weight range. Males (25.7%) were significantly less likely to be in the healthy weight range than females (39.4%). BMI differed significantly by age of respondent, with 45.0% of persons aged 18–29, and 27.1% of persons aged 50–64, being in the healthy weight range. BMI differed significantly by county, with a range of 19.5% in Minidoka County to 52.8% in Blaine County of adults being in the healthy weight range.

Physical Activity – 2011, 2013, 2015, 2017
Statewide, 22.1% of adults aged 18 and older met aerobic and strength physical activity guidelines during the past month or week. Physical activity differed significantly by age of respondent, with 26.3% of persons aged 18–29, and 19.3% of persons aged 50–64, meeting guidelines. The percentage of adults meeting physical activity guidelines differed significantly by county, with a range of 7.6% in Oneida County to 31.1% in Blaine County.

Home Radon Testing – 2016, 2018
Statewide, 22.7% of adults have ever tested their house for radon. Radon test usage varied significantly by race/ethnicity, with 24.7% of white non-Hispanics, 5.3% of Hispanics, and 27.9% 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 8.0% in Cassia County to 58.0% in Blaine County.

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CLARK COUNTY CANCER PROFILE

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

Cancer Incidence 2013–2017
Cancer Mortality 2014–2018
BRFSS 2011–2018

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 are due to personal lifestyle factors, such as smoking and sedentary lifestyle, and are preventable. Additional cancers are 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. 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.

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://health.gov/dietaryguidelines/2015.

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
615 N. 7th Street
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/contact-center

American Cancer Society
2676 S. Vista Avenue
Boise, ID 83705
208-343-4609
https://www.cancer.org

CANCER INCIDENCE 2013–2017

Nearly one in two Idahoans are estimated to develop cancer during their lifetime. During 2013–2017, 40,996 cases of invasive cancer were diagnosed among Idaho residents, and 11 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, 2013–2017

Cancer Incidence 2013–2017	Clark County	State of Idaho
All Sites/Types	**11**	**40,996**
Female Breast	**1**	**5,956**
Prostate	**1**	**5,027**
Lung & Bronchus	**1**	**4,657**
Colorectal	**2**	**3,235**

Table 3 (*Cancer Incidence 2013–2017, 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 rate of invasive cancer incidence in Clark County was 249.3 cases per 100,000 person-years per year during 2013–2017. Comparing this crude rate with the crude rate for the remainder of Idaho (494.3) 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 239.9 cases per 100,000 persons per year during 2013–2017. There were statistically significantly fewer cases of cancer in Clark County (11) than expected (22.7) 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 2014–2018

During 2014–2018, cancer was the second leading cause of death in Idaho; 14,585 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, 2014–2018

Mortality 2014–2018	Clark County	State of Idaho
All Deaths	**35**	**67,280**
Cancer Deaths	**7**	**14,585**
% of All Deaths	*20.0%*	*21.7%*
Lung & Bronchus	**1**	**3,125**
Colorectal	**0**	**1,226**
Pancreas	**0**	**1,079**
Female Breast	**3**	**1,077**
Prostate	**1**	**935**

Table 4 (*Cancer Mortality 2014–2018, 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 148.2 deaths per 100,000 persons per year during 2014–2018, compared with 172.8 for the remainder of the state. There were fewer cancer deaths in Clark County (7) than expected (8.2) 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 2013–2017
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	11	4,413	249.3	239.9	22.7	0.011 <<	40,985	8,291,953	494.3
	Male	6	2,321	258.5	233.1	13.1	0.048 <<	21,191	4,153,674	510.2
	Female	5	2,092	239.0	242.5	9.9	0.145	19,794	4,138,279	478.3
Bladder	Total	-	4,413	-	-	1.1	0.642	2,015	8,291,953	24.3
	Male	-	2,321	-	-	1.0	0.727	1,570	4,153,674	37.8
	Female	-	2,092	-	-	0.2	1.000	445	4,138,279	10.8
Brain - malignant	Total	-	4,413	-	-	0.3	1.000	610	8,291,953	7.4
	Male	-	2,321	-	-	0.2	1.000	371	4,153,674	8.9
	Female	-	2,092	-	-	0.1	1.000	239	4,138,279	5.8
Brain and other CNS - non-malignant	Total	1	4,413	22.7	22.2	0.6	0.881	1,071	8,291,953	12.9
	Male	-	2,321	-	-	0.2	1.000	354	4,153,674	8.5
	Female	1	2,092	47.8	48.8	0.4	0.598	717	4,138,279	17.3
Breast	Total	1	4,413	22.7	22.1	3.3	0.323	6,000	8,291,953	72.4
	Male	-	2,321	-	-	0.0	1.000	45	4,153,674	1.1
	Female	1	2,092	47.8	48.5	3.0	0.408	5,955	4,138,279	143.9
Breast - in situ	Total	-	4,413	-	-	0.6	1.000	1,064	8,291,953	12.8
	Male	-	2,321	-	-	0.0	1.000	3	4,153,674	0.1
	Female	-	2,092	-	-	0.5	1.000	1,061	4,138,279	25.6
Cervix	Female	-	2,092	-	-	0.1	1.000	259	4,138,279	6.3
Colorectal	Total	2	4,413	45.3	43.4	1.8	1.000	3,233	8,291,953	39.0
	Male	2	2,321	86.2	77.8	1.1	0.582	1,733	4,153,674	41.7
	Female	-	2,092	-	-	0.7	0.946	1,500	4,138,279	36.2
Corpus Uteri	Female	-	2,092	-	-	0.6	1.000	1,209	4,138,279	29.2
Esophagus	Total	1	4,413	22.7	21.8	0.3	0.456	468	8,291,953	5.6
	Male	1	2,321	43.1	38.9	0.2	0.426	387	4,153,674	9.3
	Female	-	2,092	-	-	0.0	1.000	81	4,138,279	2.0
Hodgkin Lymphoma	Total	-	4,413	-	-	0.1	1.000	199	8,291,953	2.4
	Male	-	2,321	-	-	0.1	1.000	108	4,153,674	2.6
	Female	-	2,092	-	-	0.0	1.000	91	4,138,279	2.2
Kidney and Renal Pelvis	Total	-	4,413	-	-	0.9	0.848	1,554	8,291,953	18.7
	Male	-	2,321	-	-	0.6	1.000	995	4,153,674	24.0
	Female	-	2,092	-	-	0.3	1.000	559	4,138,279	13.5
Larynx	Total	-	4,413	-	-	0.1	1.000	209	8,291,953	2.5
	Male	-	2,321	-	-	0.1	1.000	168	4,153,674	4.0
	Female	-	2,092	-	-	0.0	1.000	41	4,138,279	1.0
Leukemia	Total	-	4,413	-	-	0.8	0.870	1,486	8,291,953	17.9
	Male	-	2,321	-	-	0.5	1.000	881	4,153,674	21.2
	Female	-	2,092	-	-	0.3	1.000	605	4,138,279	14.6
Liver and Bile Duct	Total	-	4,413	-	-	0.4	1.000	733	8,291,953	8.8
	Male	-	2,321	-	-	0.3	1.000	532	4,153,674	12.8
	Female	-	2,092	-	-	0.1	1.000	201	4,138,279	4.9
Lung and Bronchus	Total	1	4,413	22.7	21.2	2.7	0.514	4,656	8,291,953	56.2
	Male	1	2,321	43.1	37.7	1.5	1.000	2,401	4,153,674	57.8
	Female	-	2,092	-	-	1.2	0.629	2,255	4,138,279	54.5
Melanoma of the Skin	Total	2	4,413	45.3	44.1	1.4	0.803	2,524	8,291,953	30.4
	Male	1	2,321	43.1	39.0	0.9	1.000	1,468	4,153,674	35.3
	Female	1	2,092	47.8	48.9	0.5	0.813	1,056	4,138,279	25.5
Myeloma	Total	-	4,413	-	-	0.3	1.000	608	8,291,953	7.3
	Male	-	2,321	-	-	0.2	1.000	357	4,153,674	8.6
	Female	-	2,092	-	-	0.1	1.000	251	4,138,279	6.1
Non-Hodgkin Lymphoma	Total	1	4,413	22.7	21.5	1.0	1.000	1,772	8,291,953	21.4
	Male	-	2,321	-	-	0.6	1.000	1,007	4,153,674	24.2
	Female	1	2,092	47.8	48.0	0.4	0.639	765	4,138,279	18.5
Oral Cavity and Pharynx	Total	-	4,413	-	-	0.6	1.000	1,168	8,291,953	14.1
	Male	-	2,321	-	-	0.5	1.000	826	4,153,674	19.9
	Female	-	2,092	-	-	0.2	1.000	342	4,138,279	8.3
Ovary	Female	1	2,092	47.8	48.9	0.3	0.452	518	4,138,279	12.5
Pancreas	Total	-	4,413	-	-	0.7	0.958	1,304	8,291,953	15.7
	Male	-	2,321	-	-	0.4	1.000	702	4,153,674	16.9
	Female	-	2,092	-	-	0.3	1.000	602	4,138,279	14.5
Prostate	Male	1	2,321	43.1	39.7	3.0	0.384	5,026	4,153,674	121.0
Stomach	Total	-	4,413	-	-	0.3	1.000	488	8,291,953	5.9
	Male	-	2,321	-	-	0.2	1.000	318	4,153,674	7.7
	Female	-	2,092	-	-	0.1	1.000	170	4,138,279	4.1
Testis	Male	-	2,321	-	-	0.1	1.000	267	4,153,674	6.4
Thyroid	Total	1	4,413	22.7	22.9	0.7	0.967	1,255	8,291,953	15.1
	Male	-	2,321	-	-	0.2	1.000	332	4,153,674	8.0
	Female	1	2,092	47.8	49.0	0.5	0.732	923	4,138,279	22.3
Pediatric Age 0 to 19	Total	-	1,356	-	-	0.2	1.000	435	2,399,166	18.1
	Male	-	676	-	-	0.1	1.000	234	1,225,226	19.1
	Female	-	680	-	-	0.1	1.000	201	1,173,940	17.1

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

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

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

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

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

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

TABLE 4: CANCER MORTALITY 2014–2018
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	35	4,385	798.2	745.1	37.5	0.769	67,245	8,434,659	797.2
	Male	21	2,291	916.6	762.1	22.9	0.790	35,165	4,225,589	832.2
	Female	14	2,094	668.6	706.5	15.1	0.910	32,080	4,209,070	762.2
All Malignant Cancers	Total	7	4,385	159.6	148.2	8.2	0.860	14,578	8,434,659	172.8
	Male	3	2,291	130.9	110.0	5.1	0.504	7,898	4,225,589	186.9
	Female	4	2,094	191.0	193.5	3.3	0.831	6,680	4,209,070	158.7
Bladder	Total	-	4,385	-	-	0.2	1.000	426	8,434,659	5.1
	Male	-	2,291	-	-	0.2	1.000	319	4,225,589	7.5
	Female	-	2,094	-	-	0.1	1.000	107	4,209,070	2.5
Brain and Other Nervous System	Total	-	4,385	-	-	0.3	1.000	497	8,434,659	5.9
	Male	-	2,291	-	-	0.2	1.000	315	4,225,589	7.5
	Female	-	2,094	-	-	0.1	1.000	182	4,209,070	4.3
Breast	Total	3	4,385	68.4	64.7	0.6	0.045 >>	1,084	8,434,659	12.9
	Male	-	2,291	-	-	0.0	1.000	10	4,225,589	0.2
	Female	3	2,094	143.3	146.8	0.5	0.032 >>	1,074	4,209,070	25.5
Cervix	Female	-	2,094	-	-	0.0	1.000	80	4,209,070	1.9
Colorectal	Total	-	4,385	-	-	0.7	1.000	1,226	8,434,659	14.5
	Male	-	2,291	-	-	0.4	1.000	662	4,225,589	15.7
	Female	-	2,094	-	-	0.3	1.000	564	4,209,070	13.4
Corpus Uteri	Female	-	2,094	-	-	0.1	1.000	153	4,209,070	3.6
Esophagus	Total	-	4,385	-	-	0.3	1.000	471	8,434,659	5.6
	Male	-	2,291	-	-	0.2	1.000	380	4,225,589	9.0
	Female	-	2,094	-	-	0.0	1.000	91	4,209,070	2.2
Hodgkin Lymphoma	Total	-	4,385	-	-	0.0	1.000	21	8,434,659	0.2
	Male	-	2,291	-	-	0.0	1.000	8	4,225,589	0.2
	Female	-	2,094	-	-	0.0	1.000	13	4,209,070	0.3
Kidney	Total	1	4,385	22.8	21.1	0.2	0.374	369	8,434,659	4.4
	Male	1	2,291	43.6	37.4	0.2	0.283	241	4,225,589	5.7
	Female	-	2,094	-	-	0.1	1.000	128	4,209,070	3.0
Larynx	Total	-	4,385	-	-	0.0	1.000	63	8,434,659	0.7
	Male	-	2,291	-	-	0.0	1.000	53	4,225,589	1.3
	Female	-	2,094	-	-	0.0	1.000	10	4,209,070	0.2
Leukemia	Total	-	4,385	-	-	0.4	1.000	616	8,434,659	7.3
	Male	-	2,291	-	-	0.2	1.000	358	4,225,589	8.5
	Female	-	2,094	-	-	0.1	1.000	258	4,209,070	6.1
Liver and Bile Duct	Total	-	4,385	-	-	0.3	1.000	598	8,434,659	7.1
	Male	-	2,291	-	-	0.3	1.000	412	4,225,589	9.8
	Female	-	2,094	-	-	0.1	1.000	186	4,209,070	4.4
Lung and Bronchus	Total	1	4,385	22.8	21.0	1.8	0.947	3,124	8,434,659	37.0
	Male	1	2,291	43.6	36.9	1.1	1.000	1,666	4,225,589	39.4
	Female	-	2,094	-	-	0.7	0.963	1,458	4,209,070	34.6
Melanoma of the Skin	Total	-	4,385	-	-	0.2	1.000	280	8,434,659	3.3
	Male	-	2,291	-	-	0.1	1.000	187	4,225,589	4.4
	Female	-	2,094	-	-	0.0	1.000	93	4,209,070	2.2
Myeloma	Total	-	4,385	-	-	0.2	1.000	329	8,434,659	3.9
	Male	-	2,291	-	-	0.1	1.000	195	4,225,589	4.6
	Female	-	2,094	-	-	0.1	1.000	134	4,209,070	3.2
Non-Hodgkin Lymphoma	Total	-	4,385	-	-	0.3	1.000	570	8,434,659	6.8
	Male	-	2,291	-	-	0.2	1.000	319	4,225,589	7.5
	Female	-	2,094	-	-	0.1	1.000	251	4,209,070	6.0
Oral Cavity and Pharynx	Total	-	4,385	-	-	0.1	1.000	223	8,434,659	2.6
	Male	-	2,291	-	-	0.1	1.000	152	4,225,589	3.6
	Female	-	2,094	-	-	0.0	1.000	71	4,209,070	1.7
Ovary	Female	-	2,094	-	-	0.2	1.000	363	4,209,070	8.6
Pancreas	Total	-	4,385	-	-	0.6	1.000	1,079	8,434,659	12.8
	Male	-	2,291	-	-	0.4	1.000	592	4,225,589	14.0
	Female	-	2,094	-	-	0.2	1.000	487	4,209,070	11.6
Prostate	Male	1	2,291	43.6	34.3	0.6	0.950	934	4,225,589	22.1
Stomach	Total	-	4,385	-	-	0.1	1.000	210	8,434,659	2.5
	Male	-	2,291	-	-	0.1	1.000	122	4,225,589	2.9
	Female	-	2,094	-	-	0.0	1.000	88	4,209,070	2.1

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, 2019.

Cancer Screening and Risk Factors

The Bureau of Vital Records and Health Statistics (BVRHS), Division of Public Health, 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) with randomly selected adult Idahoans to measure population prevalences of risk factors for the major causes of death, including cancer, since 1984. BVRHS provided data sets containing Behavioral Risk Factor Surveillance System (BRFSS) data from 2011 through 2018 to CDRI staff, who performed the analyses reported in these *County Profiles*. Analysis weights were poststratified to 2018 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, 2011–2018

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 (2014–2018)	81.2%	80.6%	84.5%	74.6%	84.7%	75.5%	83.3%	83.8%	.
Not See Doctor Due to Cost in Past Year (2014–2018)	14.3%	13.9%	12.2%	18.1%	13.6%	14.3%	12.5%	13.9%	.
Cancer Screening									
Mammogram Past 2 Years, Age 50–74 (2014, 2016, 2018)	67.5%	66.8%	72.1%	63.2%	72.9%	61.0%	64.6%	66.8%	.
Pap Test Past 3 Years, Cervix Intact Age 21–65 (2016, 2018)	72.5%	74.8%	74.3%	72.1%	73.0%	71.7%	72.7%	68.6%	.
Colorectal Cancer Screening, Age 50–75 (2016, 2018)	65.4%	64.9%	71.3%	62.6%	68.9%	60.3%	62.1%	65.3%	.
Tobacco Use									
Current Smoker (2014–2018)	14.6%	17.1%	15.1%	16.8%	13.1%	16.2%	14.4%	10.4%	.
Current Smokeless Tobacco User, Males (2014–2018)	9.5%	10.6%	14.0%	11.1%	8.4%	8.9%	8.4%	7.3%	.
Other Cancer-Related									
Sunburn in Previous 12 Months (2018)	47.7%	42.3%	49.0%	41.6%	50.8%	42.8%	49.9%	56.6%	.
Artificial Tanning Appliance Use (2011, 2014, 2016)	4.4%	5.5%	3.3%	3.3%	3.4%	4.2%	5.7%	6.8%	.
Healthy Weight by Body Mass Index, Age 20+ (2014–2018)	32.6%	34.2%	32.9%	27.0%	36.3%	31.1%	29.4%	32.4%	.
Meet Physical Activity Guidelines (2011, 2013, 2015, 2017)	22.1%	22.1%	19.9%	20.6%	26.1%	18.8%	20.0%	20.1%	.
Home Ever Tested for Radon (2016, 2018)	22.7%	29.7%	19.5%	16.3%	24.1%	20.2%	23.3%	22.7%	.

Access to Care

Have Health Insurance – 2014–2018
Statewide, 81.2% of adults aged 18–64 reported having health care coverage. Health care coverage differed significantly by race/ethnicity, with 84.5% of white non-Hispanics, compared to 59.8% of Hispanics and 79.9% of Native Americans, having health insurance. Spanish-speaking respondents were significantly less likely to be insured (33.1%) than English-speaking respondents (83.1%). Health care coverage differed significantly by age of respondent, with 76.4% of persons aged 30–39, and 86.5% of persons aged 50–64, having health insurance. Health care coverage differed significantly by county, with a range of 57.4% in Adams County to 91.7% in Oneida County having health insurance.

Not See Doctor Due to Cost in Past Year – 2014–2018
Statewide, 14.3% 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 (13.2% of white non-Hispanics, 21.4% of Hispanics, and 23.1% of Native Americans). Inability to see a doctor due to cost differed significantly by annual household income (27.4% for less than $15,000, 6.7% for greater than $50,000). Inability to see a doctor due to cost differed significantly by county, with a range of 7.0% in Caribou County to 20.2% in Jerome County.

Cancer Screening

Mammogram – 2014, 2016, 2018
Statewide, 67.5% 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 (70.7% versus 34.0%). Mammography rates differed significantly by county, with a range in screening of 47.3% in Gooding County to 77.5% in Nez Perce County. In 2018, Idaho ranked 49th among states and the District of Columbia for mammography screening rates among women aged 50–74 and 50th among ages 40+.

Pap Test – 2016, 2018
Statewide, 72.5% 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 (77.3% versus 54.2% screened in the past 3 years). Pap screening differed significantly by county, with a range of 60.5% in Idaho County to 79.2% in Latah County. In 2018, Idaho ranked 51st among states and the District of Columbia for Pap screening rate.

Colorectal Cancer Screening – 2016, 2018
Statewide, 65.4% of adults aged 50–75 reported receiving colorectal cancer screening based on the most recent guidelines.** Persons with health insurance were over twice as likely to be current for colorectal cancer screening. In 2018, Idaho ranked 41st 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 Smoking – 2014–2018
Statewide, 14.6% of adults aged 18 and older were current smokers. Smoking prevalence differed significantly by age of respondent, with 19.2% of persons aged 30–39, and 8.4% of persons aged 65 and older reporting current smoking. Smoking prevalence was lower among white non-Hispanics (14.7%) than among Native Americans (32.4%). Smoking prevalence differed significantly by county, with a range of 4.3% in Madison County to 32.7% in Adams County. Counties with higher rates of current smoking had higher rates of lung cancer.

Smokeless Tobacco Use, Males – 2014–2018
Statewide, 9.5% of males aged 18 and older were current users of smokeless tobacco. Smokeless tobacco use differed significantly by age group, ranging from 12.8% of males aged 30–39 to 4.0% of males aged 65 and older. Smokeless tobacco use differed significantly by county, with a range of 3.4% in Franklin County to 21.1% in Custer County. Counties with higher rates of smokeless tobacco use had higher rates of oral cavity & pharynx cancer.

Other Cancer-Related

Sun Exposure – 2018
Statewide, 47.7% of adults aged 18 and older reported having sunburn in the past 12 months. Sunburn rates were higher for white non-Hispanics (49.6%) and Native Americans (48.7%) than for Hispanics (35.2%). Sunburn rates differed significantly by age group, with 67.2% of persons aged 30–39 and 17.9% of persons aged 65 and older having sunburn in the past 12 months. Sunburn rates differed significantly by county, with a range of 36.7% in Idaho County to 72.9% in Madison County having sunburn in the past 12 months.

Artificial Tanning Appliance Use – 2011, 2014, 2016
Statewide, 4.4% of adults aged 18 and older reported using an artificial tanning appliance, such as a tanning bed, in the past 12 months. Females (6.8%) were significantly more likely than males (2.1%) to have used an artificial tanning appliance in the past 12 months. Tanning appliance use differed significantly by age group, with 8.7% of persons aged 18–29 and 0.9% of persons aged 65 and older, using an appliance in the past 12 months. Tanning appliance use differed by county, with a range of less than 1% in Oneida, Power, and Valley Counties to over 9% in Bear Lake and Fremont Counties using an artificial tanning appliance in the past 12 months.

Healthy Weight by Body Mass Index – 2014–2018
Statewide, 32.6% 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 33.3% of white non-Hispanics, compared to 26.0% of Hispanics and 26.8% of Native Americans, being in the healthy weight range. Males (25.7%) were significantly less likely to be in the healthy weight range than females (39.4%). BMI differed significantly by age of respondent, with 45.0% of persons aged 18–29, and 27.1% of persons aged 50–64, being in the healthy weight range. BMI differed significantly by county, with a range of 19.5% in Minidoka County to 52.8% in Blaine County of adults being in the healthy weight range.

Physical Activity – 2011, 2013, 2015, 2017
Statewide, 22.1% of adults aged 18 and older met aerobic and strength physical activity guidelines during the past month or week. Physical activity differed significantly by age of respondent, with 26.3% of persons aged 18–29, and 19.3% of persons aged 50–64, meeting guidelines. The percentage of adults meeting physical activity guidelines differed significantly by county, with a range of 7.6% in Oneida County to 31.1% in Blaine County.

Home Radon Testing – 2016, 2018
Statewide, 22.7% of adults have ever tested their house for radon. Radon test usage varied significantly by race/ethnicity, with 24.7% of white non-Hispanics, 5.3% of Hispanics, and 27.9% 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 8.0% in Cassia County to 58.0% in Blaine County.

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CLEARWATER COUNTY CANCER PROFILE

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

Cancer Incidence 2013–2017
Cancer Mortality 2014–2018
BRFSS 2011–2018

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 are due to personal lifestyle factors, such as smoking and sedentary lifestyle, and are preventable. Additional cancers are 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. 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.

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://health.gov/dietaryguidelines/2015.

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
615 N. 7th Street
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/contact-center

American Cancer Society
2676 S. Vista Avenue
Boise, ID 83705
208-343-4609
https://www.cancer.org

CANCER INCIDENCE 2013–2017

Nearly one in two Idahoans are estimated to develop cancer during their lifetime. During 2013–2017, 40,996 cases of invasive cancer were diagnosed among Idaho residents, and 349 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, 2013–2017

Cancer Incidence 2013–2017	Clearwater County	State of Idaho
All Sites/Types	**349**	**40,996**
Female Breast	**35**	**5,956**
Prostate	**42**	**5,027**
Lung & Bronchus	**58**	**4,657**
Colorectal	**33**	**3,235**

Table 3 (*Cancer Incidence 2013–2017, 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 rate of invasive cancer incidence in Clearwater County was 811.3 cases per 100,000 person-years per year during 2013–2017. Comparing this crude rate with the crude rate for the remainder of Idaho (492.5) 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 522.4 cases per 100,000 persons per year during 2013–2017. There were more cases of cancer in Clearwater County (349) than expected (329.0) 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 2014–2018

During 2014–2018, cancer was the second leading cause of death in Idaho; 14,585 Idaho residents and 147 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, 2014–2018

Mortality 2014–2018	Clearwater County	State of Idaho
All Deaths	**544**	**67,280**
Cancer Deaths	**147**	**14,585**
% of All Deaths	*27.0%*	*21.7%*
Lung & Bronchus	**41**	**3,125**
Colorectal	**6**	**1,226**
Pancreas	**10**	**1,079**
Female Breast	**4**	**1,077**
Prostate	**10**	**935**

Table 4 (*Cancer Mortality 2014–2018, 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 206.5 deaths per 100,000 persons per year during 2014–2018, compared with 172.0 for the remainder of the state. There were statistically significantly more cancer deaths in Clearwater County (147) than expected (122.4) based upon rates in the remainder of the state (p=.034).

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 2013–2017
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	349	43,018	811.3	522.4	329.0	0.283	40,647	8,253,348	492.5
	Male	203	23,686	857.0	545.1	189.2	0.333	20,994	4,132,309	508.0
	Female	146	19,332	755.2	489.0	142.4	0.784	19,653	4,121,039	476.9
Bladder	Total	23	43,018	53.5	31.8	17.4	0.230	1,992	8,253,348	24.1
	Male	20	23,686	84.4	50.8	14.8	0.223	1,550	4,132,309	37.5
	Female	3	19,332	15.5	9.1	3.5	1.000	442	4,121,039	10.7
Brain - malignant	Total	5	43,018	11.6	8.6	4.3	0.841	605	8,253,348	7.3
	Male	3	23,686	12.7	9.2	2.9	1.000	368	4,132,309	8.9
	Female	2	19,332	10.3	7.9	1.5	0.855	237	4,121,039	5.8
Brain and other CNS - non-malignant	Total	9	43,018	20.9	14.7	7.9	0.788	1,063	8,253,348	12.9
	Male	3	23,686	12.7	9.1	2.8	1.000	351	4,132,309	8.5
	Female	6	19,332	31.0	21.2	4.9	0.728	712	4,121,039	17.3
Breast	Total	36	43,018	83.7	56.0	46.5	0.134	5,965	8,253,348	72.3
	Male	1	23,686	4.2	2.5	0.4	0.686	44	4,132,309	1.1
	Female	35	19,332	181.0	119.0	42.3	0.297	5,921	4,121,039	143.7
Breast - in situ	Total	2	43,018	4.6	3.2	8.0	0.028 <<	1,062	8,253,348	12.9
	Male	-	23,686	-	-	0.0	1.000	3	4,132,309	0.1
	Female	2	19,332	10.3	7.1	7.2	0.049 <<	1,059	4,121,039	25.7
Cervix	Female	2	19,332	10.3	9.1	1.4	0.801	257	4,121,039	6.2
Colorectal	Total	33	43,018	76.7	49.2	26.0	0.210	3,202	8,253,348	38.8
	Male	21	23,686	88.7	57.7	15.1	0.173	1,714	4,132,309	41.5
	Female	12	19,332	62.1	38.7	11.2	0.890	1,488	4,121,039	36.1
Corpus Uteri	Female	12	19,332	62.1	40.8	8.5	0.310	1,197	4,121,039	29.0
Esophagus	Total	8	43,018	18.6	11.5	3.9	0.088	461	8,253,348	5.6
	Male	8	23,686	33.8	21.4	3.4	0.049 >>	380	4,132,309	9.2
	Female	-	19,332	-	-	0.6	1.000	81	4,121,039	2.0
Hodgkin Lymphoma	Total	1	43,018	2.3	2.2	1.1	1.000	198	8,253,348	2.4
	Male	1	23,686	4.2	3.9	0.7	0.971	107	4,132,309	2.6
	Female	-	19,332	-	-	0.5	1.000	91	4,121,039	2.2
Kidney and Renal Pelvis	Total	13	43,018	30.2	19.4	12.5	0.959	1,541	8,253,348	18.7
	Male	8	23,686	33.8	21.8	8.7	0.979	987	4,132,309	23.9
	Female	5	19,332	25.9	16.4	4.1	0.785	554	4,121,039	13.4
Larynx	Total	2	43,018	4.6	2.9	1.7	1.000	207	8,253,348	2.5
	Male	2	23,686	8.4	5.3	1.5	0.902	166	4,132,309	4.0
	Female	-	19,332	-	-	0.3	1.000	41	4,121,039	1.0
Leukemia	Total	10	43,018	23.2	15.2	11.7	0.753	1,476	8,253,348	17.9
	Male	7	23,686	29.6	19.6	7.6	1.000	874	4,132,309	21.2
	Female	3	19,332	15.5	9.9	4.4	0.714	602	4,121,039	14.6
Liver and Bile Duct	Total	4	43,018	9.3	5.9	6.0	0.576	729	8,253,348	8.8
	Male	4	23,686	16.9	10.9	4.7	0.998	528	4,132,309	12.8
	Female	-	19,332	-	-	1.5	0.430	201	4,121,039	4.9
Lung and Bronchus	Total	58	43,018	134.8	80.2	40.3	0.010 >>	4,599	8,253,348	55.7
	Male	31	23,686	130.9	78.4	22.7	0.112	2,371	4,132,309	57.4
	Female	27	19,332	139.7	81.7	17.9	0.052	2,228	4,121,039	54.1
Melanoma of the Skin	Total	18	43,018	41.8	28.4	19.2	0.895	2,508	8,253,348	30.4
	Male	9	23,686	38.0	25.1	12.7	0.376	1,460	4,132,309	35.3
	Female	9	19,332	46.6	33.3	6.9	0.511	1,048	4,121,039	25.4
Myeloma	Total	4	43,018	9.3	5.6	5.2	0.796	604	8,253,348	7.3
	Male	2	23,686	8.4	5.1	3.4	0.686	355	4,132,309	8.6
	Female	2	19,332	10.3	6.1	2.0	1.000	249	4,121,039	6.0
Non-Hodgkin Lymphoma	Total	12	43,018	27.9	17.7	14.4	0.634	1,761	8,253,348	21.3
	Male	4	23,686	16.9	10.9	8.9	0.115	1,003	4,132,309	24.3
	Female	8	19,332	41.4	25.6	5.7	0.442	758	4,121,039	18.4
Oral Cavity and Pharynx	Total	11	43,018	25.6	16.7	9.3	0.649	1,157	8,253,348	14.0
	Male	9	23,686	38.0	25.1	7.1	0.569	817	4,132,309	19.8
	Female	2	19,332	10.3	6.7	2.5	1.000	340	4,121,039	8.3
Ovary	Female	4	19,332	20.7	13.5	3.7	1.000	515	4,121,039	12.5
Pancreas	Total	14	43,018	32.5	19.8	11.0	0.445	1,290	8,253,348	15.6
	Male	9	23,686	38.0	23.6	6.4	0.395	693	4,132,309	16.8
	Female	5	19,332	25.9	15.3	4.7	1.000	597	4,121,039	14.5
Prostate	Male	42	23,686	177.3	109.1	46.4	0.575	4,985	4,132,309	120.6
Stomach	Total	2	43,018	4.6	2.9	4.0	0.466	486	8,253,348	5.9
	Male	2	23,686	8.4	5.4	2.9	0.913	316	4,132,309	7.6
	Female	-	19,332	-	-	1.3	0.546	170	4,121,039	4.1
Testis	Male	1	23,686	4.2	4.6	1.4	1.000	266	4,132,309	6.4
Thyroid	Total	7	43,018	16.3	13.5	7.9	0.944	1,249	8,253,348	15.1
	Male	-	23,686	-	-	2.5	0.169	332	4,132,309	8.0
	Female	7	19,332	36.2	31.1	5.0	0.477	917	4,121,039	22.3
Pediatric Age 0 to 19	Total	3	7,893	38.0	37.7	1.4	0.351	432	2,392,629	18.1
	Male	1	4,374	22.9	22.4	0.9	1.000	233	1,221,528	19.1
	Female	2	3,519	56.8	56.9	0.6	0.242	199	1,171,101	17.0

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

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

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

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

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

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

TABLE 4: CANCER MORTALITY 2014–2018
COMPARISON BETWEEN CLEARWATER COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cause of Death Cancer Site/Type	Sex	Clearwater 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	544	43,202	1,259.2	776.9	556.6	0.612	66,736	8,395,842	794.9
	Male	321	23,822	1,347.5	869.8	306.1	0.407	34,865	4,204,058	829.3
	Female	223	19,380	1,150.7	660.0	256.9	0.034 <<	31,871	4,191,784	760.3
All Malignant Cancers	Total	147	43,202	340.3	206.5	122.4	0.034 >>	14,438	8,395,842	172.0
	Male	90	23,822	377.8	232.7	71.9	0.043 >>	7,811	4,204,058	185.8
	Female	57	19,380	294.1	173.8	51.9	0.510	6,627	4,191,784	158.1
Bladder	Total	3	43,202	6.9	4.0	3.8	0.966	423	8,395,842	5.0
	Male	3	23,822	12.6	7.5	3.0	1.000	316	4,204,058	7.5
	Female	-	19,380	-	-	0.9	0.824	107	4,191,784	2.6
Brain and Other Nervous System	Total	2	43,202	4.6	3.1	3.8	0.536	495	8,395,842	5.9
	Male	1	23,822	4.2	2.8	2.6	0.524	314	4,204,058	7.5
	Female	1	19,380	5.2	3.4	1.3	1.000	181	4,191,784	4.3
Breast	Total	4	43,202	9.3	5.8	8.8	0.121	1,083	8,395,842	12.9
	Male	-	23,822	-	-	0.1	1.000	10	4,204,058	0.2
	Female	4	19,380	20.6	12.6	8.1	0.184	1,073	4,191,784	25.6
Cervix	Female	2	19,380	10.3	7.5	0.5	0.179	78	4,191,784	1.9
Colorectal	Total	6	43,202	13.9	8.6	10.1	0.243	1,220	8,395,842	14.5
	Male	4	23,822	16.8	10.7	5.9	0.609	658	4,204,058	15.7
	Female	2	19,380	10.3	6.1	4.4	0.367	562	4,191,784	13.4
Corpus Uteri	Female	4	19,380	20.6	12.2	1.2	0.061	149	4,191,784	3.6
Esophagus	Total	5	43,202	11.6	7.1	3.9	0.715	466	8,395,842	5.6
	Male	5	23,822	21.0	13.1	3.4	0.512	375	4,204,058	8.9
	Female	-	19,380	-	-	0.7	0.968	91	4,191,784	2.2
Hodgkin Lymphoma	Total	1	43,202	2.3	1.6	0.2	0.282	20	8,395,842	0.2
	Male	-	23,822	-	-	0.1	1.000	8	4,204,058	0.2
	Female	1	19,380	5.2	3.2	0.1	0.171	12	4,191,784	0.3
Kidney	Total	7	43,202	16.2	9.8	3.1	0.077	363	8,395,842	4.3
	Male	4	23,822	16.8	10.4	2.2	0.351	238	4,204,058	5.7
	Female	3	19,380	15.5	8.8	1.0	0.165	125	4,191,784	3.0
Larynx	Total	1	43,202	2.3	1.4	0.5	0.812	62	8,395,842	0.7
	Male	1	23,822	4.2	2.7	0.5	0.739	52	4,204,058	1.2
	Female	-	19,380	-	-	0.1	1.000	10	4,191,784	0.2
Leukemia	Total	3	43,202	6.9	4.2	5.2	0.470	613	8,395,842	7.3
	Male	2	23,822	8.4	5.2	3.3	0.725	356	4,204,058	8.5
	Female	1	19,380	5.2	3.0	2.0	0.794	257	4,191,784	6.1
Liver and Bile Duct	Total	7	43,202	16.2	10.0	5.0	0.461	591	8,395,842	7.0
	Male	5	23,822	21.0	13.1	3.7	0.626	407	4,204,058	9.7
	Female	2	19,380	10.3	6.1	1.4	0.838	184	4,191,784	4.4
Lung and Bronchus	Total	41	43,202	94.9	56.3	26.8	0.012 >>	3,084	8,395,842	36.7
	Male	22	23,822	92.4	55.5	15.5	0.141	1,645	4,204,058	39.1
	Female	19	19,380	98.0	56.7	11.5	0.052	1,439	4,191,784	34.3
Melanoma of the Skin	Total	-	43,202	-	-	2.3	0.207	280	8,395,842	3.3
	Male	-	23,822	-	-	1.6	0.393	187	4,204,058	4.4
	Female	-	19,380	-	-	0.7	0.991	93	4,191,784	2.2
Myeloma	Total	3	43,202	6.9	4.0	2.9	1.000	326	8,395,842	3.9
	Male	1	23,822	4.2	2.5	1.8	0.906	194	4,204,058	4.6
	Female	2	19,380	10.3	5.7	1.1	0.599	132	4,191,784	3.1
Non-Hodgkin Lymphoma	Total	3	43,202	6.9	4.1	5.0	0.533	567	8,395,842	6.8
	Male	2	23,822	8.4	5.1	3.0	0.858	317	4,204,058	7.5
	Female	1	19,380	5.2	2.8	2.1	0.760	250	4,191,784	6.0
Oral Cavity and Pharynx	Total	6	43,202	13.9	8.6	1.8	0.021 >>	217	8,395,842	2.6
	Male	3	23,822	12.6	8.0	1.3	0.298	149	4,204,058	3.5
	Female	3	19,380	15.5	9.0	0.5	0.035 >>	68	4,191,784	1.6
Ovary	Female	3	19,380	15.5	9.3	2.8	1.000	360	4,191,784	8.6
Pancreas	Total	10	43,202	23.1	14.0	9.1	0.856	1,069	8,395,842	12.7
	Male	7	23,822	29.4	18.1	5.4	0.587	585	4,204,058	13.9
	Female	3	19,380	15.5	9.0	3.9	0.922	484	4,191,784	11.5
Prostate	Male	10	23,822	42.0	24.8	8.9	0.788	925	4,204,058	22.0
Stomach	Total	2	43,202	4.6	2.9	1.7	1.000	208	8,395,842	2.5
	Male	1	23,822	4.2	2.7	1.1	1.000	121	4,204,058	2.9
	Female	1	19,380	5.2	3.1	0.7	0.979	87	4,191,784	2.1

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, 2019.

Cancer Screening and Risk Factors

The Bureau of Vital Records and Health Statistics (BVRHS), Division of Public Health, 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) with randomly selected adult Idahoans to measure population prevalences of risk factors for the major causes of death, including cancer, since 1984. BVRHS provided data sets containing Behavioral Risk Factor Surveillance System (BRFSS) data from 2011 through 2018 to CDRI staff, who performed the analyses reported in these *County Profiles*. Analysis weights were poststratified to 2018 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, 2011–2018

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 (2014–2018)	81.2%	80.6%	84.5%	74.6%	84.7%	75.5%	83.3%	83.8%	84.9%
Not See Doctor Due to Cost in Past Year (2014–2018)	14.3%	13.9%	12.2%	18.1%	13.6%	14.3%	12.5%	13.9%	13.5%
Cancer Screening									
Mammogram Past 2 Years, Age 50–74 (2014, 2016, 2018)	67.5%	66.8%	72.1%	63.2%	72.9%	61.0%	64.6%	66.8%	60.1%
Pap Test Past 3 Years, Cervix Intact Age 21–65 (2016, 2018)	72.5%	74.8%	74.3%	72.1%	73.0%	71.7%	72.7%	68.6%	.
Colorectal Cancer Screening, Age 50–75 (2016, 2018)	65.4%	64.9%	71.3%	62.6%	68.9%	60.3%	62.1%	65.3%	75.0%
Tobacco Use									
Current Smoker (2014–2018)	14.6%	17.1%	15.1%	16.8%	13.1%	16.2%	14.4%	10.4%	20.7%
Current Smokeless Tobacco User, Males (2014–2018)	9.5%	10.6%	14.0%	11.1%	8.4%	8.9%	8.4%	7.3%	10.6%
Other Cancer-Related									
Sunburn in Previous 12 Months (2018)	47.7%	42.3%	49.0%	41.6%	50.8%	42.8%	49.9%	56.6%	.
Artificial Tanning Appliance Use (2011, 2014, 2016)	4.4%	5.5%	3.3%	3.3%	3.4%	4.2%	5.7%	6.8%	1.6%
Healthy Weight by Body Mass Index, Age 20+ (2014–2018)	32.6%	34.2%	32.9%	27.0%	36.3%	31.1%	29.4%	32.4%	29.6%
Meet Physical Activity Guidelines (2011, 2013, 2015, 2017)	22.1%	22.1%	19.9%	20.6%	26.1%	18.8%	20.0%	20.1%	14.5%
Home Ever Tested for Radon (2016, 2018)	22.7%	29.7%	19.5%	16.3%	24.1%	20.2%	23.3%	22.7%	15.3%

Access to Care

Have Health Insurance – 2014–2018
Statewide, 81.2% of adults aged 18–64 reported having health care coverage. Health care coverage differed significantly by race/ethnicity, with 84.5% of white non-Hispanics, compared to 59.8% of Hispanics and 79.9% of Native Americans, having health insurance. Spanish-speaking respondents were significantly less likely to be insured (33.1%) than English-speaking respondents (83.1%). Health care coverage differed significantly by age of respondent, with 76.4% of persons aged 30–39, and 86.5% of persons aged 50–64, having health insurance. Health care coverage differed significantly by county, with a range of 57.4% in Adams County to 91.7% in Oneida County having health insurance.

Not See Doctor Due to Cost in Past Year – 2014–2018
Statewide, 14.3% 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 (13.2% of white non-Hispanics, 21.4% of Hispanics, and 23.1% of Native Americans). Inability to see a doctor due to cost differed significantly by annual household income (27.4% for less than $15,000, 6.7% for greater than $50,000). Inability to see a doctor due to cost differed significantly by county, with a range of 7.0% in Caribou County to 20.2% in Jerome County.

Cancer Screening

Mammogram – 2014, 2016, 2018
Statewide, 67.5% 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 (70.7% versus 34.0%). Mammography rates differed significantly by county, with a range in screening of 47.3% in Gooding County to 77.5% in Nez Perce County. In 2018, Idaho ranked 49th among states and the District of Columbia for mammography screening rates among women aged 50–74 and 50th among ages 40+.

Pap Test – 2016, 2018
Statewide, 72.5% 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 (77.3% versus 54.2% screened in the past 3 years). Pap screening differed significantly by county, with a range of 60.5% in Idaho County to 79.2% in Latah County. In 2018, Idaho ranked 51st among states and the District of Columbia for Pap screening rate.

Colorectal Cancer Screening – 2016, 2018
Statewide, 65.4% of adults aged 50–75 reported receiving colorectal cancer screening based on the most recent guidelines.** Persons with health insurance were over twice as likely to be current for colorectal cancer screening. In 2018, Idaho ranked 41st 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 Smoking – 2014–2018
Statewide, 14.6% of adults aged 18 and older were current smokers. Smoking prevalence differed significantly by age of respondent, with 19.2% of persons aged 30–39, and 8.4% of persons aged 65 and older reporting current smoking. Smoking prevalence was lower among white non-Hispanics (14.7%) than among Native Americans (32.4%). Smoking prevalence differed significantly by county, with a range of 4.3% in Madison County to 32.7% in Adams County. Counties with higher rates of current smoking had higher rates of lung cancer.

Smokeless Tobacco Use, Males – 2014–2018
Statewide, 9.5% of males aged 18 and older were current users of smokeless tobacco. Smokeless tobacco use differed significantly by age group, ranging from 12.8% of males aged 30–39 to 4.0% of males aged 65 and older. Smokeless tobacco use differed significantly by county, with a range of 3.4% in Franklin County to 21.1% in Custer County. Counties with higher rates of smokeless tobacco use had higher rates of oral cavity & pharynx cancer.

Other Cancer-Related

Sun Exposure – 2018
Statewide, 47.7% of adults aged 18 and older reported having sunburn in the past 12 months. Sunburn rates were higher for white non-Hispanics (49.6%) and Native Americans (48.7%) than for Hispanics (35.2%). Sunburn rates differed significantly by age group, with 67.2% of persons aged 30–39 and 17.9% of persons aged 65 and older having sunburn in the past 12 months. Sunburn rates differed significantly by county, with a range of 36.7% in Idaho County to 72.9% in Madison County having sunburn in the past 12 months.

Artificial Tanning Appliance Use – 2011, 2014, 2016
Statewide, 4.4% of adults aged 18 and older reported using an artificial tanning appliance, such as a tanning bed, in the past 12 months. Females (6.8%) were significantly more likely than males (2.1%) to have used an artificial tanning appliance in the past 12 months. Tanning appliance use differed significantly by age group, with 8.7% of persons aged 18–29 and 0.9% of persons aged 65 and older, using an appliance in the past 12 months. Tanning appliance use differed by county, with a range of less than 1% in Oneida, Power, and Valley Counties to over 9% in Bear Lake and Fremont Counties using an artificial tanning appliance in the past 12 months.

Healthy Weight by Body Mass Index – 2014–2018
Statewide, 32.6% 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 33.3% of white non-Hispanics, compared to 26.0% of Hispanics and 26.8% of Native Americans, being in the healthy weight range. Males (25.7%) were significantly less likely to be in the healthy weight range than females (39.4%). BMI differed significantly by age of respondent, with 45.0% of persons aged 18–29, and 27.1% of persons aged 50–64, being in the healthy weight range. BMI differed significantly by county, with a range of 19.5% in Minidoka County to 52.8% in Blaine County of adults being in the healthy weight range.

Physical Activity – 2011, 2013, 2015, 2017
Statewide, 22.1% of adults aged 18 and older met aerobic and strength physical activity guidelines during the past month or week. Physical activity differed significantly by age of respondent, with 26.3% of persons aged 18–29, and 19.3% of persons aged 50–64, meeting guidelines. The percentage of adults meeting physical activity guidelines differed significantly by county, with a range of 7.6% in Oneida County to 31.1% in Blaine County.

Home Radon Testing – 2016, 2018
Statewide, 22.7% of adults have ever tested their house for radon. Radon test usage varied significantly by race/ethnicity, with 24.7% of white non-Hispanics, 5.3% of Hispanics, and 27.9% 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 8.0% in Cassia County to 58.0% in Blaine County.

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CUSTER COUNTY CANCER PROFILE

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

Cancer Incidence 2013–2017
Cancer Mortality 2014–2018
BRFSS 2011–2018

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 are due to personal lifestyle factors, such as smoking and sedentary lifestyle, and are preventable. Additional cancers are 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. 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.

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://health.gov/dietaryguidelines/2015.

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
615 N. 7th Street
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/contact-center

American Cancer Society
2676 S. Vista Avenue
Boise, ID 83705
208-343-4609
https://www.cancer.org

CANCER INCIDENCE 2013–2017

Nearly one in two Idahoans are estimated to develop cancer during their lifetime. During 2013–2017, 40,996 cases of invasive cancer were diagnosed among Idaho residents, and 155 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, 2013–2017

Cancer Incidence 2013–2017	Custer County	State of Idaho
All Sites/Types	**155**	**40,996**
Female Breast	**18**	**5,956**
Prostate	**24**	**5,027**
Lung & Bronchus	**19**	**4,657**
Colorectal	**11**	**3,235**

Table 3 (*Cancer Incidence 2013–2017, 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 rate of invasive cancer incidence in Custer County was 750.6 cases per 100,000 person-years per year during 2013–2017. Comparing this crude rate with the crude rate for the remainder of Idaho (493.5) 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 483.0 cases per 100,000 persons per year during 2013–2017. There were fewer cases of cancer in Custer County (155) than expected (158.4) 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 2014–2018

During 2014–2018, cancer was the second leading cause of death in Idaho; 14,585 Idaho residents and 67 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, 2014–2018

Mortality 2014–2018	Custer County	State of Idaho
All Deaths	**239**	**67,280**
Cancer Deaths	**67**	**14,585**
% of All Deaths	*28.0%*	*21.7%*
Lung & Bronchus	**17**	**3,125**
Colorectal	**5**	**1,226**
Pancreas	**5**	**1,079**
Female Breast	**5**	**1,077**
Prostate	**2**	**935**

Table 4 (*Cancer Mortality 2014–2018, 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 198.2 deaths per 100,000 persons per year during 2014–2018, compared with 172.5 for the remainder of the state. There were more cancer deaths in Custer County (67) than expected (58.3) 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 2013–2017
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	155	20,650	750.6	483.0	158.4	0.829	40,841	8,275,716	493.5
	Male	97	10,616	913.7	537.3	91.9	0.621	21,100	4,145,379	509.0
	Female	58	10,034	578.0	404.4	68.5	0.221	19,741	4,130,337	478.0
Bladder	Total	10	20,650	48.4	29.5	8.2	0.621	2,005	8,275,716	24.2
	Male	9	10,616	84.8	48.0	7.1	0.556	1,561	4,145,379	37.7
	Female	1	10,034	10.0	6.6	1.6	1.000	444	4,130,337	10.7
Brain - malignant	Total	3	20,650	14.5	10.7	2.1	0.677	607	8,275,716	7.3
	Male	2	10,616	18.8	12.8	1.4	0.811	369	4,145,379	8.9
	Female	1	10,034	10.0	8.0	0.7	1.000	238	4,130,337	5.8
Brain and other CNS - non-malignant	Total	5	20,650	24.2	17.1	3.8	0.653	1,067	8,275,716	12.9
	Male	2	10,616	18.8	12.9	1.3	0.755	352	4,145,379	8.5
	Female	3	10,034	29.9	21.9	2.4	0.844	715	4,130,337	17.3
Breast	Total	18	20,650	87.2	57.5	22.6	0.391	5,983	8,275,716	72.3
	Male	-	10,616	-	-	0.2	1.000	45	4,145,379	1.1
	Female	18	10,034	179.4	125.4	20.6	0.660	5,938	4,130,337	143.8
Breast - in situ	Total	4	20,650	19.4	13.2	3.9	1.000	1,060	8,275,716	12.8
	Male	-	10,616	-	-	0.0	1.000	3	4,145,379	0.1
	Female	4	10,034	39.9	28.6	3.6	0.960	1,057	4,130,337	25.6
Cervix	Female	-	10,034	-	-	0.7	0.984	259	4,130,337	6.3
Colorectal	Total	11	20,650	53.3	34.3	12.5	0.816	3,224	8,275,716	39.0
	Male	7	10,616	65.9	39.8	7.3	1.000	1,728	4,145,379	41.7
	Female	4	10,034	39.9	27.3	5.3	0.777	1,496	4,130,337	36.2
Corpus Uteri	Female	3	10,034	29.9	20.5	4.3	0.765	1,206	4,130,337	29.2
Esophagus	Total	3	20,650	14.5	9.0	1.9	0.584	466	8,275,716	5.6
	Male	2	10,616	18.8	10.9	1.7	1.000	386	4,145,379	9.3
	Female	1	10,034	10.0	6.5	0.3	0.515	80	4,130,337	1.9
Hodgkin Lymphoma	Total	1	20,650	4.8	4.6	0.5	0.808	198	8,275,716	2.4
	Male	-	10,616	-	-	0.3	1.000	108	4,145,379	2.6
	Female	1	10,034	10.0	9.5	0.2	0.409	90	4,130,337	2.2
Kidney and Renal Pelvis	Total	5	20,650	24.2	15.5	6.0	0.880	1,549	8,275,716	18.7
	Male	4	10,616	37.7	22.5	4.2	1.000	991	4,145,379	23.9
	Female	1	10,034	10.0	6.8	2.0	0.826	558	4,130,337	13.5
Larynx	Total	-	20,650	-	-	0.9	0.853	209	8,275,716	2.5
	Male	-	10,616	-	-	0.8	0.929	168	4,145,379	4.1
	Female	-	10,034	-	-	0.1	1.000	41	4,130,337	1.0
Leukemia	Total	8	20,650	38.7	26.0	5.5	0.379	1,478	8,275,716	17.9
	Male	8	10,616	75.4	47.3	3.6	0.058	873	4,145,379	21.1
	Female	-	10,034	-	-	2.1	0.255	605	4,130,337	14.6
Liver and Bile Duct	Total	6	20,650	29.1	17.8	3.0	0.159	727	8,275,716	8.8
	Male	5	10,616	47.1	26.9	2.4	0.182	527	4,145,379	12.7
	Female	1	10,034	10.0	6.7	0.7	1.000	200	4,130,337	4.8
Lung and Bronchus	Total	19	20,650	92.0	55.5	19.2	1.000	4,638	8,275,716	56.0
	Male	10	10,616	94.2	52.7	11.0	0.930	2,392	4,145,379	57.7
	Female	9	10,034	89.7	58.2	8.4	0.928	2,246	4,130,337	54.4
Melanoma of the Skin	Total	10	20,650	48.4	32.9	9.2	0.891	2,516	8,275,716	30.4
	Male	8	10,616	75.4	46.5	6.1	0.531	1,461	4,145,379	35.2
	Female	2	10,034	19.9	15.0	3.4	0.680	1,055	4,130,337	25.5
Myeloma	Total	-	20,650	-	-	2.5	0.166	608	8,275,716	7.3
	Male	-	10,616	-	-	1.6	0.393	357	4,145,379	8.6
	Female	-	10,034	-	-	0.9	0.790	251	4,130,337	6.1
Non-Hodgkin Lymphoma	Total	3	20,650	14.5	9.3	6.9	0.178	1,770	8,275,716	21.4
	Male	3	10,616	28.3	17.0	4.3	0.767	1,004	4,145,379	24.2
	Female	-	10,034	-	-	2.7	0.131	766	4,130,337	18.5
Oral Cavity and Pharynx	Total	7	20,650	33.9	21.7	4.5	0.346	1,161	8,275,716	14.0
	Male	6	10,616	56.5	33.7	3.5	0.290	820	4,145,379	19.8
	Female	1	10,034	10.0	6.9	1.2	1.000	341	4,130,337	8.3
Ovary	Female	3	10,034	29.9	20.9	1.8	0.533	516	4,130,337	12.5
Pancreas	Total	5	20,650	24.2	14.9	5.3	1.000	1,299	8,275,716	15.7
	Male	3	10,616	28.3	16.2	3.1	1.000	699	4,145,379	16.9
	Female	2	10,034	19.9	13.2	2.2	1.000	600	4,130,337	14.5
Prostate	Male	24	10,616	226.1	125.1	23.2	0.915	5,003	4,145,379	120.7
Stomach	Total	-	20,650	-	-	1.9	0.294	488	8,275,716	5.9
	Male	-	10,616	-	-	1.4	0.499	318	4,145,379	7.7
	Female	-	10,034	-	-	0.6	1.000	170	4,130,337	4.1
Testis	Male	1	10,616	9.4	11.3	0.6	0.866	266	4,145,379	6.4
Thyroid	Total	2	20,650	9.7	8.0	3.8	0.534	1,254	8,275,716	15.2
	Male	1	10,616	9.4	6.8	1.2	1.000	331	4,145,379	8.0
	Female	1	10,034	10.0	8.7	2.6	0.545	923	4,130,337	22.3
Pediatric Age 0 to 19	Total	-	3,955	-	-	0.7	0.971	435	2,396,567	18.2
	Male	-	1,976	-	-	0.4	1.000	234	1,223,926	19.1
	Female	-	1,979	-	-	0.3	1.000	201	1,172,641	17.1

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

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

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

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

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

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

TABLE 4: CANCER MORTALITY 2014–2018
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	239	20,705	1,154.3	749.1	254.1	0.361	67,041	8,418,339	796.4
	Male	133	10,619	1,252.5	776.7	142.3	0.463	35,053	4,217,261	831.2
	Female	106	10,086	1,051.0	705.4	114.4	0.463	31,988	4,201,078	761.4
All Malignant Cancers	Total	67	20,705	323.6	198.2	58.3	0.284	14,518	8,418,339	172.5
	Male	39	10,619	367.3	210.5	34.5	0.491	7,862	4,217,261	186.4
	Female	28	10,086	277.6	181.2	24.5	0.528	6,656	4,201,078	158.4
Bladder	Total	2	20,705	9.7	5.9	1.7	1.000	424	8,418,339	5.0
	Male	2	10,619	18.8	10.9	1.4	0.800	317	4,217,261	7.5
	Female	-	10,086	-	-	0.4	1.000	107	4,201,078	2.5
Brain and Other Nervous System	Total	1	20,705	4.8	3.1	1.9	0.878	496	8,418,339	5.9
	Male	1	10,619	9.4	5.8	1.3	1.000	314	4,217,261	7.4
	Female	-	10,086	-	-	0.6	1.000	182	4,201,078	4.3
Breast	Total	5	20,705	24.1	15.3	4.2	0.824	1,082	8,418,339	12.9
	Male	-	10,619	-	-	0.0	1.000	10	4,217,261	0.2
	Female	5	10,086	49.6	33.0	3.9	0.690	1,072	4,201,078	25.5
Cervix	Female	-	10,086	-	-	0.3	1.000	80	4,201,078	1.9
Colorectal	Total	5	20,705	24.1	15.1	4.8	1.000	1,221	8,418,339	14.5
	Male	3	10,619	28.3	16.7	2.8	1.000	659	4,217,261	15.6
	Female	2	10,086	19.8	13.1	2.0	1.000	562	4,201,078	13.4
Corpus Uteri	Female	-	10,086	-	-	0.6	1.000	153	4,201,078	3.6
Esophagus	Total	2	20,705	9.7	5.8	1.9	1.000	469	8,418,339	5.6
	Male	1	10,619	9.4	5.4	1.7	1.000	379	4,217,261	9.0
	Female	1	10,086	9.9	6.3	0.3	0.573	90	4,201,078	2.1
Hodgkin Lymphoma	Total	-	20,705	-	-	0.1	1.000	21	8,418,339	0.2
	Male	-	10,619	-	-	0.0	1.000	8	4,217,261	0.2
	Female	-	10,086	-	-	0.0	1.000	13	4,201,078	0.3
Kidney	Total	2	20,705	9.7	5.8	1.5	0.882	368	8,418,339	4.4
	Male	2	10,619	18.8	10.7	1.1	0.572	240	4,217,261	5.7
	Female	-	10,086	-	-	0.5	1.000	128	4,201,078	3.0
Larynx	Total	-	20,705	-	-	0.3	1.000	63	8,418,339	0.7
	Male	-	10,619	-	-	0.2	1.000	53	4,217,261	1.3
	Female	-	10,086	-	-	0.0	1.000	10	4,201,078	0.2
Leukemia	Total	2	20,705	9.7	6.1	2.4	1.000	614	8,418,339	7.3
	Male	2	10,619	18.8	11.1	1.5	0.901	356	4,217,261	8.4
	Female	-	10,086	-	-	0.9	0.790	258	4,201,078	6.1
Liver and Bile Duct	Total	1	20,705	4.8	2.9	2.5	0.588	597	8,418,339	7.1
	Male	1	10,619	9.4	5.2	1.9	0.883	411	4,217,261	9.7
	Female	-	10,086	-	-	0.7	0.998	186	4,201,078	4.4
Lung and Bronchus	Total	17	20,705	82.1	48.8	12.9	0.311	3,108	8,418,339	36.9
	Male	10	10,619	94.2	52.0	7.5	0.458	1,657	4,217,261	39.3
	Female	7	10,086	69.4	44.1	5.5	0.622	1,451	4,201,078	34.5
Melanoma of the Skin	Total	2	20,705	9.7	6.1	1.1	0.589	278	8,418,339	3.3
	Male	2	10,619	18.8	11.1	0.8	0.373	185	4,217,261	4.4
	Female	-	10,086	-	-	0.3	1.000	93	4,201,078	2.2
Myeloma	Total	1	20,705	4.8	2.9	1.3	1.000	328	8,418,339	3.9
	Male	1	10,619	9.4	5.4	0.9	1.000	194	4,217,261	4.6
	Female	-	10,086	-	-	0.5	1.000	134	4,201,078	3.2
Non-Hodgkin Lymphoma	Total	2	20,705	9.7	5.8	2.3	1.000	568	8,418,339	6.7
	Male	2	10,619	18.8	10.7	1.4	0.817	317	4,217,261	7.5
	Female	-	10,086	-	-	1.0	0.773	251	4,201,078	6.0
Oral Cavity and Pharynx	Total	1	20,705	4.8	2.9	0.9	1.000	222	8,418,339	2.6
	Male	1	10,619	9.4	5.4	0.7	0.968	151	4,217,261	3.6
	Female	-	10,086	-	-	0.3	1.000	71	4,201,078	1.7
Ovary	Female	2	10,086	19.8	12.8	1.3	0.776	361	4,201,078	8.6
Pancreas	Total	5	20,705	24.1	14.5	4.4	0.897	1,074	8,418,339	12.8
	Male	2	10,619	18.8	10.6	2.6	1.000	590	4,217,261	14.0
	Female	3	10,086	29.7	19.1	1.8	0.545	484	4,201,078	11.5
Prostate	Male	2	10,619	18.8	10.9	4.1	0.454	933	4,217,261	22.1
Stomach	Total	1	20,705	4.8	3.1	0.8	1.000	209	8,418,339	2.5
	Male	1	10,619	9.4	5.6	0.5	0.800	121	4,217,261	2.9
	Female	-	10,086	-	-	0.3	1.000	88	4,201,078	2.1

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, 2019.

Cancer Screening and Risk Factors

The Bureau of Vital Records and Health Statistics (BVRHS), Division of Public Health, 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) with randomly selected adult Idahoans to measure population prevalences of risk factors for the major causes of death, including cancer, since 1984. BVRHS provided data sets containing Behavioral Risk Factor Surveillance System (BRFSS) data from 2011 through 2018 to CDRI staff, who performed the analyses reported in these *County Profiles*. Analysis weights were poststratified to 2018 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, 2011–2018

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 (2014–2018)	81.2%	80.6%	84.5%	74.6%	84.7%	75.5%	83.3%	83.8%	79.4%
Not See Doctor Due to Cost in Past Year (2014–2018)	14.3%	13.9%	12.2%	18.1%	13.6%	14.3%	12.5%	13.9%	15.4%
Cancer Screening									
Mammogram Past 2 Years, Age 50–74 (2014, 2016, 2018)	67.5%	66.8%	72.1%	63.2%	72.9%	61.0%	64.6%	66.8%	.
Pap Test Past 3 Years, Cervix Intact Age 21–65 (2016, 2018)	72.5%	74.8%	74.3%	72.1%	73.0%	71.7%	72.7%	68.6%	.
Colorectal Cancer Screening, Age 50–75 (2016, 2018)	65.4%	64.9%	71.3%	62.6%	68.9%	60.3%	62.1%	65.3%	.
Tobacco Use									
Current Smoker (2014–2018)	14.6%	17.1%	15.1%	16.8%	13.1%	16.2%	14.4%	10.4%	16.8%
Current Smokeless Tobacco User, Males (2014–2018)	9.5%	10.6%	14.0%	11.1%	8.4%	8.9%	8.4%	7.3%	21.1%
Other Cancer-Related									
Sunburn in Previous 12 Months (2018)	47.7%	42.3%	49.0%	41.6%	50.8%	42.8%	49.9%	56.6%	.
Artificial Tanning Appliance Use (2011, 2014, 2016)	4.4%	5.5%	3.3%	3.3%	3.4%	4.2%	5.7%	6.8%	4.2%
Healthy Weight by Body Mass Index, Age 20+ (2014–2018)	32.6%	34.2%	32.9%	27.0%	36.3%	31.1%	29.4%	32.4%	35.9%
Meet Physical Activity Guidelines (2011, 2013, 2015, 2017)	22.1%	22.1%	19.9%	20.6%	26.1%	18.8%	20.0%	20.1%	29.1%
Home Ever Tested for Radon (2016, 2018)	22.7%	29.7%	19.5%	16.3%	24.1%	20.2%	23.3%	22.7%	42.6%

Access to Care

Have Health Insurance – 2014–2018
Statewide, 81.2% of adults aged 18–64 reported having health care coverage. Health care coverage differed significantly by race/ethnicity, with 84.5% of white non-Hispanics, compared to 59.8% of Hispanics and 79.9% of Native Americans, having health insurance. Spanish-speaking respondents were significantly less likely to be insured (33.1%) than English-speaking respondents (83.1%). Health care coverage differed significantly by age of respondent, with 76.4% of persons aged 30–39, and 86.5% of persons aged 50–64, having health insurance. Health care coverage differed significantly by county, with a range of 57.4% in Adams County to 91.7% in Oneida County having health insurance.

Not See Doctor Due to Cost in Past Year – 2014–2018
Statewide, 14.3% 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 (13.2% of white non-Hispanics, 21.4% of Hispanics, and 23.1% of Native Americans). Inability to see a doctor due to cost differed significantly by annual household income (27.4% for less than $15,000, 6.7% for greater than $50,000). Inability to see a doctor due to cost differed significantly by county, with a range of 7.0% in Caribou County to 20.2% in Jerome County.

Cancer Screening

Mammogram – 2014, 2016, 2018
Statewide, 67.5% 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 (70.7% versus 34.0%). Mammography rates differed significantly by county, with a range in screening of 47.3% in Gooding County to 77.5% in Nez Perce County. In 2018, Idaho ranked 49th among states and the District of Columbia for mammography screening rates among women aged 50–74 and 50th among ages 40+.

Pap Test – 2016, 2018
Statewide, 72.5% 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 (77.3% versus 54.2% screened in the past 3 years). Pap screening differed significantly by county, with a range of 60.5% in Idaho County to 79.2% in Latah County. In 2018, Idaho ranked 51st among states and the District of Columbia for Pap screening rate.

Colorectal Cancer Screening – 2016, 2018
Statewide, 65.4% of adults aged 50–75 reported receiving colorectal cancer screening based on the most recent guidelines.** Persons with health insurance were over twice as likely to be current for colorectal cancer screening. In 2018, Idaho ranked 41st 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 Smoking – 2014–2018
Statewide, 14.6% of adults aged 18 and older were current smokers. Smoking prevalence differed significantly by age of respondent, with 19.2% of persons aged 30–39, and 8.4% of persons aged 65 and older reporting current smoking. Smoking prevalence was lower among white non-Hispanics (14.7%) than among Native Americans (32.4%). Smoking prevalence differed significantly by county, with a range of 4.3% in Madison County to 32.7% in Adams County. Counties with higher rates of current smoking had higher rates of lung cancer.

Smokeless Tobacco Use, Males – 2014–2018
Statewide, 9.5% of males aged 18 and older were current users of smokeless tobacco. Smokeless tobacco use differed significantly by age group, ranging from 12.8% of males aged 30–39 to 4.0% of males aged 65 and older. Smokeless tobacco use differed significantly by county, with a range of 3.4% in Franklin County to 21.1% in Custer County. Counties with higher rates of smokeless tobacco use had higher rates of oral cavity & pharynx cancer.

Other Cancer-Related

Sun Exposure – 2018
Statewide, 47.7% of adults aged 18 and older reported having sunburn in the past 12 months. Sunburn rates were higher for white non-Hispanics (49.6%) and Native Americans (48.7%) than for Hispanics (35.2%). Sunburn rates differed significantly by age group, with 67.2% of persons aged 30–39 and 17.9% of persons aged 65 and older having sunburn in the past 12 months. Sunburn rates differed significantly by county, with a range of 36.7% in Idaho County to 72.9% in Madison County having sunburn in the past 12 months.

Artificial Tanning Appliance Use – 2011, 2014, 2016
Statewide, 4.4% of adults aged 18 and older reported using an artificial tanning appliance, such as a tanning bed, in the past 12 months. Females (6.8%) were significantly more likely than males (2.1%) to have used an artificial tanning appliance in the past 12 months. Tanning appliance use differed significantly by age group, with 8.7% of persons aged 18–29 and 0.9% of persons aged 65 and older, using an appliance in the past 12 months. Tanning appliance use differed by county, with a range of less than 1% in Oneida, Power, and Valley Counties to over 9% in Bear Lake and Fremont Counties using an artificial tanning appliance in the past 12 months.

Healthy Weight by Body Mass Index – 2014–2018
Statewide, 32.6% 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 33.3% of white non-Hispanics, compared to 26.0% of Hispanics and 26.8% of Native Americans, being in the healthy weight range. Males (25.7%) were significantly less likely to be in the healthy weight range than females (39.4%). BMI differed significantly by age of respondent, with 45.0% of persons aged 18–29, and 27.1% of persons aged 50–64, being in the healthy weight range. BMI differed significantly by county, with a range of 19.5% in Minidoka County to 52.8% in Blaine County of adults being in the healthy weight range.

Physical Activity – 2011, 2013, 2015, 2017
Statewide, 22.1% of adults aged 18 and older met aerobic and strength physical activity guidelines during the past month or week. Physical activity differed significantly by age of respondent, with 26.3% of persons aged 18–29, and 19.3% of persons aged 50–64, meeting guidelines. The percentage of adults meeting physical activity guidelines differed significantly by county, with a range of 7.6% in Oneida County to 31.1% in Blaine County.

Home Radon Testing – 2016, 2018
Statewide, 22.7% of adults have ever tested their house for radon. Radon test usage varied significantly by race/ethnicity, with 24.7% of white non-Hispanics, 5.3% of Hispanics, and 27.9% 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 8.0% in Cassia County to 58.0% in Blaine County.

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ELMORE COUNTY CANCER PROFILE

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

Cancer Incidence 2013–2017
Cancer Mortality 2014–2018
BRFSS 2011–2018

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 are due to personal lifestyle factors, such as smoking and sedentary lifestyle, and are preventable. Additional cancers are 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. 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.

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://health.gov/dietaryguidelines/2015.

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
615 N. 7th Street
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/contact-center

American Cancer Society
2676 S. Vista Avenue
Boise, ID 83705
208-343-4609
https://www.cancer.org

CANCER INCIDENCE 2013–2017

Nearly one in two Idahoans are estimated to develop cancer during their lifetime. During 2013–2017, 40,996 cases of invasive cancer were diagnosed among Idaho residents, and 602 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, 2013–2017

Cancer Incidence 2013–2017	Elmore County	State of Idaho
All Sites/Types	**602**	**40,996**
Female Breast	**72**	**5,956**
Prostate	**65**	**5,027**
Lung & Bronchus	**86**	**4,657**
Colorectal	**56**	**3,235**

Table 3 (*Cancer Incidence 2013–2017, 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 rate of invasive cancer incidence in Elmore County was 458.9 cases per 100,000 person-years per year during 2013–2017. Comparing this crude rate with the crude rate for the remainder of Idaho (494.7) 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 528.0 cases per 100,000 persons per year during 2013–2017. There were more cases of cancer in Elmore County (602) than expected (564.1) 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 2014–2018

During 2014–2018, cancer was the second leading cause of death in Idaho; 14,585 Idaho residents and 236 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, 2014–2018

Mortality 2014–2018	Elmore County	State of Idaho
All Deaths	**980**	**67,280**
Cancer Deaths	**236**	**14,585**
% of All Deaths	*24.1%*	*21.7%*
Lung & Bronchus	**58**	**3,125**
Colorectal	**22**	**1,226**
Pancreas	**8**	**1,079**
Female Breast	**11**	**1,077**
Prostate	**12**	**935**

Table 4 (*Cancer Mortality 2014–2018, 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 209.7 deaths per 100,000 persons per year during 2014–2018, compared with 172.7 for the remainder of the state. There were statistically significantly more cancer deaths in Elmore County (236) than expected (194.4) 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 2013–2017
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	602	131,171	458.9	528.0	564.1	0.117	40,394	8,165,195	494.7
	Male	315	68,538	459.6	549.9	292.7	0.204	20,882	4,087,457	510.9
	Female	287	62,633	458.2	507.2	270.8	0.339	19,512	4,077,738	478.5
Bladder	Total	29	131,171	22.1	26.2	26.9	0.739	1,986	8,165,195	24.3
	Male	27	68,538	39.4	48.5	21.0	0.235	1,543	4,087,457	37.7
	Female	2	62,633	3.2	3.7	5.9	0.130	443	4,077,738	10.9
Brain - malignant	Total	11	131,171	8.4	9.2	8.8	0.540	599	8,165,195	7.3
	Male	5	68,538	7.3	8.3	5.4	1.000	366	4,087,457	9.0
	Female	6	62,633	9.6	10.1	3.4	0.261	233	4,077,738	5.7
Brain and other CNS - non-malignant	Total	23	131,171	17.5	19.7	15.0	0.065	1,049	8,165,195	12.8
	Male	4	68,538	5.8	6.7	5.1	0.831	350	4,087,457	8.6
	Female	19	62,633	30.3	33.4	9.8	0.011 >>	699	4,077,738	17.1
Breast	Total	73	131,171	55.7	64.0	82.8	0.305	5,928	8,165,195	72.6
	Male	1	68,538	1.5	1.8	0.6	0.886	44	4,087,457	1.1
	Female	72	62,633	115.0	127.4	81.6	0.316	5,884	4,077,738	144.3
Breast - in situ	Total	17	131,171	13.0	14.9	14.7	0.610	1,047	8,165,195	12.8
	Male	-	68,538	-	-	0.0	1.000	3	4,087,457	0.1
	Female	17	62,633	27.1	30.0	14.5	0.577	1,044	4,077,738	25.6
Cervix	Female	3	62,633	4.8	5.1	3.7	0.976	256	4,077,738	6.3
Colorectal	Total	56	131,171	42.7	49.5	44.1	0.093	3,179	8,165,195	38.9
	Male	35	68,538	51.1	61.2	23.8	0.037 >>	1,700	4,087,457	41.6
	Female	21	62,633	33.5	37.5	20.3	0.936	1,479	4,077,738	36.3
Corpus Uteri	Female	20	62,633	31.9	35.6	16.4	0.429	1,189	4,077,738	29.2
Esophagus	Total	8	131,171	6.1	7.1	6.3	0.604	461	8,165,195	5.6
	Male	8	68,538	11.7	14.2	5.2	0.320	380	4,087,457	9.3
	Female	-	62,633	-	-	1.1	0.674	81	4,077,738	2.0
Hodgkin Lymphoma	Total	4	131,171	3.0	3.0	3.2	0.784	195	8,165,195	2.4
	Male	2	68,538	2.9	2.9	1.8	1.000	106	4,087,457	2.6
	Female	2	62,633	3.2	3.2	1.4	0.803	89	4,077,738	2.2
Kidney and Renal Pelvis	Total	21	131,171	16.0	18.4	21.4	1.000	1,533	8,165,195	18.8
	Male	13	68,538	19.0	22.7	13.8	0.976	982	4,087,457	24.0
	Female	8	62,633	12.8	14.1	7.6	0.993	551	4,077,738	13.5
Larynx	Total	6	131,171	4.6	5.3	2.8	0.133	203	8,165,195	2.5
	Male	4	68,538	5.8	7.1	2.3	0.389	164	4,087,457	4.0
	Female	2	62,633	3.2	3.5	0.5	0.209	39	4,077,738	1.0
Leukemia	Total	21	131,171	16.0	18.1	20.8	1.000	1,465	8,165,195	17.9
	Male	13	68,538	19.0	22.1	12.5	0.955	868	4,087,457	21.2
	Female	8	62,633	12.8	14.0	8.3	1.000	597	4,077,738	14.6
Liver and Bile Duct	Total	12	131,171	9.1	10.7	9.9	0.593	721	8,165,195	8.8
	Male	5	68,538	7.3	8.8	7.3	0.517	527	4,087,457	12.9
	Female	7	62,633	11.2	12.6	2.6	0.037 >>	194	4,077,738	4.8
Lung and Bronchus	Total	86	131,171	65.6	76.9	62.6	0.006 >>	4,571	8,165,195	56.0
	Male	45	68,538	65.7	80.4	32.3	0.039 >>	2,357	4,087,457	57.7
	Female	41	62,633	65.5	73.3	30.4	0.076	2,214	4,077,738	54.3
Melanoma of the Skin	Total	29	131,171	22.1	25.0	35.5	0.314	2,497	8,165,195	30.6
	Male	14	68,538	20.4	24.1	20.6	0.165	1,455	4,087,457	35.6
	Female	15	62,633	23.9	25.9	14.8	1.000	1,042	4,077,738	25.6
Myeloma	Total	10	131,171	7.6	8.9	8.2	0.619	598	8,165,195	7.3
	Male	5	68,538	7.3	8.9	4.8	1.000	352	4,087,457	8.6
	Female	5	62,633	8.0	9.0	3.3	0.491	246	4,077,738	6.0
Non-Hodgkin Lymphoma	Total	17	131,171	13.0	14.9	24.5	0.144	1,756	8,165,195	21.5
	Male	10	68,538	14.6	17.3	14.1	0.335	997	4,087,457	24.4
	Female	7	62,633	11.2	12.5	10.5	0.364	759	4,077,738	18.6
Oral Cavity and Pharynx	Total	15	131,171	11.4	13.1	16.1	0.910	1,153	8,165,195	14.1
	Male	9	68,538	13.1	15.7	11.5	0.581	817	4,087,457	20.0
	Female	6	62,633	9.6	10.6	4.7	0.658	336	4,077,738	8.2
Ovary	Female	5	62,633	8.0	8.8	7.1	0.565	514	4,077,738	12.6
Pancreas	Total	19	131,171	14.5	17.0	17.6	0.799	1,285	8,165,195	15.7
	Male	11	68,538	16.0	19.5	9.5	0.717	691	4,087,457	16.9
	Female	8	62,633	12.8	14.5	8.0	1.000	594	4,077,738	14.6
Prostate	Male	65	68,538	94.8	115.5	68.3	0.744	4,962	4,087,457	121.4
Stomach	Total	9	131,171	6.9	8.0	6.6	0.437	479	8,165,195	5.9
	Male	7	68,538	10.2	12.4	4.3	0.291	311	4,087,457	7.6
	Female	2	62,633	3.2	3.6	2.3	1.000	168	4,077,738	4.1
Testis	Male	7	68,538	10.2	9.1	4.9	0.445	260	4,087,457	6.4
Thyroid	Total	14	131,171	10.7	11.2	18.9	0.307	1,242	8,165,195	15.2
	Male	4	68,538	5.8	6.4	5.1	0.863	328	4,087,457	8.0
	Female	10	62,633	16.0	16.5	13.6	0.413	914	4,077,738	22.4
Pediatric Age 0 to 19	Total	6	37,383	16.1	15.9	6.9	0.944	429	2,363,139	18.2
	Male	3	19,263	15.6	15.4	3.7	0.976	231	1,206,639	19.1
	Female	3	18,120	16.6	16.4	3.1	1.000	198	1,156,500	17.1

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

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

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

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

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

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

TABLE 4: CANCER MORTALITY 2014–2018
COMPARISON BETWEEN ELMORE COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cause of Death Cancer Site/Type	Sex	Elmore 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	980	132,165	741.5	882.0	886.8	0.002 >>	66,300	8,306,879	798.1
	Male	554	69,109	801.6	961.3	479.9	0.001 >>	34,632	4,158,771	832.7
	Female	426	63,056	675.6	794.4	409.4	0.424	31,668	4,148,108	763.4
All Malignant Cancers	Total	236	132,165	178.6	209.7	194.4	0.004 >>	14,349	8,306,879	172.7
	Male	135	69,109	195.3	237.4	106.2	0.008 >>	7,766	4,158,771	186.7
	Female	101	63,056	160.2	181.4	88.4	0.201	6,583	4,148,108	158.7
Bladder	Total	3	132,165	2.3	2.8	5.5	0.396	423	8,306,879	5.1
	Male	3	69,109	4.3	5.4	4.2	0.792	316	4,158,771	7.6
	Female	-	63,056	-	-	1.4	0.510	107	4,148,108	2.6
Brain and Other Nervous System	Total	7	132,165	5.3	6.0	6.9	1.000	490	8,306,879	5.9
	Male	4	69,109	5.8	6.7	4.4	1.000	311	4,158,771	7.5
	Female	3	63,056	4.8	5.3	2.5	0.893	179	4,148,108	4.3
Breast	Total	11	132,165	8.3	9.8	14.6	0.430	1,076	8,306,879	13.0
	Male	-	69,109	-	-	0.1	1.000	10	4,158,771	0.2
	Female	11	63,056	17.4	19.7	14.3	0.466	1,066	4,148,108	25.7
Cervix	Female	3	63,056	4.8	5.2	1.1	0.188	77	4,148,108	1.9
Colorectal	Total	22	132,165	16.6	19.6	16.3	0.202	1,204	8,306,879	14.5
	Male	13	69,109	18.8	22.7	8.9	0.239	649	4,158,771	15.6
	Female	9	63,056	14.3	16.4	7.3	0.633	555	4,148,108	13.4
Corpus Uteri	Female	3	63,056	4.8	5.4	2.0	0.658	150	4,148,108	3.6
Esophagus	Total	7	132,165	5.3	6.2	6.3	0.886	464	8,306,879	5.6
	Male	7	69,109	10.1	12.3	5.1	0.508	373	4,158,771	9.0
	Female	-	63,056	-	-	1.2	0.588	91	4,148,108	2.2
Hodgkin Lymphoma	Total	1	132,165	0.8	0.8	0.3	0.508	20	8,306,879	0.2
	Male	1	69,109	1.4	1.6	0.1	0.200	7	4,158,771	0.2
	Female	-	63,056	-	-	0.2	1.000	13	4,148,108	0.3
Kidney	Total	4	132,165	3.0	3.6	5.0	0.895	366	8,306,879	4.4
	Male	1	69,109	1.4	1.7	3.3	0.314	241	4,158,771	5.8
	Female	3	63,056	4.8	5.5	1.7	0.462	125	4,148,108	3.0
Larynx	Total	2	132,165	1.5	1.8	0.8	0.395	61	8,306,879	0.7
	Male	1	69,109	1.4	1.8	0.7	1.000	52	4,158,771	1.3
	Female	1	63,056	1.6	1.9	0.1	0.217	9	4,148,108	0.2
Leukemia	Total	14	132,165	10.6	12.3	8.3	0.085	602	8,306,879	7.2
	Male	9	69,109	13.0	15.5	4.9	0.120	349	4,158,771	8.4
	Female	5	63,056	7.9	8.9	3.4	0.518	253	4,148,108	6.1
Liver and Bile Duct	Total	11	132,165	8.3	9.6	8.1	0.382	587	8,306,879	7.1
	Male	5	69,109	7.2	8.7	5.6	1.000	407	4,158,771	9.8
	Female	6	63,056	9.5	10.6	2.5	0.078	180	4,148,108	4.3
Lung and Bronchus	Total	58	132,165	43.9	51.3	41.7	0.020 >>	3,067	8,306,879	36.9
	Male	33	69,109	47.8	58.1	22.3	0.040 >>	1,634	4,158,771	39.3
	Female	25	63,056	39.6	44.5	19.4	0.250	1,433	4,148,108	34.5
Melanoma of the Skin	Total	2	132,165	1.5	1.7	3.8	0.527	278	8,306,879	3.3
	Male	1	69,109	1.4	1.7	2.6	0.535	186	4,158,771	4.5
	Female	1	63,056	1.6	1.8	1.3	1.000	92	4,148,108	2.2
Myeloma	Total	6	132,165	4.5	5.3	4.4	0.556	323	8,306,879	3.9
	Male	2	69,109	2.9	3.5	2.6	1.000	193	4,158,771	4.6
	Female	4	63,056	6.3	7.1	1.8	0.207	130	4,148,108	3.1
Non-Hodgkin Lymphoma	Total	9	132,165	6.8	8.1	7.5	0.674	561	8,306,879	6.8
	Male	8	69,109	11.6	14.1	4.2	0.132	311	4,158,771	7.5
	Female	1	63,056	1.6	1.8	3.3	0.325	250	4,148,108	6.0
Oral Cavity and Pharynx	Total	3	132,165	2.3	2.6	3.0	1.000	220	8,306,879	2.6
	Male	2	69,109	2.9	3.5	2.1	1.000	150	4,158,771	3.6
	Female	1	63,056	1.6	1.8	0.9	1.000	70	4,148,108	1.7
Ovary	Female	7	63,056	11.1	12.5	4.8	0.420	356	4,148,108	8.6
Pancreas	Total	8	132,165	6.1	7.1	14.6	0.092	1,071	8,306,879	12.9
	Male	6	69,109	8.7	10.5	8.1	0.606	586	4,158,771	14.1
	Female	2	63,056	3.2	3.6	6.5	0.085	485	4,148,108	11.7
Prostate	Male	12	69,109	17.4	21.9	12.1	1.000	923	4,158,771	22.2
Stomach	Total	7	132,165	5.3	6.2	2.8	0.047 >>	203	8,306,879	2.4
	Male	5	69,109	7.2	8.7	1.6	0.049 >>	117	4,158,771	2.8
	Female	2	63,056	3.2	3.6	1.2	0.644	86	4,148,108	2.1

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, 2019.

Cancer Screening and Risk Factors

The Bureau of Vital Records and Health Statistics (BVRHS), Division of Public Health, 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) with randomly selected adult Idahoans to measure population prevalences of risk factors for the major causes of death, including cancer, since 1984. BVRHS provided data sets containing Behavioral Risk Factor Surveillance System (BRFSS) data from 2011 through 2018 to CDRI staff, who performed the analyses reported in these *County Profiles*. Analysis weights were poststratified to 2018 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, 2011–2018

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 (2014–2018)	81.2%	80.6%	84.5%	74.6%	84.7%	75.5%	83.3%	83.8%	84.0%
Not See Doctor Due to Cost in Past Year (2014–2018)	14.3%	13.9%	12.2%	18.1%	13.6%	14.3%	12.5%	13.9%	12.0%
Cancer Screening									
Mammogram Past 2 Years, Age 50–74 (2014, 2016, 2018)	67.5%	66.8%	72.1%	63.2%	72.9%	61.0%	64.6%	66.8%	.
Pap Test Past 3 Years, Cervix Intact Age 21–65 (2016, 2018)	72.5%	74.8%	74.3%	72.1%	73.0%	71.7%	72.7%	68.6%	.
Colorectal Cancer Screening, Age 50–75 (2016, 2018)	65.4%	64.9%	71.3%	62.6%	68.9%	60.3%	62.1%	65.3%	.
Tobacco Use									
Current Smoker (2014–2018)	14.6%	17.1%	15.1%	16.8%	13.1%	16.2%	14.4%	10.4%	31.1%
Current Smokeless Tobacco User, Males (2014–2018)	9.5%	10.6%	14.0%	11.1%	8.4%	8.9%	8.4%	7.3%	15.4%
Other Cancer-Related									
Sunburn in Previous 12 Months (2018)	47.7%	42.3%	49.0%	41.6%	50.8%	42.8%	49.9%	56.6%	.
Artificial Tanning Appliance Use (2011, 2014, 2016)	4.4%	5.5%	3.3%	3.3%	3.4%	4.2%	5.7%	6.8%	1.6%
Healthy Weight by Body Mass Index, Age 20+ (2014–2018)	32.6%	34.2%	32.9%	27.0%	36.3%	31.1%	29.4%	32.4%	29.6%
Meet Physical Activity Guidelines (2011, 2013, 2015, 2017)	22.1%	22.1%	19.9%	20.6%	26.1%	18.8%	20.0%	20.1%	24.7%
Home Ever Tested for Radon (2016, 2018)	22.7%	29.7%	19.5%	16.3%	24.1%	20.2%	23.3%	22.7%	10.1%

Access to Care

Have Health Insurance – 2014–2018
Statewide, 81.2% of adults aged 18–64 reported having health care coverage. Health care coverage differed significantly by race/ethnicity, with 84.5% of white non-Hispanics, compared to 59.8% of Hispanics and 79.9% of Native Americans, having health insurance. Spanish-speaking respondents were significantly less likely to be insured (33.1%) than English-speaking respondents (83.1%). Health care coverage differed significantly by age of respondent, with 76.4% of persons aged 30–39, and 86.5% of persons aged 50–64, having health insurance. Health care coverage differed significantly by county, with a range of 57.4% in Adams County to 91.7% in Oneida County having health insurance.

Not See Doctor Due to Cost in Past Year – 2014–2018
Statewide, 14.3% 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 (13.2% of white non-Hispanics, 21.4% of Hispanics, and 23.1% of Native Americans). Inability to see a doctor due to cost differed significantly by annual household income (27.4% for less than $15,000, 6.7% for greater than $50,000). Inability to see a doctor due to cost differed significantly by county, with a range of 7.0% in Caribou County to 20.2% in Jerome County.

Cancer Screening

Mammogram – 2014, 2016, 2018
Statewide, 67.5% 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 (70.7% versus 34.0%). Mammography rates differed significantly by county, with a range in screening of 47.3% in Gooding County to 77.5% in Nez Perce County. In 2018, Idaho ranked 49th among states and the District of Columbia for mammography screening rates among women aged 50–74 and 50th among ages 40+.

Pap Test – 2016, 2018
Statewide, 72.5% 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 (77.3% versus 54.2% screened in the past 3 years). Pap screening differed significantly by county, with a range of 60.5% in Idaho County to 79.2% in Latah County. In 2018, Idaho ranked 51st among states and the District of Columbia for Pap screening rate.

Colorectal Cancer Screening – 2016, 2018
Statewide, 65.4% of adults aged 50–75 reported receiving colorectal cancer screening based on the most recent guidelines.** Persons with health insurance were over twice as likely to be current for colorectal cancer screening. In 2018, Idaho ranked 41st 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 Smoking – 2014–2018
Statewide, 14.6% of adults aged 18 and older were current smokers. Smoking prevalence differed significantly by age of respondent, with 19.2% of persons aged 30–39, and 8.4% of persons aged 65 and older reporting current smoking. Smoking prevalence was lower among white non-Hispanics (14.7%) than among Native Americans (32.4%). Smoking prevalence differed significantly by county, with a range of 4.3% in Madison County to 32.7% in Adams County. Counties with higher rates of current smoking had higher rates of lung cancer.

Smokeless Tobacco Use, Males – 2014–2018
Statewide, 9.5% of males aged 18 and older were current users of smokeless tobacco. Smokeless tobacco use differed significantly by age group, ranging from 12.8% of males aged 30–39 to 4.0% of males aged 65 and older. Smokeless tobacco use differed significantly by county, with a range of 3.4% in Franklin County to 21.1% in Custer County. Counties with higher rates of smokeless tobacco use had higher rates of oral cavity & pharynx cancer.

Other Cancer-Related

Sun Exposure – 2018
Statewide, 47.7% of adults aged 18 and older reported having sunburn in the past 12 months. Sunburn rates were higher for white non-Hispanics (49.6%) and Native Americans (48.7%) than for Hispanics (35.2%). Sunburn rates differed significantly by age group, with 67.2% of persons aged 30–39 and 17.9% of persons aged 65 and older having sunburn in the past 12 months. Sunburn rates differed significantly by county, with a range of 36.7% in Idaho County to 72.9% in Madison County having sunburn in the past 12 months.

Artificial Tanning Appliance Use – 2011, 2014, 2016
Statewide, 4.4% of adults aged 18 and older reported using an artificial tanning appliance, such as a tanning bed, in the past 12 months. Females (6.8%) were significantly more likely than males (2.1%) to have used an artificial tanning appliance in the past 12 months. Tanning appliance use differed significantly by age group, with 8.7% of persons aged 18–29 and 0.9% of persons aged 65 and older, using an appliance in the past 12 months. Tanning appliance use differed by county, with a range of less than 1% in Oneida, Power, and Valley Counties to over 9% in Bear Lake and Fremont Counties using an artificial tanning appliance in the past 12 months.

Healthy Weight by Body Mass Index – 2014–2018
Statewide, 32.6% 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 33.3% of white non-Hispanics, compared to 26.0% of Hispanics and 26.8% of Native Americans, being in the healthy weight range. Males (25.7%) were significantly less likely to be in the healthy weight range than females (39.4%). BMI differed significantly by age of respondent, with 45.0% of persons aged 18–29, and 27.1% of persons aged 50–64, being in the healthy weight range. BMI differed significantly by county, with a range of 19.5% in Minidoka County to 52.8% in Blaine County of adults being in the healthy weight range.

Physical Activity – 2011, 2013, 2015, 2017
Statewide, 22.1% of adults aged 18 and older met aerobic and strength physical activity guidelines during the past month or week. Physical activity differed significantly by age of respondent, with 26.3% of persons aged 18–29, and 19.3% of persons aged 50–64, meeting guidelines. The percentage of adults meeting physical activity guidelines differed significantly by county, with a range of 7.6% in Oneida County to 31.1% in Blaine County.

Home Radon Testing – 2016, 2018
Statewide, 22.7% of adults have ever tested their house for radon. Radon test usage varied significantly by race/ethnicity, with 24.7% of white non-Hispanics, 5.3% of Hispanics, and 27.9% 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 8.0% in Cassia County to 58.0% in Blaine County.

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FRANKLIN COUNTY CANCER PROFILE

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

Cancer Incidence 2013–2017
Cancer Mortality 2014–2018
BRFSS 2011–2018

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 are due to personal lifestyle factors, such as smoking and sedentary lifestyle, and are preventable. Additional cancers are 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. 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.

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://health.gov/dietaryguidelines/2015.

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
615 N. 7th Street
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/contact-center

American Cancer Society
2676 S. Vista Avenue
Boise, ID 83705
208-343-4609
https://www.cancer.org

CANCER INCIDENCE 2013–2017

Nearly one in two Idahoans are estimated to develop cancer during their lifetime. During 2013–2017, 40,996 cases of invasive cancer were diagnosed among Idaho residents, and 248 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, 2013–2017

Cancer Incidence 2013–2017	Franklin County	State of Idaho
All Sites/Types	**248**	**40,996**
Female Breast	**43**	**5,956**
Prostate	**35**	**5,027**
Lung & Bronchus	**11**	**4,657**
Colorectal	**24**	**3,235**

Table 3 (*Cancer Incidence 2013–2017, 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 rate of invasive cancer incidence in Franklin County was 378.8 cases per 100,000 person-years per year during 2013–2017. Comparing this crude rate with the crude rate for the remainder of Idaho (495.1) gives an estimate of the relative burden of disease in Franklin County.

The age- and sex-adjusted incidence rate of invasive cancer in Franklin County, all sites combined, was 407.2 cases per 100,000 persons per year during 2013–2017. There were statistically significantly fewer cases of cancer in Franklin County (248) than expected (301.5) 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 2014–2018

During 2014–2018, cancer was the second leading cause of death in Idaho; 14,585 Idaho residents and 89 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, 2014–2018

Mortality 2014–2018	Franklin County	State of Idaho
All Deaths	**533**	**67,280**
Cancer Deaths	**89**	**14,585**
% of All Deaths	*16.7%*	*21.7%*
Lung & Bronchus	**10**	**3,125**
Colorectal	**8**	**1,226**
Pancreas	**7**	**1,079**
Female Breast	**11**	**1,077**
Prostate	**8**	**935**

Table 4 (*Cancer Mortality 2014–2018, Comparison between Franklin County and the Remainder of the State of Idaho*) shows the number of observed deaths, person-years, crude rates, age- and sex-adjusted rates, expected number of deaths based upon age- and sex-specific rates in the remainder of Idaho, and p-values for tests comparing the number of observed and expected deaths for Franklin County. The table also shows the number of observed deaths, person-years, and crude rates for the remainder of the state of Idaho. Comparisons between the county and the remainder of the state were made for all deaths, all cancer deaths, and 21 specific cancer types. Separate comparisons for males, females, and both sexes combined are included.

The age- and sex-adjusted cancer mortality rate for Franklin County, all sites combined, was 141.0 deaths per 100,000 persons per year during 2014–2018, compared with 173.1 for the remainder of the state. There were fewer cancer deaths in Franklin County (89) than expected (109.3) 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 2013–2017
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	248	65,472	378.8	407.2	301.5	0.002 <<	40,748	8,230,894	495.1
	Male	128	33,322	384.1	407.4	160.6	0.009 <<	21,069	4,122,673	511.1
	Female	120	32,150	373.3	404.0	142.3	0.063	19,679	4,108,221	479.0
Bladder	Total	18	65,472	27.5	28.9	15.1	0.518	1,997	8,230,894	24.3
	Male	15	33,322	45.0	46.5	12.2	0.486	1,555	4,122,673	37.7
	Female	3	32,150	9.3	9.9	3.3	1.000	442	4,108,221	10.8
Brain - malignant	Total	12	65,472	18.3	19.2	4.5	0.005 >>	598	8,230,894	7.3
	Male	8	33,322	24.0	25.1	2.8	0.017 >>	363	4,122,673	8.8
	Female	4	32,150	12.4	12.9	1.8	0.207	235	4,108,221	5.7
Brain and other CNS - non-malignant	Total	6	65,472	9.2	9.7	8.0	0.633	1,066	8,230,894	13.0
	Male	1	33,322	3.0	3.1	2.7	0.489	353	4,122,673	8.6
	Female	5	32,150	15.6	16.7	5.2	1.000	713	4,108,221	17.4
Breast	Total	43	65,472	65.7	71.5	43.5	1.000	5,958	8,230,894	72.4
	Male	-	33,322	-	-	0.4	1.000	45	4,122,673	1.1
	Female	43	32,150	133.7	146.7	42.2	0.942	5,913	4,108,221	143.9
Breast - in situ	Total	2	65,472	3.1	3.4	7.6	0.036 <<	1,062	8,230,894	12.9
	Male	-	33,322	-	-	0.0	1.000	3	4,122,673	0.1
	Female	2	32,150	6.2	6.9	7.5	0.042 <<	1,059	4,108,221	25.8
Cervix	Female	-	32,150	-	-	1.9	0.304	259	4,108,221	6.3
Colorectal	Total	24	65,472	36.7	39.1	23.9	1.000	3,211	8,230,894	39.0
	Male	14	33,322	42.0	44.5	13.1	0.885	1,721	4,122,673	41.7
	Female	10	32,150	31.1	33.4	10.9	0.950	1,490	4,108,221	36.3
Corpus Uteri	Female	8	32,150	24.9	27.7	8.4	1.000	1,201	4,108,221	29.2
Esophagus	Total	2	65,472	3.1	3.3	3.4	0.663	467	8,230,894	5.7
	Male	1	33,322	3.0	3.2	2.9	0.420	387	4,122,673	9.4
	Female	1	32,150	3.1	3.3	0.6	0.882	80	4,108,221	1.9
Hodgkin Lymphoma	Total	-	65,472	-	-	1.5	0.445	199	8,230,894	2.4
	Male	-	33,322	-	-	0.8	0.873	108	4,122,673	2.6
	Female	-	32,150	-	-	0.7	1.000	91	4,108,221	2.2
Kidney and Renal Pelvis	Total	10	65,472	15.3	16.5	11.4	0.838	1,544	8,230,894	18.8
	Male	6	33,322	18.0	19.4	7.4	0.775	989	4,122,673	24.0
	Female	4	32,150	12.4	13.5	4.0	1.000	555	4,108,221	13.5
Larynx	Total	-	65,472	-	-	1.5	0.433	209	8,230,894	2.5
	Male	-	33,322	-	-	1.3	0.560	168	4,122,673	4.1
	Female	-	32,150	-	-	0.3	1.000	41	4,108,221	1.0
Leukemia	Total	12	65,472	18.3	19.0	11.3	0.911	1,474	8,230,894	17.9
	Male	10	33,322	30.0	31.0	6.8	0.303	871	4,122,673	21.1
	Female	2	32,150	6.2	6.4	4.6	0.335	603	4,108,221	14.7
Liver and Bile Duct	Total	1	65,472	1.5	1.7	5.3	0.062	732	8,230,894	8.9
	Male	-	33,322	-	-	4.0	0.038 <<	532	4,122,673	12.9
	Female	1	32,150	3.1	3.4	1.4	1.000	200	4,108,221	4.9
Lung and Bronchus	Total	11	65,472	16.8	17.9	34.7	0.000 <<	4,646	8,230,894	56.4
	Male	5	33,322	15.0	15.7	18.5	0.000 <<	2,397	4,122,673	58.1
	Female	6	32,150	18.7	20.2	16.3	0.007 <<	2,249	4,108,221	54.7
Melanoma of the Skin	Total	18	65,472	27.5	29.7	18.4	1.000	2,508	8,230,894	30.5
	Male	14	33,322	42.0	44.6	11.1	0.451	1,455	4,122,673	35.3
	Female	4	32,150	12.4	13.5	7.6	0.252	1,053	4,108,221	25.6
Myeloma	Total	2	65,472	3.1	3.2	4.5	0.338	606	8,230,894	7.4
	Male	1	33,322	3.0	3.2	2.7	0.487	356	4,122,673	8.6
	Female	1	32,150	3.1	3.3	1.8	0.901	250	4,108,221	6.1
Non-Hodgkin Lymphoma	Total	8	65,472	12.2	13.0	13.2	0.181	1,765	8,230,894	21.4
	Male	5	33,322	15.0	15.8	7.7	0.437	1,002	4,122,673	24.3
	Female	3	32,150	9.3	10.0	5.6	0.388	763	4,108,221	18.6
Oral Cavity and Pharynx	Total	-	65,472	-	-	8.5	0.000 <<	1,168	8,230,894	14.2
	Male	-	33,322	-	-	6.2	0.004 <<	826	4,122,673	20.0
	Female	-	32,150	-	-	2.4	0.175	342	4,108,221	8.3
Ovary	Female	5	32,150	15.6	16.9	3.7	0.627	514	4,108,221	12.5
Pancreas	Total	11	65,472	16.8	17.8	9.7	0.757	1,293	8,230,894	15.7
	Male	3	33,322	9.0	9.5	5.4	0.433	699	4,122,673	17.0
	Female	8	32,150	24.9	26.4	4.4	0.153	594	4,108,221	14.5
Prostate	Male	35	33,322	105.0	114.1	37.1	0.807	4,992	4,122,673	121.1
Stomach	Total	-	65,472	-	-	3.7	0.051	488	8,230,894	5.9
	Male	-	33,322	-	-	2.5	0.172	318	4,122,673	7.7
	Female	-	32,150	-	-	1.3	0.567	170	4,108,221	4.1
Testis	Male	-	33,322	-	-	1.9	0.291	267	4,122,673	6.5
Thyroid	Total	10	65,472	15.3	16.8	9.0	0.827	1,246	8,230,894	15.1
	Male	3	33,322	9.0	9.9	2.4	0.874	329	4,122,673	8.0
	Female	7	32,150	21.8	23.8	6.6	0.964	917	4,108,221	22.3
Pediatric Age 0 to 19	Total	11	23,853	46.1	46.5	4.2	0.008 >>	424	2,376,669	17.8
	Male	9	12,486	72.1	73.2	2.3	0.001 >>	225	1,213,416	18.5
	Female	2	11,367	17.6	17.7	1.9	1.000	199	1,163,253	17.1

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

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

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

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

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

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

TABLE 4: CANCER MORTALITY 2014–2018
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	533	66,396	802.8	812.7	522.8	0.667	66,747	8,372,648	797.2
	Male	274	33,873	808.9	817.3	279.1	0.792	34,912	4,194,007	832.4
	Female	259	32,523	796.4	801.2	246.3	0.433	31,835	4,178,641	761.9
All Malignant Cancers	Total	89	66,396	134.0	141.0	109.3	0.052	14,496	8,372,648	173.1
	Male	44	33,873	129.9	134.1	61.5	0.024 <<	7,857	4,194,007	187.3
	Female	45	32,523	138.4	147.2	48.6	0.674	6,639	4,178,641	158.9
Bladder	Total	1	66,396	1.5	1.5	3.3	0.306	425	8,372,648	5.1
	Male	-	33,873	-	-	2.6	0.147	319	4,194,007	7.6
	Female	1	32,523	3.1	3.1	0.8	1.000	106	4,178,641	2.5
Brain and Other Nervous System	Total	6	66,396	9.0	9.8	3.6	0.312	491	8,372,648	5.9
	Male	3	33,873	8.9	9.5	2.4	0.837	312	4,194,007	7.4
	Female	3	32,523	9.2	10.0	1.3	0.276	179	4,178,641	4.3
Breast	Total	11	66,396	16.6	17.5	8.1	0.385	1,076	8,372,648	12.9
	Male	-	33,873	-	-	0.1	1.000	10	4,194,007	0.2
	Female	11	32,523	33.8	36.1	7.8	0.324	1,066	4,178,641	25.5
Cervix	Female	-	32,523	-	-	0.6	1.000	80	4,178,641	1.9
Colorectal	Total	8	66,396	12.0	12.6	9.2	0.857	1,218	8,372,648	14.5
	Male	5	33,873	14.8	15.3	5.1	1.000	657	4,194,007	15.7
	Female	3	32,523	9.2	9.7	4.2	0.803	561	4,178,641	13.4
Corpus Uteri	Female	-	32,523	-	-	1.1	0.667	153	4,178,641	3.7
Esophagus	Total	2	66,396	3.0	3.2	3.5	0.646	469	8,372,648	5.6
	Male	1	33,873	3.0	3.1	2.9	0.428	379	4,194,007	9.0
	Female	1	32,523	3.1	3.3	0.7	0.963	90	4,178,641	2.2
Hodgkin Lymphoma	Total	-	66,396	-	-	0.2	1.000	21	8,372,648	0.3
	Male	-	33,873	-	-	0.1	1.000	8	4,194,007	0.2
	Female	-	32,523	-	-	0.1	1.000	13	4,178,641	0.3
Kidney	Total	1	66,396	1.5	1.6	2.8	0.470	369	8,372,648	4.4
	Male	-	33,873	-	-	1.9	0.305	242	4,194,007	5.8
	Female	1	32,523	3.1	3.3	0.9	1.000	127	4,178,641	3.0
Larynx	Total	-	66,396	-	-	0.5	1.000	63	8,372,648	0.8
	Male	-	33,873	-	-	0.4	1.000	53	4,194,007	1.3
	Female	-	32,523	-	-	0.1	1.000	10	4,178,641	0.2
Leukemia	Total	3	66,396	4.5	4.7	4.7	0.615	613	8,372,648	7.3
	Male	2	33,873	5.9	6.0	2.8	0.930	356	4,194,007	8.5
	Female	1	32,523	3.1	3.2	1.9	0.846	257	4,178,641	6.2
Liver and Bile Duct	Total	-	66,396	-	-	4.4	0.025 <<	598	8,372,648	7.1
	Male	-	33,873	-	-	3.1	0.089	412	4,194,007	9.8
	Female	-	32,523	-	-	1.3	0.528	186	4,178,641	4.5
Lung and Bronchus	Total	10	66,396	15.1	16.0	23.2	0.003 <<	3,115	8,372,648	37.2
	Male	7	33,873	20.7	21.6	12.9	0.116	1,660	4,194,007	39.6
	Female	3	32,523	9.2	9.9	10.5	0.014 <<	1,455	4,178,641	34.8
Melanoma of the Skin	Total	3	66,396	4.5	4.8	2.1	0.682	277	8,372,648	3.3
	Male	3	33,873	8.9	9.3	1.4	0.341	184	4,194,007	4.4
	Female	-	32,523	-	-	0.7	1.000	93	4,178,641	2.2
Myeloma	Total	2	66,396	3.0	3.1	2.5	1.000	327	8,372,648	3.9
	Male	1	33,873	3.0	3.0	1.6	1.000	194	4,194,007	4.6
	Female	1	32,523	3.1	3.2	1.0	1.000	133	4,178,641	3.2
Non-Hodgkin Lymphoma	Total	6	66,396	9.0	9.3	4.3	0.541	564	8,372,648	6.7
	Male	2	33,873	5.9	6.0	2.5	1.000	317	4,194,007	7.6
	Female	4	32,523	12.3	12.7	1.9	0.236	247	4,178,641	5.9
Oral Cavity and Pharynx	Total	-	66,396	-	-	1.7	0.380	223	8,372,648	2.7
	Male	-	33,873	-	-	1.2	0.625	152	4,194,007	3.6
	Female	-	32,523	-	-	0.5	1.000	71	4,178,641	1.7
Ovary	Female	1	32,523	3.1	3.3	2.6	0.539	362	4,178,641	8.7
Pancreas	Total	7	66,396	10.5	11.2	8.0	0.913	1,072	8,372,648	12.8
	Male	3	33,873	8.9	9.4	4.5	0.684	589	4,194,007	14.0
	Female	4	32,523	12.3	13.1	3.5	0.937	483	4,178,641	11.6
Prostate	Male	8	33,873	23.6	23.2	7.6	0.986	927	4,194,007	22.1
Stomach	Total	-	66,396	-	-	1.6	0.406	210	8,372,648	2.5
	Male	-	33,873	-	-	1.0	0.770	122	4,194,007	2.9
	Female	-	32,523	-	-	0.7	1.000	88	4,178,641	2.1

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, 2019.

Cancer Screening and Risk Factors

The Bureau of Vital Records and Health Statistics (BVRHS), Division of Public Health, 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) with randomly selected adult Idahoans to measure population prevalences of risk factors for the major causes of death, including cancer, since 1984. BVRHS provided data sets containing Behavioral Risk Factor Surveillance System (BRFSS) data from 2011 through 2018 to CDRI staff, who performed the analyses reported in these *County Profiles*. Analysis weights were poststratified to 2018 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, 2011–2018

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 (2014–2018)	81.2%	80.6%	84.5%	74.6%	84.7%	75.5%	83.3%	83.8%	78.7%
Not See Doctor Due to Cost in Past Year (2014–2018)	14.3%	13.9%	12.2%	18.1%	13.6%	14.3%	12.5%	13.9%	11.8%
Cancer Screening									
Mammogram Past 2 Years, Age 50–74 (2014, 2016, 2018)	67.5%	66.8%	72.1%	63.2%	72.9%	61.0%	64.6%	66.8%	.
Pap Test Past 3 Years, Cervix Intact Age 21–65 (2016, 2018)	72.5%	74.8%	74.3%	72.1%	73.0%	71.7%	72.7%	68.6%	.
Colorectal Cancer Screening, Age 50–75 (2016, 2018)	65.4%	64.9%	71.3%	62.6%	68.9%	60.3%	62.1%	65.3%	79.8%
Tobacco Use									
Current Smoker (2014–2018)	14.6%	17.1%	15.1%	16.8%	13.1%	16.2%	14.4%	10.4%	7.5%
Current Smokeless Tobacco User, Males (2014–2018)	9.5%	10.6%	14.0%	11.1%	8.4%	8.9%	8.4%	7.3%	3.4%
Other Cancer-Related									
Sunburn in Previous 12 Months (2018)	47.7%	42.3%	49.0%	41.6%	50.8%	42.8%	49.9%	56.6%	.
Artificial Tanning Appliance Use (2011, 2014, 2016)	4.4%	5.5%	3.3%	3.3%	3.4%	4.2%	5.7%	6.8%	7.1%
Healthy Weight by Body Mass Index, Age 20+ (2014–2018)	32.6%	34.2%	32.9%	27.0%	36.3%	31.1%	29.4%	32.4%	27.2%
Meet Physical Activity Guidelines (2011, 2013, 2015, 2017)	22.1%	22.1%	19.9%	20.6%	26.1%	18.8%	20.0%	20.1%	10.2%
Home Ever Tested for Radon (2016, 2018)	22.7%	29.7%	19.5%	16.3%	24.1%	20.2%	23.3%	22.7%	10.0%

Access to Care

Have Health Insurance – 2014–2018
Statewide, 81.2% of adults aged 18–64 reported having health care coverage. Health care coverage differed significantly by race/ethnicity, with 84.5% of white non-Hispanics, compared to 59.8% of Hispanics and 79.9% of Native Americans, having health insurance. Spanish-speaking respondents were significantly less likely to be insured (33.1%) than English-speaking respondents (83.1%). Health care coverage differed significantly by age of respondent, with 76.4% of persons aged 30–39, and 86.5% of persons aged 50–64, having health insurance. Health care coverage differed significantly by county, with a range of 57.4% in Adams County to 91.7% in Oneida County having health insurance.

Not See Doctor Due to Cost in Past Year – 2014–2018
Statewide, 14.3% 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 (13.2% of white non-Hispanics, 21.4% of Hispanics, and 23.1% of Native Americans). Inability to see a doctor due to cost differed significantly by annual household income (27.4% for less than $15,000, 6.7% for greater than $50,000). Inability to see a doctor due to cost differed significantly by county, with a range of 7.0% in Caribou County to 20.2% in Jerome County.

Cancer Screening

Mammogram – 2014, 2016, 2018
Statewide, 67.5% 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 (70.7% versus 34.0%). Mammography rates differed significantly by county, with a range in screening of 47.3% in Gooding County to 77.5% in Nez Perce County. In 2018, Idaho ranked 49th among states and the District of Columbia for mammography screening rates among women aged 50–74 and 50th among ages 40+.

Pap Test – 2016, 2018
Statewide, 72.5% 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 (77.3% versus 54.2% screened in the past 3 years). Pap screening differed significantly by county, with a range of 60.5% in Idaho County to 79.2% in Latah County. In 2018, Idaho ranked 51st among states and the District of Columbia for Pap screening rate.

Colorectal Cancer Screening – 2016, 2018
Statewide, 65.4% of adults aged 50–75 reported receiving colorectal cancer screening based on the most recent guidelines.** Persons with health insurance were over twice as likely to be current for colorectal cancer screening. In 2018, Idaho ranked 41st 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 Smoking – 2014–2018
Statewide, 14.6% of adults aged 18 and older were current smokers. Smoking prevalence differed significantly by age of respondent, with 19.2% of persons aged 30–39, and 8.4% of persons aged 65 and older reporting current smoking. Smoking prevalence was lower among white non-Hispanics (14.7%) than among Native Americans (32.4%). Smoking prevalence differed significantly by county, with a range of 4.3% in Madison County to 32.7% in Adams County. Counties with higher rates of current smoking had higher rates of lung cancer.

Smokeless Tobacco Use, Males – 2014–2018
Statewide, 9.5% of males aged 18 and older were current users of smokeless tobacco. Smokeless tobacco use differed significantly by age group, ranging from 12.8% of males aged 30–39 to 4.0% of males aged 65 and older. Smokeless tobacco use differed significantly by county, with a range of 3.4% in Franklin County to 21.1% in Custer County. Counties with higher rates of smokeless tobacco use had higher rates of oral cavity & pharynx cancer.

Other Cancer-Related

Sun Exposure – 2018
Statewide, 47.7% of adults aged 18 and older reported having sunburn in the past 12 months. Sunburn rates were higher for white non-Hispanics (49.6%) and Native Americans (48.7%) than for Hispanics (35.2%). Sunburn rates differed significantly by age group, with 67.2% of persons aged 30–39 and 17.9% of persons aged 65 and older having sunburn in the past 12 months. Sunburn rates differed significantly by county, with a range of 36.7% in Idaho County to 72.9% in Madison County having sunburn in the past 12 months.

Artificial Tanning Appliance Use – 2011, 2014, 2016
Statewide, 4.4% of adults aged 18 and older reported using an artificial tanning appliance, such as a tanning bed, in the past 12 months. Females (6.8%) were significantly more likely than males (2.1%) to have used an artificial tanning appliance in the past 12 months. Tanning appliance use differed significantly by age group, with 8.7% of persons aged 18–29 and 0.9% of persons aged 65 and older, using an appliance in the past 12 months. Tanning appliance use differed by county, with a range of less than 1% in Oneida, Power, and Valley Counties to over 9% in Bear Lake and Fremont Counties using an artificial tanning appliance in the past 12 months.

Healthy Weight by Body Mass Index – 2014–2018
Statewide, 32.6% 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 33.3% of white non-Hispanics, compared to 26.0% of Hispanics and 26.8% of Native Americans, being in the healthy weight range. Males (25.7%) were significantly less likely to be in the healthy weight range than females (39.4%). BMI differed significantly by age of respondent, with 45.0% of persons aged 18–29, and 27.1% of persons aged 50–64, being in the healthy weight range. BMI differed significantly by county, with a range of 19.5% in Minidoka County to 52.8% in Blaine County of adults being in the healthy weight range.

Physical Activity – 2011, 2013, 2015, 2017
Statewide, 22.1% of adults aged 18 and older met aerobic and strength physical activity guidelines during the past month or week. Physical activity differed significantly by age of respondent, with 26.3% of persons aged 18–29, and 19.3% of persons aged 50–64, meeting guidelines. The percentage of adults meeting physical activity guidelines differed significantly by county, with a range of 7.6% in Oneida County to 31.1% in Blaine County.

Home Radon Testing – 2016, 2018
Statewide, 22.7% of adults have ever tested their house for radon. Radon test usage varied significantly by race/ethnicity, with 24.7% of white non-Hispanics, 5.3% of Hispanics, and 27.9% 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 8.0% in Cassia County to 58.0% in Blaine County.

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FREMONT COUNTY CANCER PROFILE

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

Cancer Incidence 2013–2017
Cancer Mortality 2014–2018
BRFSS 2011–2018

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 are due to personal lifestyle factors, such as smoking and sedentary lifestyle, and are preventable. Additional cancers are 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. 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.

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://health.gov/dietaryguidelines/2015.

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
615 N. 7th Street
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/contact-center

American Cancer Society
2676 S. Vista Avenue
Boise, ID 83705
208-343-4609
https://www.cancer.org

CANCER INCIDENCE 2013–2017

Nearly one in two Idahoans are estimated to develop cancer during their lifetime. During 2013–2017, 40,996 cases of invasive cancer were diagnosed among Idaho residents, and 315 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, 2013–2017

Cancer Incidence 2013–2017	Fremont County	State of Idaho
All Sites/Types	**315**	**40,996**
Female Breast	**37**	**5,956**
Prostate	**49**	**5,027**
Lung & Bronchus	**34**	**4,657**
Colorectal	**31**	**3,235**

Table 3 (*Cancer Incidence 2013–2017, 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 rate of invasive cancer incidence in Fremont County was 488.1 cases per 100,000 person-years per year during 2013–2017. Comparing this crude rate with the crude rate for the remainder of Idaho (494.2) 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 459.6 cases per 100,000 persons per year during 2013–2017. There were fewer cases of cancer in Fremont County (315) than expected (338.7) 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 2014–2018

During 2014–2018, cancer was the second leading cause of death in Idaho; 14,585 Idaho residents and 115 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, 2014–2018

Mortality 2014–2018	Fremont County	State of Idaho
All Deaths	**536**	**67,280**
Cancer Deaths	**115**	**14,585**
% of All Deaths	*21.5%*	*21.7%*
Lung & Bronchus	**22**	**3,125**
Colorectal	**12**	**1,226**
Pancreas	**8**	**1,079**
Female Breast	**6**	**1,077**
Prostate	**11**	**935**

Table 4 (*Cancer Mortality 2014–2018, 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 165.6 deaths per 100,000 persons per year during 2014–2018, compared with 172.8 for the remainder of the state. There were fewer cancer deaths in Fremont County (115) than expected (120.0) 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 2013–2017
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	315	64,538	488.1	459.6	338.7	0.206	40,681	8,231,828	494.2
	Male	161	33,662	478.3	436.5	188.2	0.047 <<	21,036	4,122,333	510.3
	Female	154	30,876	498.8	482.2	152.7	0.935	19,645	4,109,495	478.0
Bladder	Total	14	64,538	21.7	20.1	16.9	0.575	2,001	8,231,828	24.3
	Male	11	33,662	32.7	29.1	14.3	0.475	1,559	4,122,333	37.8
	Female	3	30,876	9.7	9.3	3.5	1.000	442	4,109,495	10.8
Brain - malignant	Total	3	64,538	4.6	4.5	5.0	0.543	607	8,231,828	7.4
	Male	-	33,662	-	-	3.2	0.080	371	4,122,333	9.0
	Female	3	30,876	9.7	9.5	1.8	0.548	236	4,109,495	5.7
Brain and other CNS - non-malignant	Total	8	64,538	12.4	11.9	8.7	1.000	1,064	8,231,828	12.9
	Male	1	33,662	3.0	2.8	3.0	0.385	353	4,122,333	8.6
	Female	7	30,876	22.7	22.2	5.5	0.616	711	4,109,495	17.3
Breast	Total	37	64,538	57.3	54.5	49.2	0.086	5,964	8,231,828	72.5
	Male	-	33,662	-	-	0.4	1.000	45	4,122,333	1.1
	Female	37	30,876	119.8	115.6	46.1	0.200	5,919	4,109,495	144.0
Breast - in situ	Total	6	64,538	9.3	8.9	8.6	0.482	1,058	8,231,828	12.9
	Male	-	33,662	-	-	0.0	1.000	3	4,122,333	0.1
	Female	6	30,876	19.4	18.8	8.2	0.584	1,055	4,109,495	25.7
Cervix	Female	2	30,876	6.5	6.6	1.9	1.000	257	4,109,495	6.3
Colorectal	Total	31	64,538	48.0	45.3	26.7	0.448	3,204	8,231,828	38.9
	Male	16	33,662	47.5	43.5	15.4	0.936	1,719	4,122,333	41.7
	Female	15	30,876	48.6	47.1	11.5	0.372	1,485	4,109,495	36.1
Corpus Uteri	Female	7	30,876	22.7	21.9	9.3	0.570	1,202	4,109,495	29.2
Esophagus	Total	2	64,538	3.1	2.9	3.9	0.502	467	8,231,828	5.7
	Male	2	33,662	5.9	5.4	3.5	0.653	386	4,122,333	9.4
	Female	-	30,876	-	-	0.6	1.000	81	4,109,495	2.0
Hodgkin Lymphoma	Total	2	64,538	3.1	3.1	1.5	0.916	197	8,231,828	2.4
	Male	1	33,662	3.0	2.9	0.9	1.000	107	4,122,333	2.6
	Female	1	30,876	3.2	3.3	0.7	0.976	90	4,109,495	2.2
Kidney and Renal Pelvis	Total	11	64,538	17.0	16.0	12.9	0.732	1,543	8,231,828	18.7
	Male	8	33,662	23.8	21.9	8.8	0.977	987	4,122,333	23.9
	Female	3	30,876	9.7	9.3	4.4	0.736	556	4,109,495	13.5
Larynx	Total	2	64,538	3.1	2.9	1.7	1.000	207	8,231,828	2.5
	Male	2	33,662	5.9	5.4	1.5	0.882	166	4,122,333	4.0
	Female	-	30,876	-	-	0.3	1.000	41	4,109,495	1.0
Leukemia	Total	9	64,538	13.9	13.1	12.3	0.433	1,477	8,231,828	17.9
	Male	5	33,662	14.9	13.6	7.8	0.416	876	4,122,333	21.3
	Female	4	30,876	13.0	12.5	4.7	1.000	601	4,109,495	14.6
Liver and Bile Duct	Total	5	64,538	7.7	7.3	6.1	0.869	728	8,231,828	8.8
	Male	4	33,662	11.9	11.0	4.7	1.000	528	4,122,333	12.8
	Female	1	30,876	3.2	3.1	1.6	1.000	200	4,109,495	4.9
Lung and Bronchus	Total	34	64,538	52.7	48.5	39.4	0.444	4,623	8,231,828	56.2
	Male	14	33,662	41.6	37.1	21.9	0.101	2,388	4,122,333	57.9
	Female	20	30,876	64.8	61.1	17.8	0.662	2,235	4,109,495	54.4
Melanoma of the Skin	Total	18	64,538	27.9	26.7	20.6	0.671	2,508	8,231,828	30.5
	Male	13	33,662	38.6	35.7	12.9	1.000	1,456	4,122,333	35.3
	Female	5	30,876	16.2	15.9	8.0	0.378	1,052	4,109,495	25.6
Myeloma	Total	9	64,538	13.9	12.9	5.1	0.148	599	8,231,828	7.3
	Male	4	33,662	11.9	10.6	3.2	0.807	353	4,122,333	8.6
	Female	5	30,876	16.2	15.4	1.9	0.095	246	4,109,495	6.0
Non-Hodgkin Lymphoma	Total	13	64,538	20.1	18.9	14.7	0.778	1,760	8,231,828	21.4
	Male	7	33,662	20.8	18.9	9.0	0.653	1,000	4,122,333	24.3
	Female	6	30,876	19.4	18.7	5.9	1.000	760	4,109,495	18.5
Oral Cavity and Pharynx	Total	7	64,538	10.8	10.3	9.6	0.513	1,161	8,231,828	14.1
	Male	6	33,662	17.8	16.5	7.2	0.833	820	4,122,333	19.9
	Female	1	30,876	3.2	3.1	2.7	0.514	341	4,109,495	8.3
Ovary	Female	5	30,876	16.2	15.7	4.0	0.736	514	4,109,495	12.5
Pancreas	Total	6	64,538	9.3	8.6	11.0	0.161	1,298	8,231,828	15.8
	Male	2	33,662	5.9	5.3	6.4	0.095	700	4,122,333	17.0
	Female	4	30,876	13.0	12.4	4.7	0.995	598	4,109,495	14.6
Prostate	Male	49	33,662	145.6	133.2	44.4	0.529	4,978	4,122,333	120.8
Stomach	Total	3	64,538	4.6	4.4	4.0	0.848	485	8,231,828	5.9
	Male	2	33,662	5.9	5.4	2.8	0.919	316	4,122,333	7.7
	Female	1	30,876	3.2	3.2	1.3	1.000	169	4,109,495	4.1
Testis	Male	-	33,662	-	-	2.0	0.258	267	4,122,333	6.5
Thyroid	Total	16	64,538	24.8	24.7	9.7	0.081	1,240	8,231,828	15.1
	Male	4	33,662	11.9	11.6	2.7	0.591	328	4,122,333	8.0
	Female	12	30,876	38.9	39.3	6.8	0.087	912	4,109,495	22.2
Pediatric Age 0 to 19	Total	7	19,700	35.5	35.4	3.6	0.140	428	2,380,822	18.0
	Male	2	10,327	19.4	19.0	2.0	1.000	232	1,215,575	19.1
	Female	5	9,373	53.3	53.5	1.6	0.044 >>	196	1,165,247	16.8

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 2014–2018
COMPARISON BETWEEN FREMONT COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cause of Death Cancer Site/Type	Sex	Fremont 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	536	64,823	826.9	787.3	542.6	0.798	66,744	8,374,221	797.0
	Male	274	33,802	810.6	727.3	313.6	0.025 <<	34,912	4,194,078	832.4
	Female	262	31,021	844.6	851.1	234.4	0.081	31,832	4,180,143	761.5
All Malignant Cancers	Total	115	64,823	177.4	165.6	120.0	0.691	14,470	8,374,221	172.8
	Male	57	33,802	168.6	150.3	70.9	0.104	7,844	4,194,078	187.0
	Female	58	31,021	187.0	180.9	50.8	0.347	6,626	4,180,143	158.5
Bladder	Total	4	64,823	6.2	5.8	3.5	0.918	422	8,374,221	5.0
	Male	2	33,802	5.9	5.2	2.9	0.879	317	4,194,078	7.6
	Female	2	31,021	6.4	6.4	0.8	0.369	105	4,180,143	2.5
Brain and Other Nervous System	Total	4	64,823	6.2	5.8	4.0	1.000	493	8,374,221	5.9
	Male	1	33,802	3.0	2.7	2.7	0.484	314	4,194,078	7.5
	Female	3	31,021	9.7	9.3	1.4	0.321	179	4,180,143	4.3
Breast	Total	6	64,823	9.3	8.7	8.9	0.438	1,081	8,374,221	12.9
	Male	-	33,802	-	-	0.1	1.000	10	4,194,078	0.2
	Female	6	31,021	19.3	18.8	8.2	0.586	1,071	4,180,143	25.6
Cervix	Female	1	31,021	3.2	3.2	0.6	0.898	79	4,180,143	1.9
Colorectal	Total	12	64,823	18.5	17.4	10.0	0.606	1,214	8,374,221	14.5
	Male	6	33,802	17.8	16.0	5.9	1.000	656	4,194,078	15.6
	Female	6	31,021	19.3	19.0	4.2	0.497	558	4,180,143	13.3
Corpus Uteri	Female	1	31,021	3.2	3.1	1.2	1.000	152	4,180,143	3.6
Esophagus	Total	3	64,823	4.6	4.3	3.9	0.913	468	8,374,221	5.6
	Male	3	33,802	8.9	8.0	3.4	1.000	377	4,194,078	9.0
	Female	-	31,021	-	-	0.7	0.995	91	4,180,143	2.2
Hodgkin Lymphoma	Total	-	64,823	-	-	0.2	1.000	21	8,374,221	0.3
	Male	-	33,802	-	-	0.1	1.000	8	4,194,078	0.2
	Female	-	31,021	-	-	0.1	1.000	13	4,180,143	0.3
Kidney	Total	6	64,823	9.3	8.6	3.0	0.174	364	8,374,221	4.3
	Male	4	33,802	11.8	10.6	2.1	0.339	238	4,194,078	5.7
	Female	2	31,021	6.4	6.2	1.0	0.505	126	4,180,143	3.0
Larynx	Total	-	64,823	-	-	0.5	1.000	63	8,374,221	0.8
	Male	-	33,802	-	-	0.5	1.000	53	4,194,078	1.3
	Female	-	31,021	-	-	0.1	1.000	10	4,180,143	0.2
Leukemia	Total	2	64,823	3.1	2.9	5.1	0.233	614	8,374,221	7.3
	Male	1	33,802	3.0	2.6	3.2	0.334	357	4,194,078	8.5
	Female	1	31,021	3.2	3.1	2.0	0.831	257	4,180,143	6.1
Liver and Bile Duct	Total	10	64,823	15.4	14.3	4.9	0.057	588	8,374,221	7.0
	Male	7	33,802	20.7	18.8	3.6	0.146	405	4,194,078	9.7
	Female	3	31,021	9.7	9.2	1.4	0.345	183	4,180,143	4.4
Lung and Bronchus	Total	22	64,823	33.9	31.3	26.0	0.501	3,103	8,374,221	37.1
	Male	10	33,802	29.6	26.3	15.0	0.233	1,657	4,194,078	39.5
	Female	12	31,021	38.7	36.8	11.3	0.906	1,446	4,180,143	34.6
Melanoma of the Skin	Total	3	64,823	4.6	4.3	2.3	0.798	277	8,374,221	3.3
	Male	2	33,802	5.9	5.3	1.6	0.982	185	4,194,078	4.4
	Female	1	31,021	3.2	3.1	0.7	1.000	92	4,180,143	2.2
Myeloma	Total	3	64,823	4.6	4.3	2.7	1.000	326	8,374,221	3.9
	Male	-	33,802	-	-	1.8	0.329	195	4,194,078	4.6
	Female	3	31,021	9.7	9.2	1.0	0.168	131	4,180,143	3.1
Non-Hodgkin Lymphoma	Total	2	64,823	3.1	2.9	4.7	0.298	568	8,374,221	6.8
	Male	1	33,802	3.0	2.6	2.9	0.431	318	4,194,078	7.6
	Female	1	31,021	3.2	3.1	1.9	0.867	250	4,180,143	6.0
Oral Cavity and Pharynx	Total	1	64,823	1.5	1.4	1.8	0.900	222	8,374,221	2.7
	Male	1	33,802	3.0	2.7	1.3	1.000	151	4,194,078	3.6
	Female	-	31,021	-	-	0.5	1.000	71	4,180,143	1.7
Ovary	Female	4	31,021	12.9	12.4	2.8	0.606	359	4,180,143	8.6
Pancreas	Total	8	64,823	12.3	11.4	9.0	0.921	1,071	8,374,221	12.8
	Male	4	33,802	11.8	10.6	5.3	0.780	588	4,194,078	14.0
	Female	4	31,021	12.9	12.3	3.7	1.000	483	4,180,143	11.6
Prostate	Male	11	33,802	32.5	28.3	8.5	0.484	924	4,194,078	22.0
Stomach	Total	1	64,823	1.5	1.4	1.7	0.971	209	8,374,221	2.5
	Male	-	33,802	-	-	1.1	0.670	122	4,194,078	2.9
	Female	1	31,021	3.2	3.2	0.7	0.963	87	4,180,143	2.1

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, 2019.

Cancer Screening and Risk Factors

The Bureau of Vital Records and Health Statistics (BVRHS), Division of Public Health, 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) with randomly selected adult Idahoans to measure population prevalences of risk factors for the major causes of death, including cancer, since 1984. BVRHS provided data sets containing Behavioral Risk Factor Surveillance System (BRFSS) data from 2011 through 2018 to CDRI staff, who performed the analyses reported in these *County Profiles*. Analysis weights were poststratified to 2018 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, 2011–2018

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 (2014–2018)	81.2%	80.6%	84.5%	74.6%	84.7%	75.5%	83.3%	83.8%	75.1%
Not See Doctor Due to Cost in Past Year (2014–2018)	14.3%	13.9%	12.2%	18.1%	13.6%	14.3%	12.5%	13.9%	11.2%
Cancer Screening									
Mammogram Past 2 Years, Age 50–74 (2014, 2016, 2018)	67.5%	66.8%	72.1%	63.2%	72.9%	61.0%	64.6%	66.8%	.
Pap Test Past 3 Years, Cervix Intact Age 21–65 (2016, 2018)	72.5%	74.8%	74.3%	72.1%	73.0%	71.7%	72.7%	68.6%	.
Colorectal Cancer Screening, Age 50–75 (2016, 2018)	65.4%	64.9%	71.3%	62.6%	68.9%	60.3%	62.1%	65.3%	62.3%
Tobacco Use									
Current Smoker (2014–2018)	14.6%	17.1%	15.1%	16.8%	13.1%	16.2%	14.4%	10.4%	10.3%
Current Smokeless Tobacco User, Males (2014–2018)	9.5%	10.6%	14.0%	11.1%	8.4%	8.9%	8.4%	7.3%	8.1%
Other Cancer-Related									
Sunburn in Previous 12 Months (2018)	47.7%	42.3%	49.0%	41.6%	50.8%	42.8%	49.9%	56.6%	.
Artificial Tanning Appliance Use (2011, 2014, 2016)	4.4%	5.5%	3.3%	3.3%	3.4%	4.2%	5.7%	6.8%	11.5%
Healthy Weight by Body Mass Index, Age 20+ (2014–2018)	32.6%	34.2%	32.9%	27.0%	36.3%	31.1%	29.4%	32.4%	26.9%
Meet Physical Activity Guidelines (2011, 2013, 2015, 2017)	22.1%	22.1%	19.9%	20.6%	26.1%	18.8%	20.0%	20.1%	13.5%
Home Ever Tested for Radon (2016, 2018)	22.7%	29.7%	19.5%	16.3%	24.1%	20.2%	23.3%	22.7%	18.8%

Access to Care

Have Health Insurance – 2014–2018
Statewide, 81.2% of adults aged 18–64 reported having health care coverage. Health care coverage differed significantly by race/ethnicity, with 84.5% of white non-Hispanics, compared to 59.8% of Hispanics and 79.9% of Native Americans, having health insurance. Spanish-speaking respondents were significantly less likely to be insured (33.1%) than English-speaking respondents (83.1%). Health care coverage differed significantly by age of respondent, with 76.4% of persons aged 30–39, and 86.5% of persons aged 50–64, having health insurance. Health care coverage differed significantly by county, with a range of 57.4% in Adams County to 91.7% in Oneida County having health insurance.

Not See Doctor Due to Cost in Past Year – 2014–2018
Statewide, 14.3% 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 (13.2% of white non-Hispanics, 21.4% of Hispanics, and 23.1% of Native Americans). Inability to see a doctor due to cost differed significantly by annual household income (27.4% for less than $15,000, 6.7% for greater than $50,000). Inability to see a doctor due to cost differed significantly by county, with a range of 7.0% in Caribou County to 20.2% in Jerome County.

Cancer Screening

Mammogram – 2014, 2016, 2018
Statewide, 67.5% 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 (70.7% versus 34.0%). Mammography rates differed significantly by county, with a range in screening of 47.3% in Gooding County to 77.5% in Nez Perce County. In 2018, Idaho ranked 49th among states and the District of Columbia for mammography screening rates among women aged 50–74 and 50th among ages 40+.

Pap Test – 2016, 2018
Statewide, 72.5% 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 (77.3% versus 54.2% screened in the past 3 years). Pap screening differed significantly by county, with a range of 60.5% in Idaho County to 79.2% in Latah County. In 2018, Idaho ranked 51st among states and the District of Columbia for Pap screening rate.

Colorectal Cancer Screening – 2016, 2018
Statewide, 65.4% of adults aged 50–75 reported receiving colorectal cancer screening based on the most recent guidelines.** Persons with health insurance were over twice as likely to be current for colorectal cancer screening. In 2018, Idaho ranked 41st 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 Smoking – 2014–2018
Statewide, 14.6% of adults aged 18 and older were current smokers. Smoking prevalence differed significantly by age of respondent, with 19.2% of persons aged 30–39, and 8.4% of persons aged 65 and older reporting current smoking. Smoking prevalence was lower among white non-Hispanics (14.7%) than among Native Americans (32.4%). Smoking prevalence differed significantly by county, with a range of 4.3% in Madison County to 32.7% in Adams County. Counties with higher rates of current smoking had higher rates of lung cancer.

Smokeless Tobacco Use, Males – 2014–2018
Statewide, 9.5% of males aged 18 and older were current users of smokeless tobacco. Smokeless tobacco use differed significantly by age group, ranging from 12.8% of males aged 30–39 to 4.0% of males aged 65 and older. Smokeless tobacco use differed significantly by county, with a range of 3.4% in Franklin County to 21.1% in Custer County. Counties with higher rates of smokeless tobacco use had higher rates of oral cavity & pharynx cancer.

Other Cancer-Related

Sun Exposure – 2018
Statewide, 47.7% of adults aged 18 and older reported having sunburn in the past 12 months. Sunburn rates were higher for white non-Hispanics (49.6%) and Native Americans (48.7%) than for Hispanics (35.2%). Sunburn rates differed significantly by age group, with 67.2% of persons aged 30–39 and 17.9% of persons aged 65 and older having sunburn in the past 12 months. Sunburn rates differed significantly by county, with a range of 36.7% in Idaho County to 72.9% in Madison County having sunburn in the past 12 months.

Artificial Tanning Appliance Use – 2011, 2014, 2016
Statewide, 4.4% of adults aged 18 and older reported using an artificial tanning appliance, such as a tanning bed, in the past 12 months. Females (6.8%) were significantly more likely than males (2.1%) to have used an artificial tanning appliance in the past 12 months. Tanning appliance use differed significantly by age group, with 8.7% of persons aged 18–29 and 0.9% of persons aged 65 and older, using an appliance in the past 12 months. Tanning appliance use differed by county, with a range of less than 1% in Oneida, Power, and Valley Counties to over 9% in Bear Lake and Fremont Counties using an artificial tanning appliance in the past 12 months.

Healthy Weight by Body Mass Index – 2014–2018
Statewide, 32.6% 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 33.3% of white non-Hispanics, compared to 26.0% of Hispanics and 26.8% of Native Americans, being in the healthy weight range. Males (25.7%) were significantly less likely to be in the healthy weight range than females (39.4%). BMI differed significantly by age of respondent, with 45.0% of persons aged 18–29, and 27.1% of persons aged 50–64, being in the healthy weight range. BMI differed significantly by county, with a range of 19.5% in Minidoka County to 52.8% in Blaine County of adults being in the healthy weight range.

Physical Activity – 2011, 2013, 2015, 2017
Statewide, 22.1% of adults aged 18 and older met aerobic and strength physical activity guidelines during the past month or week. Physical activity differed significantly by age of respondent, with 26.3% of persons aged 18–29, and 19.3% of persons aged 50–64, meeting guidelines. The percentage of adults meeting physical activity guidelines differed significantly by county, with a range of 7.6% in Oneida County to 31.1% in Blaine County.

Home Radon Testing – 2016, 2018
Statewide, 22.7% of adults have ever tested their house for radon. Radon test usage varied significantly by race/ethnicity, with 24.7% of white non-Hispanics, 5.3% of Hispanics, and 27.9% 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 8.0% in Cassia County to 58.0% in Blaine County.

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GEM COUNTY CANCER PROFILE

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

Cancer Incidence 2013–2017
Cancer Mortality 2014–2018
BRFSS 2011–2018

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 are due to personal lifestyle factors, such as smoking and sedentary lifestyle, and are preventable. Additional cancers are 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. 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.

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://health.gov/dietaryguidelines/2015.

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
615 N. 7th Street
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/contact-center

American Cancer Society
2676 S. Vista Avenue
Boise, ID 83705
208-343-4609
https://www.cancer.org

CANCER INCIDENCE 2013–2017

Nearly one in two Idahoans are estimated to develop cancer during their lifetime. During 2013–2017, 40,996 cases of invasive cancer were diagnosed among Idaho residents, and 608 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, 2013–2017

Cancer Incidence 2013–2017	Gem County	State of Idaho
All Sites/Types	**608**	**40,996**
Female Breast	**71**	**5,956**
Prostate	**72**	**5,027**
Lung & Bronchus	**72**	**4,657**
Colorectal	**62**	**3,235**

Table 3 (*Cancer Incidence 2013–2017, 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 rate of invasive cancer incidence in Gem County was 722.1 cases per 100,000 person-years per year during 2013–2017. Comparing this crude rate with the crude rate for the remainder of Idaho (491.8) 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 546.9 cases per 100,000 persons per year during 2013–2017. There were statistically significantly more cases of cancer in Gem County (608) than expected (546.8) 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 2014–2018

During 2014–2018, cancer was the second leading cause of death in Idaho; 14,585 Idaho residents and 225 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, 2014–2018

Mortality 2014–2018	Gem County	State of Idaho
All Deaths	**1,076**	**67,280**
Cancer Deaths	**225**	**14,585**
% of All Deaths	*20.9%*	*21.7%*
Lung & Bronchus	**56**	**3,125**
Colorectal	**18**	**1,226**
Pancreas	**15**	**1,079**
Female Breast	**12**	**1,077**
Prostate	**8**	**935**

Table 4 (*Cancer Mortality 2014–2018, 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 191.3 deaths per 100,000 persons per year during 2014–2018, compared with 171.9 for the remainder of the state. There were more cancer deaths in Gem County (225) than expected (202.1) 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 2013–2017
COMPARISON BETWEEN GEM COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cancer Site/Type	Sex	Gem County						Remainder of Idaho		
		Observed Cases	Person Years	Crude Rate (1)	A.A.I. Rate (1,2)	Expected Cases (3)	P-Value (4)	Observed Cases	Person Years	Crude Rate (1)
All Sites Combined	Total	608	84,196	722.1	546.9	546.8	0.011 >>	40,388	8,212,170	491.8
	Male	335	41,932	798.9	577.1	294.4	0.021 >>	20,862	4,114,063	507.1
	Female	273	42,264	645.9	508.7	255.7	0.293	19,526	4,098,107	476.5
Bladder	Total	36	84,196	42.8	30.5	28.5	0.195	1,979	8,212,170	24.1
	Male	30	41,932	71.5	48.6	23.1	0.192	1,540	4,114,063	37.4
	Female	6	42,264	14.2	10.6	6.1	1.000	439	4,098,107	10.7
Brain - malignant	Total	12	84,196	14.3	11.9	7.4	0.143	598	8,212,170	7.3
	Male	7	41,932	16.7	13.4	4.6	0.373	364	4,114,063	8.8
	Female	5	42,264	11.8	10.3	2.8	0.297	234	4,098,107	5.7
Brain and other CNS - non-malignant	Total	17	84,196	20.2	16.3	13.4	0.394	1,055	8,212,170	12.8
	Male	5	41,932	11.9	9.5	4.5	0.928	349	4,114,063	8.5
	Female	12	42,264	28.4	23.2	8.9	0.379	706	4,098,107	17.2
Breast	Total	71	84,196	84.3	65.8	77.9	0.471	5,930	8,212,170	72.2
	Male	-	41,932	-	-	0.7	1.000	45	4,114,063	1.1
	Female	71	42,264	168.0	133.1	76.6	0.567	5,885	4,098,107	143.6
Breast - in situ	Total	8	84,196	9.5	7.6	13.5	0.162	1,056	8,212,170	12.9
	Male	-	41,932	-	-	0.0	1.000	3	4,114,063	0.1
	Female	8	42,264	18.9	15.3	13.4	0.165	1,053	4,098,107	25.7
Cervix	Female	6	42,264	14.2	13.3	2.8	0.127	253	4,098,107	6.2
Colorectal	Total	62	84,196	73.6	55.4	43.2	0.008 >>	3,173	8,212,170	38.6
	Male	32	41,932	76.3	55.9	23.7	0.119	1,703	4,114,063	41.4
	Female	30	42,264	71.0	54.8	19.6	0.035 >>	1,470	4,098,107	35.9
Corpus Uteri	Female	22	42,264	52.1	41.3	15.4	0.133	1,187	4,098,107	29.0
Esophagus	Total	8	84,196	9.5	7.0	6.4	0.633	461	8,212,170	5.6
	Male	6	41,932	14.3	10.2	5.4	0.921	382	4,114,063	9.3
	Female	2	42,264	4.7	3.5	1.1	0.592	79	4,098,107	1.9
Hodgkin Lymphoma	Total	3	84,196	3.6	3.5	2.0	0.673	196	8,212,170	2.4
	Male	2	41,932	4.8	4.7	1.1	0.592	106	4,114,063	2.6
	Female	1	42,264	2.4	2.3	1.0	1.000	90	4,098,107	2.2
Kidney and Renal Pelvis	Total	26	84,196	30.9	23.4	20.7	0.293	1,528	8,212,170	18.6
	Male	18	41,932	42.9	31.7	13.5	0.277	977	4,114,063	23.7
	Female	8	42,264	18.9	14.7	7.3	0.897	551	4,098,107	13.4
Larynx	Total	3	84,196	3.6	2.6	2.9	1.000	206	8,212,170	2.5
	Male	3	41,932	7.2	5.1	2.4	0.841	165	4,114,063	4.0
	Female	-	42,264	-	-	0.5	1.000	41	4,098,107	1.0
Leukemia	Total	15	84,196	17.8	13.5	19.9	0.327	1,471	8,212,170	17.9
	Male	8	41,932	19.1	14.0	12.1	0.296	873	4,114,063	21.2
	Female	7	42,264	16.6	13.0	7.9	0.938	598	4,098,107	14.6
Liver and Bile Duct	Total	14	84,196	16.6	12.5	9.8	0.241	719	8,212,170	8.8
	Male	13	41,932	31.0	22.9	7.1	0.062	519	4,114,063	12.6
	Female	1	42,264	2.4	1.8	2.7	0.500	200	4,098,107	4.9
Lung and Bronchus	Total	72	84,196	85.5	60.9	66.0	0.490	4,585	8,212,170	55.8
	Male	39	41,932	93.0	63.5	35.3	0.572	2,363	4,114,063	57.4
	Female	33	42,264	78.1	57.6	31.1	0.775	2,222	4,098,107	54.2
Melanoma of the Skin	Total	26	84,196	30.9	24.4	32.4	0.299	2,500	8,212,170	30.4
	Male	16	41,932	38.2	28.5	19.9	0.461	1,453	4,114,063	35.3
	Female	10	42,264	23.7	19.8	12.9	0.520	1,047	4,098,107	25.5
Myeloma	Total	8	84,196	9.5	6.8	8.6	1.000	600	8,212,170	7.3
	Male	5	41,932	11.9	8.2	5.2	1.000	352	4,114,063	8.6
	Female	3	42,264	7.1	5.3	3.5	1.000	248	4,098,107	6.1
Non-Hodgkin Lymphoma	Total	15	84,196	17.8	13.3	24.1	0.066	1,758	8,212,170	21.4
	Male	10	41,932	23.8	17.3	14.0	0.351	997	4,114,063	24.2
	Female	5	42,264	11.8	9.1	10.2	0.118	761	4,098,107	18.6
Oral Cavity and Pharynx	Total	20	84,196	23.8	18.2	15.4	0.292	1,148	8,212,170	14.0
	Male	14	41,932	33.4	25.0	11.1	0.448	812	4,114,063	19.7
	Female	6	42,264	14.2	11.1	4.4	0.565	336	4,098,107	8.2
Ovary	Female	8	42,264	18.9	15.0	6.7	0.705	511	4,098,107	12.5
Pancreas	Total	18	84,196	21.4	15.5	18.2	1.000	1,286	8,212,170	15.7
	Male	12	41,932	28.6	20.0	10.1	0.618	690	4,114,063	16.8
	Female	6	42,264	14.2	10.6	8.2	0.573	596	4,098,107	14.5
Prostate	Male	72	41,932	171.7	122.7	70.7	0.907	4,955	4,114,063	120.4
Stomach	Total	13	84,196	15.4	11.4	6.6	0.035 >>	475	8,212,170	5.8
	Male	10	41,932	23.8	17.0	4.4	0.029 >>	308	4,114,063	7.5
	Female	3	42,264	7.1	5.4	2.2	0.780	167	4,098,107	4.1
Testis	Male	3	41,932	7.2	8.3	2.3	0.812	264	4,114,063	6.4
Thyroid	Total	23	84,196	27.3	25.1	13.8	0.028 >>	1,233	8,212,170	15.0
	Male	5	41,932	11.9	10.4	3.8	0.671	327	4,114,063	7.9
	Female	18	42,264	42.6	39.6	10.0	0.030 >>	906	4,098,107	22.1
Pediatric Age 0 to 19	Total	6	21,531	27.9	27.9	3.9	0.391	429	2,378,991	18.0
	Male	4	11,160	35.8	36.1	2.1	0.322	230	1,214,742	18.9
	Female	2	10,371	19.3	19.3	1.8	1.000	199	1,164,249	17.1

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

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

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

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

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

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

TABLE 4: CANCER MORTALITY 2014–2018
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	1,076	85,261	1,262.0	923.3	923.6	0.000 >>	66,204	8,353,783	792.5
	Male	562	42,516	1,321.9	926.3	501.9	0.009 >>	34,624	4,185,364	827.3
	Female	514	42,745	1,202.5	915.7	425.3	0.000 >>	31,580	4,168,419	757.6
All Malignant Cancers	Total	225	85,261	263.9	191.3	202.1	0.120	14,360	8,353,783	171.9
	Male	126	42,516	296.4	203.9	114.8	0.319	7,775	4,185,364	185.8
	Female	99	42,745	231.6	175.4	89.2	0.322	6,585	4,168,419	158.0
Bladder	Total	11	85,261	12.9	9.0	6.1	0.090	415	8,353,783	5.0
	Male	9	42,516	21.2	13.8	4.8	0.117	310	4,185,364	7.4
	Female	2	42,745	4.7	3.5	1.4	0.848	105	4,168,419	2.5
Brain and Other Nervous System	Total	10	85,261	11.7	9.2	6.4	0.223	487	8,353,783	5.8
	Male	5	42,516	11.8	8.9	4.1	0.800	310	4,185,364	7.4
	Female	5	42,745	11.7	9.3	2.3	0.161	177	4,168,419	4.2
Breast	Total	12	85,261	14.1	10.5	14.7	0.584	1,075	8,353,783	12.9
	Male	-	42,516	-	-	0.2	1.000	10	4,185,364	0.2
	Female	12	42,745	28.1	21.6	14.2	0.684	1,065	4,168,419	25.5
Cervix	Female	2	42,745	4.7	3.9	1.0	0.493	78	4,168,419	1.9
Colorectal	Total	18	85,261	21.1	15.5	16.8	0.827	1,208	8,353,783	14.5
	Male	8	42,516	18.8	13.3	9.4	0.814	654	4,185,364	15.6
	Female	10	42,745	23.4	17.8	7.5	0.437	554	4,168,419	13.3
Corpus Uteri	Female	2	42,745	4.7	3.5	2.1	1.000	151	4,168,419	3.6
Esophagus	Total	10	85,261	11.7	8.5	6.5	0.239	461	8,353,783	5.5
	Male	10	42,516	23.5	16.5	5.4	0.094	370	4,185,364	8.8
	Female	-	42,745	-	-	1.2	0.575	91	4,168,419	2.2
Hodgkin Lymphoma	Total	-	85,261	-	-	0.3	1.000	21	8,353,783	0.3
	Male	-	42,516	-	-	0.1	1.000	8	4,185,364	0.2
	Female	-	42,745	-	-	0.2	1.000	13	4,168,419	0.3
Kidney	Total	2	85,261	2.3	1.7	5.2	0.219	368	8,353,783	4.4
	Male	1	42,516	2.4	1.6	3.5	0.269	241	4,185,364	5.8
	Female	1	42,745	2.3	1.8	1.7	0.963	127	4,168,419	3.0
Larynx	Total	-	85,261	-	-	0.9	0.834	63	8,353,783	0.8
	Male	-	42,516	-	-	0.8	0.934	53	4,185,364	1.3
	Female	-	42,745	-	-	0.1	1.000	10	4,168,419	0.2
Leukemia	Total	10	85,261	11.7	8.5	8.6	0.714	606	8,353,783	7.3
	Male	7	42,516	16.5	11.3	5.2	0.537	351	4,185,364	8.4
	Female	3	42,745	7.0	5.3	3.5	1.000	255	4,168,419	6.1
Liver and Bile Duct	Total	12	85,261	14.1	10.3	8.1	0.246	586	8,353,783	7.0
	Male	10	42,516	23.5	16.8	5.7	0.132	402	4,185,364	9.6
	Female	2	42,745	4.7	3.5	2.5	1.000	184	4,168,419	4.4
Lung and Bronchus	Total	56	85,261	65.7	46.9	43.9	0.088	3,069	8,353,783	36.7
	Male	29	42,516	68.2	46.4	24.4	0.404	1,638	4,185,364	39.1
	Female	27	42,745	63.2	46.9	19.7	0.139	1,431	4,168,419	34.3
Melanoma of the Skin	Total	4	85,261	4.7	3.5	3.8	1.000	276	8,353,783	3.3
	Male	4	42,516	9.4	6.8	2.6	0.517	183	4,185,364	4.4
	Female	-	42,745	-	-	1.2	0.582	93	4,168,419	2.2
Myeloma	Total	3	85,261	3.5	2.5	4.8	0.602	326	8,353,783	3.9
	Male	1	42,516	2.4	1.6	3.0	0.407	194	4,185,364	4.6
	Female	2	42,745	4.7	3.4	1.9	1.000	132	4,168,419	3.2
Non-Hodgkin Lymphoma	Total	5	85,261	5.9	4.1	8.2	0.349	565	8,353,783	6.8
	Male	3	42,516	7.1	4.8	4.8	0.600	316	4,185,364	7.6
	Female	2	42,745	4.7	3.4	3.5	0.652	249	4,168,419	6.0
Oral Cavity and Pharynx	Total	2	85,261	2.3	1.7	3.1	0.811	221	8,353,783	2.6
	Male	2	42,516	4.7	3.3	2.1	1.000	150	4,185,364	3.6
	Female	-	42,745	-	-	1.0	0.758	71	4,168,419	1.7
Ovary	Female	6	42,745	14.0	10.7	4.8	0.704	357	4,168,419	8.6
Pancreas	Total	15	85,261	17.6	12.7	15.0	1.000	1,064	8,353,783	12.7
	Male	11	42,516	25.9	18.1	8.4	0.459	581	4,185,364	13.9
	Female	4	42,745	9.4	7.0	6.6	0.416	483	4,168,419	11.6
Prostate	Male	8	42,516	18.8	12.1	14.6	0.091	927	4,185,364	22.1
Stomach	Total	3	85,261	3.5	2.6	2.9	1.000	207	8,353,783	2.5
	Male	1	42,516	2.4	1.7	1.7	0.967	121	4,185,364	2.9
	Female	2	42,745	4.7	3.6	1.1	0.636	86	4,168,419	2.1

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, 2019.

Cancer Screening and Risk Factors

The Bureau of Vital Records and Health Statistics (BVRHS), Division of Public Health, 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) with randomly selected adult Idahoans to measure population prevalences of risk factors for the major causes of death, including cancer, since 1984. BVRHS provided data sets containing Behavioral Risk Factor Surveillance System (BRFSS) data from 2011 through 2018 to CDRI staff, who performed the analyses reported in these *County Profiles*. Analysis weights were poststratified to 2018 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, 2011–2018

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 (2014–2018)	81.2%	80.6%	84.5%	74.6%	84.7%	75.5%	83.3%	83.8%	79.4%
Not See Doctor Due to Cost in Past Year (2014–2018)	14.3%	13.9%	12.2%	18.1%	13.6%	14.3%	12.5%	13.9%	18.5%
Cancer Screening									
Mammogram Past 2 Years, Age 50–74 (2014, 2016, 2018)	67.5%	66.8%	72.1%	63.2%	72.9%	61.0%	64.6%	66.8%	60.6%
Pap Test Past 3 Years, Cervix Intact Age 21–65 (2016, 2018)	72.5%	74.8%	74.3%	72.1%	73.0%	71.7%	72.7%	68.6%	.
Colorectal Cancer Screening, Age 50–75 (2016, 2018)	65.4%	64.9%	71.3%	62.6%	68.9%	60.3%	62.1%	65.3%	56.4%
Tobacco Use									
Current Smoker (2014–2018)	14.6%	17.1%	15.1%	16.8%	13.1%	16.2%	14.4%	10.4%	14.6%
Current Smokeless Tobacco User, Males (2014–2018)	9.5%	10.6%	14.0%	11.1%	8.4%	8.9%	8.4%	7.3%	14.4%
Other Cancer-Related									
Sunburn in Previous 12 Months (2018)	47.7%	42.3%	49.0%	41.6%	50.8%	42.8%	49.9%	56.6%	.
Artificial Tanning Appliance Use (2011, 2014, 2016)	4.4%	5.5%	3.3%	3.3%	3.4%	4.2%	5.7%	6.8%	2.7%
Healthy Weight by Body Mass Index, Age 20+ (2014–2018)	32.6%	34.2%	32.9%	27.0%	36.3%	31.1%	29.4%	32.4%	24.5%
Meet Physical Activity Guidelines (2011, 2013, 2015, 2017)	22.1%	22.1%	19.9%	20.6%	26.1%	18.8%	20.0%	20.1%	19.4%
Home Ever Tested for Radon (2016, 2018)	22.7%	29.7%	19.5%	16.3%	24.1%	20.2%	23.3%	22.7%	27.4%

Access to Care

Have Health Insurance – 2014–2018
Statewide, 81.2% of adults aged 18–64 reported having health care coverage. Health care coverage differed significantly by race/ethnicity, with 84.5% of white non-Hispanics, compared to 59.8% of Hispanics and 79.9% of Native Americans, having health insurance. Spanish-speaking respondents were significantly less likely to be insured (33.1%) than English-speaking respondents (83.1%). Health care coverage differed significantly by age of respondent, with 76.4% of persons aged 30–39, and 86.5% of persons aged 50–64, having health insurance. Health care coverage differed significantly by county, with a range of 57.4% in Adams County to 91.7% in Oneida County having health insurance.

Not See Doctor Due to Cost in Past Year – 2014–2018
Statewide, 14.3% 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 (13.2% of white non-Hispanics, 21.4% of Hispanics, and 23.1% of Native Americans). Inability to see a doctor due to cost differed significantly by annual household income (27.4% for less than $15,000, 6.7% for greater than $50,000). Inability to see a doctor due to cost differed significantly by county, with a range of 7.0% in Caribou County to 20.2% in Jerome County.

Cancer Screening

Mammogram – 2014, 2016, 2018
Statewide, 67.5% 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 (70.7% versus 34.0%). Mammography rates differed significantly by county, with a range in screening of 47.3% in Gooding County to 77.5% in Nez Perce County. In 2018, Idaho ranked 49th among states and the District of Columbia for mammography screening rates among women aged 50–74 and 50th among ages 40+.

Pap Test – 2016, 2018
Statewide, 72.5% 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 (77.3% versus 54.2% screened in the past 3 years). Pap screening differed significantly by county, with a range of 60.5% in Idaho County to 79.2% in Latah County. In 2018, Idaho ranked 51st among states and the District of Columbia for Pap screening rate.

Colorectal Cancer Screening – 2016, 2018
Statewide, 65.4% of adults aged 50–75 reported receiving colorectal cancer screening based on the most recent guidelines.** Persons with health insurance were over twice as likely to be current for colorectal cancer screening. In 2018, Idaho ranked 41st 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 Smoking – 2014–2018
Statewide, 14.6% of adults aged 18 and older were current smokers. Smoking prevalence differed significantly by age of respondent, with 19.2% of persons aged 30–39, and 8.4% of persons aged 65 and older reporting current smoking. Smoking prevalence was lower among white non-Hispanics (14.7%) than among Native Americans (32.4%). Smoking prevalence differed significantly by county, with a range of 4.3% in Madison County to 32.7% in Adams County. Counties with higher rates of current smoking had higher rates of lung cancer.

Smokeless Tobacco Use, Males – 2014–2018
Statewide, 9.5% of males aged 18 and older were current users of smokeless tobacco. Smokeless tobacco use differed significantly by age group, ranging from 12.8% of males aged 30–39 to 4.0% of males aged 65 and older. Smokeless tobacco use differed significantly by county, with a range of 3.4% in Franklin County to 21.1% in Custer County. Counties with higher rates of smokeless tobacco use had higher rates of oral cavity & pharynx cancer.

Other Cancer-Related

Sun Exposure – 2018
Statewide, 47.7% of adults aged 18 and older reported having sunburn in the past 12 months. Sunburn rates were higher for white non-Hispanics (49.6%) and Native Americans (48.7%) than for Hispanics (35.2%). Sunburn rates differed significantly by age group, with 67.2% of persons aged 30–39 and 17.9% of persons aged 65 and older having sunburn in the past 12 months. Sunburn rates differed significantly by county, with a range of 36.7% in Idaho County to 72.9% in Madison County having sunburn in the past 12 months.

Artificial Tanning Appliance Use – 2011, 2014, 2016
Statewide, 4.4% of adults aged 18 and older reported using an artificial tanning appliance, such as a tanning bed, in the past 12 months. Females (6.8%) were significantly more likely than males (2.1%) to have used an artificial tanning appliance in the past 12 months. Tanning appliance use differed significantly by age group, with 8.7% of persons aged 18–29 and 0.9% of persons aged 65 and older, using an appliance in the past 12 months. Tanning appliance use differed by county, with a range of less than 1% in Oneida, Power, and Valley Counties to over 9% in Bear Lake and Fremont Counties using an artificial tanning appliance in the past 12 months.

Healthy Weight by Body Mass Index – 2014–2018
Statewide, 32.6% 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 33.3% of white non-Hispanics, compared to 26.0% of Hispanics and 26.8% of Native Americans, being in the healthy weight range. Males (25.7%) were significantly less likely to be in the healthy weight range than females (39.4%). BMI differed significantly by age of respondent, with 45.0% of persons aged 18–29, and 27.1% of persons aged 50–64, being in the healthy weight range. BMI differed significantly by county, with a range of 19.5% in Minidoka County to 52.8% in Blaine County of adults being in the healthy weight range.

Physical Activity – 2011, 2013, 2015, 2017
Statewide, 22.1% of adults aged 18 and older met aerobic and strength physical activity guidelines during the past month or week. Physical activity differed significantly by age of respondent, with 26.3% of persons aged 18–29, and 19.3% of persons aged 50–64, meeting guidelines. The percentage of adults meeting physical activity guidelines differed significantly by county, with a range of 7.6% in Oneida County to 31.1% in Blaine County.

Home Radon Testing – 2016, 2018
Statewide, 22.7% of adults have ever tested their house for radon. Radon test usage varied significantly by race/ethnicity, with 24.7% of white non-Hispanics, 5.3% of Hispanics, and 27.9% 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 8.0% in Cassia County to 58.0% in Blaine County.

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GOODING COUNTY CANCER PROFILE

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

Cancer Incidence 2013–2017
Cancer Mortality 2014–2018
BRFSS 2011–2018

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 are due to personal lifestyle factors, such as smoking and sedentary lifestyle, and are preventable. Additional cancers are 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. 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.

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://health.gov/dietaryguidelines/2015.

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
615 N. 7th Street
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/contact-center

American Cancer Society
2676 S. Vista Avenue
Boise, ID 83705
208-343-4609
https://www.cancer.org

CANCER INCIDENCE 2013–2017

Nearly one in two Idahoans are estimated to develop cancer during their lifetime. During 2013–2017, 40,996 cases of invasive cancer were diagnosed among Idaho residents, and 423 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, 2013–2017

Cancer Incidence 2013–2017	Gooding County	State of Idaho
All Sites/Types	**423**	**40,996**
Female Breast	**48**	**5,956**
Prostate	**47**	**5,027**
Lung & Bronchus	**59**	**4,657**
Colorectal	**34**	**3,235**

Table 3 (*Cancer Incidence 2013–2017, 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 rate of invasive cancer incidence in Gooding County was 557.8 cases per 100,000 person-years per year during 2013–2017. Comparing this crude rate with the crude rate for the remainder of Idaho (493.6) 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 520.2 cases per 100,000 persons per year during 2013–2017. There were more cases of cancer in Gooding County (423) than expected (401.3) 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 2014–2018

During 2014–2018, cancer was the second leading cause of death in Idaho; 14,585 Idaho residents and 164 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, 2014–2018

Mortality 2014–2018	Gooding County	State of Idaho
All Deaths	**708**	**67,280**
Cancer Deaths	**164**	**14,585**
% of All Deaths	*23.2%*	*21.7%*
Lung & Bronchus	**39**	**3,125**
Colorectal	**14**	**1,226**
Pancreas	**13**	**1,079**
Female Breast	**12**	**1,077**
Prostate	**11**	**935**

Table 4 (*Cancer Mortality 2014–2018, 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 191.8 deaths per 100,000 persons per year during 2014–2018, compared with 172.4 for the remainder of the state. There were more cancer deaths in Gooding County (164) than expected (147.5) 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 2013–2017
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	423	75,827	557.8	520.2	401.3	0.291	40,573	8,220,539	493.6
	Male	224	38,805	577.2	529.2	215.6	0.587	20,973	4,117,190	509.4
	Female	199	37,022	537.5	508.8	186.8	0.392	19,600	4,103,349	477.7
Bladder	Total	28	75,827	36.9	33.0	20.5	0.134	1,987	8,220,539	24.2
	Male	20	38,805	51.5	45.1	16.7	0.480	1,550	4,117,190	37.6
	Female	8	37,022	21.6	19.7	4.3	0.147	437	4,103,349	10.6
Brain - malignant	Total	6	75,827	7.9	7.6	5.8	1.000	604	8,220,539	7.3
	Male	4	38,805	10.3	9.8	3.6	0.984	367	4,117,190	8.9
	Female	2	37,022	5.4	5.2	2.2	1.000	237	4,103,349	5.8
Brain and other CNS - non-malignant	Total	2	75,827	2.6	2.5	10.4	0.004 <<	1,070	8,220,539	13.0
	Male	-	38,805	-	-	3.6	0.056	354	4,117,190	8.6
	Female	2	37,022	5.4	5.2	6.7	0.072	716	4,103,349	17.4
Breast	Total	48	75,827	63.3	60.5	57.5	0.232	5,953	8,220,539	72.4
	Male	-	38,805	-	-	0.5	1.000	45	4,117,190	1.1
	Female	48	37,022	129.7	124.7	55.4	0.354	5,908	4,103,349	144.0
Breast - in situ	Total	8	75,827	10.6	10.3	9.9	0.677	1,056	8,220,539	12.8
	Male	-	38,805	-	-	0.0	1.000	3	4,117,190	0.1
	Female	8	37,022	21.6	21.3	9.7	0.745	1,053	4,103,349	25.7
Cervix	Female	2	37,022	5.4	5.6	2.2	1.000	257	4,103,349	6.3
Colorectal	Total	34	75,827	44.8	41.5	31.9	0.756	3,201	8,220,539	38.9
	Male	19	38,805	49.0	44.9	17.6	0.804	1,716	4,117,190	41.7
	Female	15	37,022	40.5	37.7	14.4	0.943	1,485	4,103,349	36.2
Corpus Uteri	Female	10	37,022	27.0	26.5	11.0	0.909	1,199	4,103,349	29.2
Esophagus	Total	7	75,827	9.2	8.6	4.6	0.362	462	8,220,539	5.6
	Male	6	38,805	15.5	14.2	3.9	0.403	382	4,117,190	9.3
	Female	1	37,022	2.7	2.5	0.8	1.000	80	4,103,349	1.9
Hodgkin Lymphoma	Total	2	75,827	2.6	2.7	1.8	1.000	197	8,220,539	2.4
	Male	1	38,805	2.6	2.6	1.0	1.000	107	4,117,190	2.6
	Female	1	37,022	2.7	2.7	0.8	1.000	90	4,103,349	2.2
Kidney and Renal Pelvis	Total	21	75,827	27.7	25.9	15.1	0.175	1,533	8,220,539	18.6
	Male	12	38,805	30.9	28.8	10.0	0.596	983	4,117,190	23.9
	Female	9	37,022	24.3	22.8	5.3	0.178	550	4,103,349	13.4
Larynx	Total	4	75,827	5.3	4.9	2.0	0.293	205	8,220,539	2.5
	Male	4	38,805	10.3	9.6	1.7	0.176	164	4,117,190	4.0
	Female	-	37,022	-	-	0.4	1.000	41	4,103,349	1.0
Leukemia	Total	20	75,827	26.4	24.0	14.9	0.234	1,466	8,220,539	17.8
	Male	15	38,805	38.7	35.1	9.0	0.082	866	4,117,190	21.0
	Female	5	37,022	13.5	12.3	6.0	0.903	600	4,103,349	14.6
Liver and Bile Duct	Total	6	75,827	7.9	7.5	7.1	0.880	727	8,220,539	8.8
	Male	5	38,805	12.9	12.2	5.2	1.000	527	4,117,190	12.8
	Female	1	37,022	2.7	2.5	1.9	0.856	200	4,103,349	4.9
Lung and Bronchus	Total	59	75,827	77.8	70.0	47.1	0.105	4,598	8,220,539	55.9
	Male	32	38,805	82.5	73.4	25.1	0.208	2,370	4,117,190	57.6
	Female	27	37,022	72.9	65.9	22.2	0.361	2,228	4,103,349	54.3
Melanoma of the Skin	Total	19	75,827	25.1	23.8	24.3	0.328	2,507	8,220,539	30.5
	Male	11	38,805	28.3	26.2	14.9	0.389	1,458	4,117,190	35.4
	Female	8	37,022	21.6	21.2	9.7	0.744	1,049	4,103,349	25.6
Myeloma	Total	5	75,827	6.6	5.9	6.2	0.824	603	8,220,539	7.3
	Male	1	38,805	2.6	2.3	3.8	0.223	356	4,117,190	8.6
	Female	4	37,022	10.8	9.7	2.5	0.478	247	4,103,349	6.0
Non-Hodgkin Lymphoma	Total	16	75,827	21.1	19.4	17.6	0.819	1,757	8,220,539	21.4
	Male	8	38,805	20.6	18.9	10.3	0.601	999	4,117,190	24.3
	Female	8	37,022	21.6	19.9	7.4	0.924	758	4,103,349	18.5
Oral Cavity and Pharynx	Total	13	75,827	17.1	16.3	11.2	0.665	1,155	8,220,539	14.1
	Male	10	38,805	25.8	24.3	8.1	0.604	816	4,117,190	19.8
	Female	3	37,022	8.1	7.7	3.2	1.000	339	4,103,349	8.3
Ovary	Female	6	37,022	16.2	15.5	4.9	0.717	513	4,103,349	12.5
Pancreas	Total	13	75,827	17.1	15.5	13.1	1.000	1,291	8,220,539	15.7
	Male	5	38,805	12.9	11.7	7.3	0.537	697	4,117,190	16.9
	Female	8	37,022	21.6	19.6	5.9	0.488	594	4,103,349	14.5
Prostate	Male	47	38,805	121.1	112.8	50.4	0.698	4,980	4,117,190	121.0
Stomach	Total	4	75,827	5.3	4.8	4.9	0.921	484	8,220,539	5.9
	Male	2	38,805	5.2	4.7	3.3	0.721	316	4,117,190	7.7
	Female	2	37,022	5.4	5.0	1.6	0.980	168	4,103,349	4.1
Testis	Male	4	38,805	10.3	10.9	2.3	0.417	263	4,117,190	6.4
Thyroid	Total	11	75,827	14.5	14.8	11.3	1.000	1,245	8,220,539	15.1
	Male	4	38,805	10.3	10.2	3.1	0.761	328	4,117,190	8.0
	Female	7	37,022	18.9	19.5	8.0	0.904	917	4,103,349	22.3
Pediatric Age 0 to 19	Total	4	23,342	17.1	17.3	4.2	1.000	431	2,377,180	18.1
	Male	3	11,924	25.2	25.2	2.3	0.787	231	1,213,978	19.0
	Female	1	11,418	8.8	8.8	2.0	0.839	200	1,163,202	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 2014–2018
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	708	75,844	933.5	800.9	703.6	0.880	66,572	8,363,200	796.0
	Male	389	38,761	1,003.6	845.5	382.2	0.740	34,797	4,189,119	830.7
	Female	319	37,083	860.2	747.9	324.7	0.780	31,775	4,174,081	761.2
All Malignant Cancers	Total	164	75,844	216.2	191.8	147.5	0.190	14,421	8,363,200	172.4
	Male	82	38,761	211.6	183.0	83.7	0.914	7,819	4,189,119	186.7
	Female	82	37,083	221.1	199.4	65.0	0.048 >>	6,602	4,174,081	158.2
Bladder	Total	3	75,844	4.0	3.3	4.6	0.659	423	8,363,200	5.1
	Male	2	38,761	5.2	4.1	3.7	0.582	317	4,189,119	7.6
	Female	1	37,083	2.7	2.3	1.1	1.000	106	4,174,081	2.5
Brain and Other Nervous System	Total	4	75,844	5.3	5.0	4.7	0.978	493	8,363,200	5.9
	Male	2	38,761	5.2	4.8	3.1	0.801	313	4,189,119	7.5
	Female	2	37,083	5.4	5.1	1.7	0.998	180	4,174,081	4.3
Breast	Total	12	75,844	15.8	14.3	10.8	0.794	1,075	8,363,200	12.9
	Male	-	38,761	-	-	0.1	1.000	10	4,189,119	0.2
	Female	12	37,083	32.4	29.8	10.3	0.674	1,065	4,174,081	25.5
Cervix	Female	3	37,083	8.1	8.1	0.7	0.065	77	4,174,081	1.8
Colorectal	Total	14	75,844	18.5	16.4	12.3	0.709	1,212	8,363,200	14.5
	Male	8	38,761	20.6	18.2	6.9	0.762	654	4,189,119	15.6
	Female	6	37,083	16.2	14.6	5.5	0.945	558	4,174,081	13.4
Corpus Uteri	Female	-	37,083	-	-	1.5	0.452	153	4,174,081	3.7
Esophagus	Total	8	75,844	10.5	9.5	4.7	0.201	463	8,363,200	5.5
	Male	7	38,761	18.1	16.0	3.9	0.201	373	4,189,119	8.9
	Female	1	37,083	2.7	2.4	0.9	1.000	90	4,174,081	2.2
Hodgkin Lymphoma	Total	-	75,844	-	-	0.2	1.000	21	8,363,200	0.3
	Male	-	38,761	-	-	0.1	1.000	8	4,189,119	0.2
	Female	-	37,083	-	-	0.1	1.000	13	4,174,081	0.3
Kidney	Total	4	75,844	5.3	4.7	3.7	1.000	366	8,363,200	4.4
	Male	1	38,761	2.6	2.3	2.5	0.562	241	4,189,119	5.8
	Female	3	37,083	8.1	7.2	1.2	0.262	125	4,174,081	3.0
Larynx	Total	1	75,844	1.3	1.2	0.6	0.931	62	8,363,200	0.7
	Male	1	38,761	2.6	2.2	0.6	0.850	52	4,189,119	1.2
	Female	-	37,083	-	-	0.1	1.000	10	4,174,081	0.2
Leukemia	Total	10	75,844	13.2	11.4	6.3	0.218	606	8,363,200	7.2
	Male	5	38,761	12.9	11.0	3.8	0.672	353	4,189,119	8.4
	Female	5	37,083	13.5	11.7	2.6	0.240	253	4,174,081	6.1
Liver and Bile Duct	Total	6	75,844	7.9	7.3	5.8	1.000	592	8,363,200	7.1
	Male	5	38,761	12.9	11.9	4.1	0.776	407	4,189,119	9.7
	Female	1	37,083	2.7	2.5	1.8	0.925	185	4,174,081	4.4
Lung and Bronchus	Total	39	75,844	51.4	45.7	31.5	0.217	3,086	8,363,200	36.9
	Male	22	38,761	56.8	49.7	17.4	0.322	1,645	4,189,119	39.3
	Female	17	37,083	45.8	41.0	14.3	0.541	1,441	4,174,081	34.5
Melanoma of the Skin	Total	-	75,844	-	-	2.8	0.123	280	8,363,200	3.3
	Male	-	38,761	-	-	1.9	0.290	187	4,189,119	4.5
	Female	-	37,083	-	-	0.9	0.809	93	4,174,081	2.2
Myeloma	Total	2	75,844	2.6	2.3	3.4	0.662	327	8,363,200	3.9
	Male	1	38,761	2.6	2.2	2.1	0.743	194	4,189,119	4.6
	Female	1	37,083	2.7	2.3	1.4	1.000	133	4,174,081	3.2
Non-Hodgkin Lymphoma	Total	3	75,844	4.0	3.4	6.0	0.303	567	8,363,200	6.8
	Male	2	38,761	5.2	4.4	3.5	0.660	317	4,189,119	7.6
	Female	1	37,083	2.7	2.3	2.6	0.543	250	4,174,081	6.0
Oral Cavity and Pharynx	Total	1	75,844	1.3	1.2	2.2	0.696	222	8,363,200	2.7
	Male	1	38,761	2.6	2.3	1.6	1.000	151	4,189,119	3.6
	Female	-	37,083	-	-	0.7	0.987	71	4,174,081	1.7
Ovary	Female	5	37,083	13.5	12.4	3.4	0.530	358	4,174,081	8.6
Pancreas	Total	13	75,844	17.1	15.4	10.8	0.576	1,066	8,363,200	12.7
	Male	5	38,761	12.9	11.6	6.0	0.880	587	4,189,119	14.0
	Female	8	37,083	21.6	19.2	4.8	0.221	479	4,174,081	11.5
Prostate	Male	11	38,761	28.4	22.4	10.8	1.000	924	4,189,119	22.1
Stomach	Total	-	75,844	-	-	2.1	0.235	210	8,363,200	2.5
	Male	-	38,761	-	-	1.3	0.555	122	4,189,119	2.9
	Female	-	37,083	-	-	0.9	0.833	88	4,174,081	2.1

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, 2019.

Cancer Screening and Risk Factors

The Bureau of Vital Records and Health Statistics (BVRHS), Division of Public Health, 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) with randomly selected adult Idahoans to measure population prevalences of risk factors for the major causes of death, including cancer, since 1984. BVRHS provided data sets containing Behavioral Risk Factor Surveillance System (BRFSS) data from 2011 through 2018 to CDRI staff, who performed the analyses reported in these *County Profiles*. Analysis weights were poststratified to 2018 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, 2011–2018

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 (2014–2018)	81.2%	80.6%	84.5%	74.6%	84.7%	75.5%	83.3%	83.8%	69.4%
Not See Doctor Due to Cost in Past Year (2014–2018)	14.3%	13.9%	12.2%	18.1%	13.6%	14.3%	12.5%	13.9%	16.7%
Cancer Screening									
Mammogram Past 2 Years, Age 50–74 (2014, 2016, 2018)	67.5%	66.8%	72.1%	63.2%	72.9%	61.0%	64.6%	66.8%	47.3%
Pap Test Past 3 Years, Cervix Intact Age 21–65 (2016, 2018)	72.5%	74.8%	74.3%	72.1%	73.0%	71.7%	72.7%	68.6%	.
Colorectal Cancer Screening, Age 50–75 (2016, 2018)	65.4%	64.9%	71.3%	62.6%	68.9%	60.3%	62.1%	65.3%	.
Tobacco Use									
Current Smoker (2014–2018)	14.6%	17.1%	15.1%	16.8%	13.1%	16.2%	14.4%	10.4%	18.9%
Current Smokeless Tobacco User, Males (2014–2018)	9.5%	10.6%	14.0%	11.1%	8.4%	8.9%	8.4%	7.3%	6.1%
Other Cancer-Related									
Sunburn in Previous 12 Months (2018)	47.7%	42.3%	49.0%	41.6%	50.8%	42.8%	49.9%	56.6%	.
Artificial Tanning Appliance Use (2011, 2014, 2016)	4.4%	5.5%	3.3%	3.3%	3.4%	4.2%	5.7%	6.8%	4.6%
Healthy Weight by Body Mass Index, Age 20+ (2014–2018)	32.6%	34.2%	32.9%	27.0%	36.3%	31.1%	29.4%	32.4%	29.9%
Meet Physical Activity Guidelines (2011, 2013, 2015, 2017)	22.1%	22.1%	19.9%	20.6%	26.1%	18.8%	20.0%	20.1%	15.1%
Home Ever Tested for Radon (2016, 2018)	22.7%	29.7%	19.5%	16.3%	24.1%	20.2%	23.3%	22.7%	14.1%

Access to Care

Have Health Insurance – 2014–2018
Statewide, 81.2% of adults aged 18–64 reported having health care coverage. Health care coverage differed significantly by race/ethnicity, with 84.5% of white non-Hispanics, compared to 59.8% of Hispanics and 79.9% of Native Americans, having health insurance. Spanish-speaking respondents were significantly less likely to be insured (33.1%) than English-speaking respondents (83.1%). Health care coverage differed significantly by age of respondent, with 76.4% of persons aged 30–39, and 86.5% of persons aged 50–64, having health insurance. Health care coverage differed significantly by county, with a range of 57.4% in Adams County to 91.7% in Oneida County having health insurance.

Not See Doctor Due to Cost in Past Year – 2014–2018
Statewide, 14.3% 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 (13.2% of white non-Hispanics, 21.4% of Hispanics, and 23.1% of Native Americans). Inability to see a doctor due to cost differed significantly by annual household income (27.4% for less than $15,000, 6.7% for greater than $50,000). Inability to see a doctor due to cost differed significantly by county, with a range of 7.0% in Caribou County to 20.2% in Jerome County.

Cancer Screening

Mammogram – 2014, 2016, 2018
Statewide, 67.5% 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 (70.7% versus 34.0%). Mammography rates differed significantly by county, with a range in screening of 47.3% in Gooding County to 77.5% in Nez Perce County. In 2018, Idaho ranked 49th among states and the District of Columbia for mammography screening rates among women aged 50–74 and 50th among ages 40+.

Pap Test – 2016, 2018
Statewide, 72.5% 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 (77.3% versus 54.2% screened in the past 3 years). Pap screening differed significantly by county, with a range of 60.5% in Idaho County to 79.2% in Latah County. In 2018, Idaho ranked 51st among states and the District of Columbia for Pap screening rate.

Colorectal Cancer Screening – 2016, 2018
Statewide, 65.4% of adults aged 50–75 reported receiving colorectal cancer screening based on the most recent guidelines.** Persons with health insurance were over twice as likely to be current for colorectal cancer screening. In 2018, Idaho ranked 41st 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 Smoking – 2014–2018
Statewide, 14.6% of adults aged 18 and older were current smokers. Smoking prevalence differed significantly by age of respondent, with 19.2% of persons aged 30–39, and 8.4% of persons aged 65 and older reporting current smoking. Smoking prevalence was lower among white non-Hispanics (14.7%) than among Native Americans (32.4%). Smoking prevalence differed significantly by county, with a range of 4.3% in Madison County to 32.7% in Adams County. Counties with higher rates of current smoking had higher rates of lung cancer.

Smokeless Tobacco Use, Males – 2014–2018
Statewide, 9.5% of males aged 18 and older were current users of smokeless tobacco. Smokeless tobacco use differed significantly by age group, ranging from 12.8% of males aged 30–39 to 4.0% of males aged 65 and older. Smokeless tobacco use differed significantly by county, with a range of 3.4% in Franklin County to 21.1% in Custer County. Counties with higher rates of smokeless tobacco use had higher rates of oral cavity & pharynx cancer.

Other Cancer-Related

Sun Exposure – 2018
Statewide, 47.7% of adults aged 18 and older reported having sunburn in the past 12 months. Sunburn rates were higher for white non-Hispanics (49.6%) and Native Americans (48.7%) than for Hispanics (35.2%). Sunburn rates differed significantly by age group, with 67.2% of persons aged 30–39 and 17.9% of persons aged 65 and older having sunburn in the past 12 months. Sunburn rates differed significantly by county, with a range of 36.7% in Idaho County to 72.9% in Madison County having sunburn in the past 12 months.

Artificial Tanning Appliance Use – 2011, 2014, 2016
Statewide, 4.4% of adults aged 18 and older reported using an artificial tanning appliance, such as a tanning bed, in the past 12 months. Females (6.8%) were significantly more likely than males (2.1%) to have used an artificial tanning appliance in the past 12 months. Tanning appliance use differed significantly by age group, with 8.7% of persons aged 18–29 and 0.9% of persons aged 65 and older, using an appliance in the past 12 months. Tanning appliance use differed by county, with a range of less than 1% in Oneida, Power, and Valley Counties to over 9% in Bear Lake and Fremont Counties using an artificial tanning appliance in the past 12 months.

Healthy Weight by Body Mass Index – 2014–2018
Statewide, 32.6% 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 33.3% of white non-Hispanics, compared to 26.0% of Hispanics and 26.8% of Native Americans, being in the healthy weight range. Males (25.7%) were significantly less likely to be in the healthy weight range than females (39.4%). BMI differed significantly by age of respondent, with 45.0% of persons aged 18–29, and 27.1% of persons aged 50–64, being in the healthy weight range. BMI differed significantly by county, with a range of 19.5% in Minidoka County to 52.8% in Blaine County of adults being in the healthy weight range.

Physical Activity – 2011, 2013, 2015, 2017
Statewide, 22.1% of adults aged 18 and older met aerobic and strength physical activity guidelines during the past month or week. Physical activity differed significantly by age of respondent, with 26.3% of persons aged 18–29, and 19.3% of persons aged 50–64, meeting guidelines. The percentage of adults meeting physical activity guidelines differed significantly by county, with a range of 7.6% in Oneida County to 31.1% in Blaine County.

Home Radon Testing – 2016, 2018
Statewide, 22.7% of adults have ever tested their house for radon. Radon test usage varied significantly by race/ethnicity, with 24.7% of white non-Hispanics, 5.3% of Hispanics, and 27.9% 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 8.0% in Cassia County to 58.0% in Blaine County.

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IDAHO COUNTY CANCER PROFILE

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

Cancer Incidence 2013–2017
Cancer Mortality 2014–2018
BRFSS 2011–2018

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 are due to personal lifestyle factors, such as smoking and sedentary lifestyle, and are preventable. Additional cancers are 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. 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.

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://health.gov/dietaryguidelines/2015.

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
615 N. 7th Street
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/contact-center

American Cancer Society
2676 S. Vista Avenue
Boise, ID 83705
208-343-4609
https://www.cancer.org

CANCER INCIDENCE 2013–2017

Nearly one in two Idahoans are estimated to develop cancer during their lifetime. During 2013–2017, 40,996 cases of invasive cancer were diagnosed among Idaho residents, and 545 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, 2013–2017

Cancer Incidence 2013–2017	Idaho County	State of Idaho
All Sites/Types	**545**	**40,996**
Female Breast	**72**	**5,956**
Prostate	**50**	**5,027**
Lung & Bronchus	**70**	**4,657**
Colorectal	**48**	**3,235**

Table 3 (*Cancer Incidence 2013–2017, 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 rate of invasive cancer incidence in Idaho County was 669.4 cases per 100,000 person-years per year during 2013–2017. Comparing this crude rate with the crude rate for the remainder of Idaho (492.4) 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 439.6 cases per 100,000 persons per year during 2013–2017. There were statistically significantly fewer cases of cancer in Idaho County (545) than expected (610.5) based upon rates in the remainder of the state (p=.008).

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 2014–2018

During 2014–2018, cancer was the second leading cause of death in Idaho; 14,585 Idaho residents and 221 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, 2014–2018

Mortality 2014–2018	Idaho County	State of Idaho
All Deaths	**968**	**67,280**
Cancer Deaths	**221**	**14,585**
% of All Deaths	*22.8%*	*21.7%*
Lung & Bronchus	**47**	**3,125**
Colorectal	**26**	**1,226**
Pancreas	**20**	**1,079**
Female Breast	**12**	**1,077**
Prostate	**7**	**935**

Table 4 (*Cancer Mortality 2014–2018, 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 166.0 deaths per 100,000 persons per year during 2014–2018, compared with 171.9 for the remainder of the state. There were fewer cancer deaths in Idaho County (221) than expected (228.8) 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 2013–2017
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	545	81,418	669.4	439.6	610.5	0.008 <<	40,451	8,214,948	492.4
	Male	292	42,653	684.6	422.0	351.7	0.001 <<	20,905	4,113,342	508.2
	Female	253	38,765	652.7	452.1	266.7	0.421	19,546	4,101,606	476.5
Bladder	Total	27	81,418	33.2	20.1	32.4	0.389	1,988	8,214,948	24.2
	Male	22	42,653	51.6	29.7	27.9	0.304	1,548	4,113,342	37.6
	Female	5	38,765	12.9	8.3	6.5	0.741	440	4,101,606	10.7
Brain - malignant	Total	7	81,418	8.6	6.5	8.0	0.916	603	8,214,948	7.3
	Male	6	42,653	14.1	10.0	5.3	0.884	365	4,113,342	8.9
	Female	1	38,765	2.6	2.1	2.8	0.453	238	4,101,606	5.8
Brain and other CNS - non-malignant	Total	6	81,418	7.4	5.3	14.7	0.019 <<	1,066	8,214,948	13.0
	Male	1	42,653	2.3	1.7	5.1	0.071	353	4,113,342	8.6
	Female	5	38,765	12.9	9.4	9.2	0.203	713	4,101,606	17.4
Breast	Total	72	81,418	88.4	60.5	85.8	0.144	5,929	8,214,948	72.2
	Male	-	42,653	-	-	0.8	0.884	45	4,113,342	1.1
	Female	72	38,765	185.7	129.5	79.8	0.419	5,884	4,101,606	143.5
Breast - in situ	Total	6	81,418	7.4	5.3	14.6	0.019 <<	1,058	8,214,948	12.9
	Male	-	42,653	-	-	0.0	1.000	3	4,113,342	0.1
	Female	6	38,765	15.5	11.2	13.8	0.033 <<	1,055	4,101,606	25.7
Cervix	Female	2	38,765	5.2	4.7	2.7	1.000	257	4,101,606	6.3
Colorectal	Total	48	81,418	59.0	38.7	48.1	1.000	3,187	8,214,948	38.8
	Male	26	42,653	61.0	38.7	27.9	0.807	1,709	4,113,342	41.5
	Female	22	38,765	56.8	38.4	20.7	0.827	1,478	4,101,606	36.0
Corpus Uteri	Female	15	38,765	38.7	26.6	16.4	0.857	1,194	4,101,606	29.1
Esophagus	Total	11	81,418	13.5	8.5	7.2	0.229	458	8,214,948	5.6
	Male	10	42,653	23.4	14.3	6.4	0.231	378	4,113,342	9.2
	Female	1	38,765	2.6	1.6	1.2	1.000	80	4,101,606	2.0
Hodgkin Lymphoma	Total	3	81,418	3.7	3.5	2.0	0.670	196	8,214,948	2.4
	Male	1	42,653	2.3	2.2	1.2	1.000	107	4,113,342	2.6
	Female	2	38,765	5.2	4.9	0.9	0.438	89	4,101,606	2.2
Kidney and Renal Pelvis	Total	29	81,418	35.6	23.4	23.0	0.253	1,525	8,214,948	18.6
	Male	20	42,653	46.9	29.9	15.9	0.357	975	4,113,342	23.7
	Female	9	38,765	23.2	15.8	7.7	0.717	550	4,101,606	13.4
Larynx	Total	3	81,418	3.7	2.3	3.2	1.000	206	8,214,948	2.5
	Male	2	42,653	4.7	2.8	2.9	0.899	166	4,113,342	4.0
	Female	1	38,765	2.6	1.8	0.5	0.837	40	4,101,606	1.0
Leukemia	Total	19	81,418	23.3	15.6	21.8	0.646	1,467	8,214,948	17.9
	Male	9	42,653	21.1	13.5	14.1	0.207	872	4,113,342	21.2
	Female	10	38,765	25.8	17.9	8.1	0.595	595	4,101,606	14.5
Liver and Bile Duct	Total	15	81,418	18.4	11.8	11.1	0.312	718	8,214,948	8.7
	Male	13	42,653	30.5	19.0	8.6	0.198	519	4,113,342	12.6
	Female	2	38,765	5.2	3.4	2.9	0.912	199	4,101,606	4.9
Lung and Bronchus	Total	70	81,418	86.0	52.1	75.0	0.613	4,587	8,214,948	55.8
	Male	38	42,653	89.1	51.3	42.6	0.540	2,364	4,113,342	57.5
	Female	32	38,765	82.5	52.3	33.2	0.929	2,223	4,101,606	54.2
Melanoma of the Skin	Total	39	81,418	47.9	33.4	35.3	0.580	2,487	8,214,948	30.3
	Male	25	42,653	58.6	37.8	23.2	0.761	1,444	4,113,342	35.1
	Female	14	38,765	36.1	27.4	13.0	0.857	1,043	4,101,606	25.4
Myeloma	Total	6	81,418	7.4	4.5	9.7	0.295	602	8,214,948	7.3
	Male	3	42,653	7.0	4.1	6.3	0.254	354	4,113,342	8.6
	Female	3	38,765	7.7	4.9	3.7	1.000	248	4,101,606	6.0
Non-Hodgkin Lymphoma	Total	26	81,418	31.9	20.7	26.6	1.000	1,747	8,214,948	21.3
	Male	14	42,653	32.8	20.5	16.5	0.647	993	4,113,342	24.1
	Female	12	38,765	31.0	20.8	10.6	0.752	754	4,101,606	18.4
Oral Cavity and Pharynx	Total	16	81,418	19.7	13.0	17.3	0.882	1,152	8,214,948	14.0
	Male	12	42,653	28.1	18.1	13.1	0.894	814	4,113,342	19.8
	Female	4	38,765	10.3	7.1	4.7	1.000	338	4,101,606	8.2
Ovary	Female	4	38,765	10.3	7.2	7.0	0.347	515	4,101,606	12.6
Pancreas	Total	19	81,418	23.3	14.5	20.6	0.844	1,285	8,214,948	15.6
	Male	14	42,653	32.8	19.5	12.0	0.632	688	4,113,342	16.7
	Female	5	38,765	12.9	8.3	8.8	0.259	597	4,101,606	14.6
Prostate	Male	50	42,653	117.2	70.0	86.4	0.000 <<	4,977	4,113,342	121.0
Stomach	Total	5	81,418	6.1	3.9	7.5	0.489	483	8,214,948	5.9
	Male	3	42,653	7.0	4.3	5.3	0.441	315	4,113,342	7.7
	Female	2	38,765	5.2	3.5	2.4	1.000	168	4,101,606	4.1
Testis	Male	6	42,653	14.1	16.7	2.3	0.058	261	4,113,342	6.3
Thyroid	Total	7	81,418	8.6	7.4	14.4	0.051	1,249	8,214,948	15.2
	Male	1	42,653	2.3	1.8	4.4	0.135	331	4,113,342	8.0
	Female	6	38,765	15.5	13.8	9.7	0.298	918	4,101,606	22.4
Pediatric Age 0 to 19	Total	1	17,898	5.6	5.5	3.3	0.321	434	2,382,624	18.2
	Male	-	9,484	-	-	1.9	0.313	234	1,216,418	19.2
	Female	1	8,414	11.9	11.9	1.4	1.000	200	1,166,206	17.1

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

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

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

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

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

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

TABLE 4: CANCER MORTALITY 2014–2018
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	968	81,684	1,185.1	742.3	1,034.7	0.038 <<	66,312	8,357,360	793.5
	Male	552	42,847	1,288.3	775.1	589.4	0.126	34,634	4,185,033	827.6
	Female	416	38,837	1,071.1	690.8	457.2	0.054	31,678	4,172,327	759.2
All Malignant Cancers	Total	221	81,684	270.6	166.0	228.8	0.637	14,364	8,357,360	171.9
	Male	120	42,847	280.1	162.3	137.5	0.143	7,781	4,185,033	185.9
	Female	101	38,837	260.1	167.1	95.4	0.591	6,583	4,172,327	157.8
Bladder	Total	12	81,684	14.7	8.6	6.9	0.096	414	8,357,360	5.0
	Male	10	42,847	23.3	12.8	5.8	0.138	309	4,185,033	7.4
	Female	2	38,837	5.1	3.2	1.6	0.928	105	4,172,327	2.5
Brain and Other Nervous System	Total	6	81,684	7.3	4.9	7.1	0.862	491	8,357,360	5.9
	Male	5	42,847	11.7	7.6	4.9	1.000	310	4,185,033	7.4
	Female	1	38,837	2.6	1.8	2.5	0.592	181	4,172,327	4.3
Breast	Total	12	81,684	14.7	9.4	16.4	0.331	1,075	8,357,360	12.9
	Male	-	42,847	-	-	0.2	1.000	10	4,185,033	0.2
	Female	12	38,837	30.9	20.4	15.0	0.530	1,065	4,172,327	25.5
Cervix	Female	1	38,837	2.6	2.0	1.0	1.000	79	4,172,327	1.9
Colorectal	Total	26	81,684	31.8	20.0	18.7	0.126	1,200	8,357,360	14.4
	Male	9	42,847	21.0	12.7	11.1	0.665	653	4,185,033	15.6
	Female	17	38,837	43.8	28.4	7.9	0.006 >>	547	4,172,327	13.1
Corpus Uteri	Female	4	38,837	10.3	6.5	2.2	0.359	149	4,172,327	3.6
Esophagus	Total	6	81,684	7.3	4.5	7.4	0.788	465	8,357,360	5.6
	Male	4	42,847	9.3	5.5	6.5	0.445	376	4,185,033	9.0
	Female	2	38,837	5.1	3.2	1.3	0.756	89	4,172,327	2.1
Hodgkin Lymphoma	Total	-	81,684	-	-	0.3	1.000	21	8,357,360	0.3
	Male	-	42,847	-	-	0.1	1.000	8	4,185,033	0.2
	Female	-	38,837	-	-	0.2	1.000	13	4,172,327	0.3
Kidney	Total	7	81,684	8.6	5.2	5.8	0.729	363	8,357,360	4.3
	Male	5	42,847	11.7	6.9	4.1	0.792	237	4,185,033	5.7
	Female	2	38,837	5.1	3.2	1.9	1.000	126	4,172,327	3.0
Larynx	Total	3	81,684	3.7	2.3	1.0	0.145	60	8,357,360	0.7
	Male	3	42,847	7.0	4.2	0.9	0.113	50	4,185,033	1.2
	Female	-	38,837	-	-	0.2	1.000	10	4,172,327	0.2
Leukemia	Total	12	81,684	14.7	9.0	9.6	0.523	604	8,357,360	7.2
	Male	8	42,847	18.7	10.8	6.2	0.569	350	4,185,033	8.4
	Female	4	38,837	10.3	6.7	3.7	0.996	254	4,172,327	6.1
Liver and Bile Duct	Total	10	81,684	12.2	7.5	9.3	0.912	588	8,357,360	7.0
	Male	8	42,847	18.7	11.1	6.9	0.786	404	4,185,033	9.7
	Female	2	38,837	5.1	3.3	2.7	0.996	184	4,172,327	4.4
Lung and Bronchus	Total	47	81,684	57.5	34.5	50.2	0.715	3,078	8,357,360	36.8
	Male	26	42,847	60.7	34.4	29.6	0.583	1,641	4,185,033	39.2
	Female	21	38,837	54.1	33.9	21.4	1.000	1,437	4,172,327	34.4
Melanoma of the Skin	Total	3	81,684	3.7	2.4	4.2	0.781	277	8,357,360	3.3
	Male	2	42,847	4.7	2.9	3.1	0.807	185	4,185,033	4.4
	Female	1	38,837	2.6	1.7	1.3	1.000	92	4,172,327	2.2
Myeloma	Total	1	81,684	1.2	0.7	5.4	0.056	328	8,357,360	3.9
	Male	1	42,847	2.3	1.3	3.6	0.261	194	4,185,033	4.6
	Female	-	38,837	-	-	2.0	0.262	134	4,172,327	3.2
Non-Hodgkin Lymphoma	Total	13	81,684	15.9	9.4	9.2	0.277	557	8,357,360	6.7
	Male	3	42,847	7.0	4.0	5.7	0.357	316	4,185,033	7.6
	Female	10	38,837	25.7	15.8	3.7	0.009 >>	241	4,172,327	5.8
Oral Cavity and Pharynx	Total	4	81,684	4.9	3.0	3.4	0.902	219	8,357,360	2.6
	Male	3	42,847	7.0	4.2	2.5	0.926	149	4,185,033	3.6
	Female	1	38,837	2.6	1.6	1.0	1.000	70	4,172,327	1.7
Ovary	Female	3	38,837	7.7	5.0	5.2	0.473	360	4,172,327	8.6
Pancreas	Total	20	81,684	24.5	14.9	17.0	0.532	1,059	8,357,360	12.7
	Male	13	42,847	30.3	17.8	10.1	0.432	579	4,185,033	13.8
	Female	7	38,837	18.0	11.3	7.1	1.000	480	4,172,327	11.5
Prostate	Male	7	42,847	16.3	8.8	17.6	0.008 <<	928	4,185,033	22.2
Stomach	Total	1	81,684	1.2	0.8	3.2	0.335	209	8,357,360	2.5
	Male	-	42,847	-	-	2.1	0.256	122	4,185,033	2.9
	Female	1	38,837	2.6	1.7	1.2	1.000	87	4,172,327	2.1

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, 2019.

Cancer Screening and Risk Factors

The Bureau of Vital Records and Health Statistics (BVRHS), Division of Public Health, 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) with randomly selected adult Idahoans to measure population prevalences of risk factors for the major causes of death, including cancer, since 1984. BVRHS provided data sets containing Behavioral Risk Factor Surveillance System (BRFSS) data from 2011 through 2018 to CDRI staff, who performed the analyses reported in these *County Profiles*. Analysis weights were poststratified to 2018 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, 2011–2018

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 (2014–2018)	81.2%	80.6%	84.5%	74.6%	84.7%	75.5%	83.3%	83.8%	68.5%
Not See Doctor Due to Cost in Past Year (2014–2018)	14.3%	13.9%	12.2%	18.1%	13.6%	14.3%	12.5%	13.9%	13.0%
Cancer Screening									
Mammogram Past 2 Years, Age 50–74 (2014, 2016, 2018)	67.5%	66.8%	72.1%	63.2%	72.9%	61.0%	64.6%	66.8%	73.7%
Pap Test Past 3 Years, Cervix Intact Age 21–65 (2016, 2018)	72.5%	74.8%	74.3%	72.1%	73.0%	71.7%	72.7%	68.6%	60.5%
Colorectal Cancer Screening, Age 50–75 (2016, 2018)	65.4%	64.9%	71.3%	62.6%	68.9%	60.3%	62.1%	65.3%	57.1%
Tobacco Use									
Current Smoker (2014–2018)	14.6%	17.1%	15.1%	16.8%	13.1%	16.2%	14.4%	10.4%	15.1%
Current Smokeless Tobacco User, Males (2014–2018)	9.5%	10.6%	14.0%	11.1%	8.4%	8.9%	8.4%	7.3%	18.9%
Other Cancer-Related									
Sunburn in Previous 12 Months (2018)	47.7%	42.3%	49.0%	41.6%	50.8%	42.8%	49.9%	56.6%	36.7%
Artificial Tanning Appliance Use (2011, 2014, 2016)	4.4%	5.5%	3.3%	3.3%	3.4%	4.2%	5.7%	6.8%	1.2%
Healthy Weight by Body Mass Index, Age 20+ (2014–2018)	32.6%	34.2%	32.9%	27.0%	36.3%	31.1%	29.4%	32.4%	29.2%
Meet Physical Activity Guidelines (2011, 2013, 2015, 2017)	22.1%	22.1%	19.9%	20.6%	26.1%	18.8%	20.0%	20.1%	13.6%
Home Ever Tested for Radon (2016, 2018)	22.7%	29.7%	19.5%	16.3%	24.1%	20.2%	23.3%	22.7%	10.9%

Access to Care

Have Health Insurance – 2014–2018
Statewide, 81.2% of adults aged 18–64 reported having health care coverage. Health care coverage differed significantly by race/ethnicity, with 84.5% of white non-Hispanics, compared to 59.8% of Hispanics and 79.9% of Native Americans, having health insurance. Spanish-speaking respondents were significantly less likely to be insured (33.1%) than English-speaking respondents (83.1%). Health care coverage differed significantly by age of respondent, with 76.4% of persons aged 30–39, and 86.5% of persons aged 50–64, having health insurance. Health care coverage differed significantly by county, with a range of 57.4% in Adams County to 91.7% in Oneida County having health insurance.

Not See Doctor Due to Cost in Past Year – 2014–2018
Statewide, 14.3% 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 (13.2% of white non-Hispanics, 21.4% of Hispanics, and 23.1% of Native Americans). Inability to see a doctor due to cost differed significantly by annual household income (27.4% for less than $15,000, 6.7% for greater than $50,000). Inability to see a doctor due to cost differed significantly by county, with a range of 7.0% in Caribou County to 20.2% in Jerome County.

Cancer Screening

Mammogram – 2014, 2016, 2018
Statewide, 67.5% 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 (70.7% versus 34.0%). Mammography rates differed significantly by county, with a range in screening of 47.3% in Gooding County to 77.5% in Nez Perce County. In 2018, Idaho ranked 49th among states and the District of Columbia for mammography screening rates among women aged 50–74 and 50th among ages 40+.

Pap Test – 2016, 2018
Statewide, 72.5% 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 (77.3% versus 54.2% screened in the past 3 years). Pap screening differed significantly by county, with a range of 60.5% in Idaho County to 79.2% in Latah County. In 2018, Idaho ranked 51st among states and the District of Columbia for Pap screening rate.

Colorectal Cancer Screening – 2016, 2018
Statewide, 65.4% of adults aged 50–75 reported receiving colorectal cancer screening based on the most recent guidelines.** Persons with health insurance were over twice as likely to be current for colorectal cancer screening. In 2018, Idaho ranked 41st 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 Smoking – 2014–2018
Statewide, 14.6% of adults aged 18 and older were current smokers. Smoking prevalence differed significantly by age of respondent, with 19.2% of persons aged 30–39, and 8.4% of persons aged 65 and older reporting current smoking. Smoking prevalence was lower among white non-Hispanics (14.7%) than among Native Americans (32.4%). Smoking prevalence differed significantly by county, with a range of 4.3% in Madison County to 32.7% in Adams County. Counties with higher rates of current smoking had higher rates of lung cancer.

Smokeless Tobacco Use, Males – 2014–2018
Statewide, 9.5% of males aged 18 and older were current users of smokeless tobacco. Smokeless tobacco use differed significantly by age group, ranging from 12.8% of males aged 30–39 to 4.0% of males aged 65 and older. Smokeless tobacco use differed significantly by county, with a range of 3.4% in Franklin County to 21.1% in Custer County. Counties with higher rates of smokeless tobacco use had higher rates of oral cavity & pharynx cancer.

Other Cancer-Related

Sun Exposure – 2018
Statewide, 47.7% of adults aged 18 and older reported having sunburn in the past 12 months. Sunburn rates were higher for white non-Hispanics (49.6%) and Native Americans (48.7%) than for Hispanics (35.2%). Sunburn rates differed significantly by age group, with 67.2% of persons aged 30–39 and 17.9% of persons aged 65 and older having sunburn in the past 12 months. Sunburn rates differed significantly by county, with a range of 36.7% in Idaho County to 72.9% in Madison County having sunburn in the past 12 months.

Artificial Tanning Appliance Use – 2011, 2014, 2016
Statewide, 4.4% of adults aged 18 and older reported using an artificial tanning appliance, such as a tanning bed, in the past 12 months. Females (6.8%) were significantly more likely than males (2.1%) to have used an artificial tanning appliance in the past 12 months. Tanning appliance use differed significantly by age group, with 8.7% of persons aged 18–29 and 0.9% of persons aged 65 and older, using an appliance in the past 12 months. Tanning appliance use differed by county, with a range of less than 1% in Oneida, Power, and Valley Counties to over 9% in Bear Lake and Fremont Counties using an artificial tanning appliance in the past 12 months.

Healthy Weight by Body Mass Index – 2014–2018
Statewide, 32.6% 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 33.3% of white non-Hispanics, compared to 26.0% of Hispanics and 26.8% of Native Americans, being in the healthy weight range. Males (25.7%) were significantly less likely to be in the healthy weight range than females (39.4%). BMI differed significantly by age of respondent, with 45.0% of persons aged 18–29, and 27.1% of persons aged 50–64, being in the healthy weight range. BMI differed significantly by county, with a range of 19.5% in Minidoka County to 52.8% in Blaine County of adults being in the healthy weight range.

Physical Activity – 2011, 2013, 2015, 2017
Statewide, 22.1% of adults aged 18 and older met aerobic and strength physical activity guidelines during the past month or week. Physical activity differed significantly by age of respondent, with 26.3% of persons aged 18–29, and 19.3% of persons aged 50–64, meeting guidelines. The percentage of adults meeting physical activity guidelines differed significantly by county, with a range of 7.6% in Oneida County to 31.1% in Blaine County.

Home Radon Testing – 2016, 2018
Statewide, 22.7% of adults have ever tested their house for radon. Radon test usage varied significantly by race/ethnicity, with 24.7% of white non-Hispanics, 5.3% of Hispanics, and 27.9% 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 8.0% in Cassia County to 58.0% in Blaine County.

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JEFFERSON COUNTY CANCER PROFILE

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

Cancer Incidence 2013–2017
Cancer Mortality 2014–2018
BRFSS 2011–2018

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 are due to personal lifestyle factors, such as smoking and sedentary lifestyle, and are preventable. Additional cancers are 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. 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.

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://health.gov/dietaryguidelines/2015.

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
615 N. 7th Street
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/contact-center

American Cancer Society
2676 S. Vista Avenue
Boise, ID 83705
208-343-4609
https://www.cancer.org

CANCER INCIDENCE 2013–2017

Nearly one in two Idahoans are estimated to develop cancer during their lifetime. During 2013–2017, 40,996 cases of invasive cancer were diagnosed among Idaho residents, and 505 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, 2013–2017

Cancer Incidence 2013–2017	Jefferson County	State of Idaho
All Sites/Types	**505**	**40,996**
Female Breast	**49**	**5,956**
Prostate	**76**	**5,027**
Lung & Bronchus	**48**	**4,657**
Colorectal	**44**	**3,235**

Table 3 (*Cancer Incidence 2013–2017, 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 rate of invasive cancer incidence in Jefferson County was 368.1 cases per 100,000 person-years per year during 2013–2017. Comparing this crude rate with the crude rate for the remainder of Idaho (496.3) 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 454.0 cases per 100,000 persons per year during 2013–2017. There were statistically significantly fewer cases of cancer in Jefferson County (505) than expected (552.0) based upon rates in the remainder of the state (p=.045).

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 2014–2018

During 2014–2018, cancer was the second leading cause of death in Idaho; 14,585 Idaho residents and 153 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, 2014–2018

Mortality 2014–2018	Jefferson County	State of Idaho
All Deaths	**832**	**67,280**
Cancer Deaths	**153**	**14,585**
% of All Deaths	*18.4%*	*21.7%*
Lung & Bronchus	**23**	**3,125**
Colorectal	**16**	**1,226**
Pancreas	**8**	**1,079**
Female Breast	**11**	**1,077**
Prostate	**13**	**935**

Table 4 (*Cancer Mortality 2014–2018, 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 142.3 deaths per 100,000 persons per year during 2014–2018, compared with 173.9 for the remainder of the state. There were statistically significantly fewer cancer deaths in Jefferson County (153) than expected (186.9) based upon rates in the remainder of the state (p=.012).

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 2013–2017
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	505	137,205	368.1	454.0	552.0	0.045 <<	40,491	8,159,161	496.3
	Male	260	69,294	375.2	459.2	290.1	0.079	20,937	4,086,701	512.3
	Female	245	67,911	360.8	447.1	263.1	0.277	19,554	4,072,460	480.2
Bladder	Total	21	137,205	15.3	19.8	25.9	0.390	1,994	8,159,161	24.4
	Male	17	69,294	24.5	31.1	20.7	0.487	1,553	4,086,701	38.0
	Female	4	67,911	5.9	7.7	5.6	0.685	441	4,072,460	10.8
Brain - malignant	Total	8	137,205	5.8	6.6	9.0	0.909	602	8,159,161	7.4
	Male	5	69,294	7.2	8.2	5.5	1.000	366	4,086,701	9.0
	Female	3	67,911	4.4	4.9	3.6	1.000	236	4,072,460	5.8
Brain and other CNS - non-malignant	Total	20	137,205	14.6	17.3	14.9	0.238	1,052	8,159,161	12.9
	Male	5	69,294	7.2	8.3	5.1	1.000	349	4,086,701	8.5
	Female	15	67,911	22.1	26.8	9.7	0.135	703	4,072,460	17.3
Breast	Total	50	137,205	36.4	44.1	82.7	0.000 <<	5,951	8,159,161	72.9
	Male	1	69,294	1.4	1.8	0.6	0.885	44	4,086,701	1.1
	Female	49	67,911	72.2	88.7	80.1	0.000 <<	5,907	4,072,460	145.0
Breast - in situ	Total	14	137,205	10.2	12.1	14.8	0.965	1,050	8,159,161	12.9
	Male	-	69,294	-	-	0.0	1.000	3	4,086,701	0.1
	Female	14	67,911	20.6	24.9	14.4	1.000	1,047	4,072,460	25.7
Cervix	Female	4	67,911	5.9	6.5	3.9	1.000	255	4,072,460	6.3
Colorectal	Total	44	137,205	32.1	39.8	43.2	0.945	3,191	8,159,161	39.1
	Male	24	69,294	34.6	42.1	23.9	1.000	1,711	4,086,701	41.9
	Female	20	67,911	29.5	37.3	19.5	0.968	1,480	4,072,460	36.3
Corpus Uteri	Female	21	67,911	30.9	38.1	16.1	0.272	1,188	4,072,460	29.2
Esophagus	Total	2	137,205	1.5	1.8	6.2	0.105	467	8,159,161	5.7
	Male	1	69,294	1.4	1.8	5.4	0.060	387	4,086,701	9.5
	Female	1	67,911	1.5	1.9	1.0	1.000	80	4,072,460	2.0
Hodgkin Lymphoma	Total	2	137,205	1.5	1.6	3.1	0.814	197	8,159,161	2.4
	Male	1	69,294	1.4	1.5	1.7	0.985	107	4,086,701	2.6
	Female	1	67,911	1.5	1.6	1.4	1.000	90	4,072,460	2.2
Kidney and Renal Pelvis	Total	17	137,205	12.4	15.2	21.0	0.449	1,537	8,159,161	18.8
	Male	10	69,294	14.4	17.5	13.8	0.380	985	4,086,701	24.1
	Female	7	67,911	10.3	12.8	7.4	1.000	552	4,072,460	13.6
Larynx	Total	1	137,205	0.7	0.9	2.8	0.463	208	8,159,161	2.5
	Male	1	69,294	1.4	1.8	2.3	0.662	167	4,086,701	4.1
	Female	-	67,911	-	-	0.6	1.000	41	4,072,460	1.0
Leukemia	Total	13	137,205	9.5	11.5	20.4	0.110	1,473	8,159,161	18.1
	Male	10	69,294	14.4	17.2	12.4	0.612	871	4,086,701	21.3
	Female	3	67,911	4.4	5.4	8.2	0.076	602	4,072,460	14.8
Liver and Bile Duct	Total	8	137,205	5.8	7.2	9.9	0.697	725	8,159,161	8.9
	Male	5	69,294	7.2	8.7	7.4	0.504	527	4,086,701	12.9
	Female	3	67,911	4.4	5.6	2.6	0.965	198	4,072,460	4.9
Lung and Bronchus	Total	48	137,205	35.0	44.9	60.4	0.118	4,609	8,159,161	56.5
	Male	22	69,294	31.7	40.1	32.0	0.082	2,380	4,086,701	58.2
	Female	26	67,911	38.3	49.8	28.6	0.718	2,229	4,072,460	54.7
Melanoma of the Skin	Total	38	137,205	27.7	33.4	34.7	0.617	2,488	8,159,161	30.5
	Male	16	69,294	23.1	27.9	20.4	0.393	1,453	4,086,701	35.6
	Female	22	67,911	32.4	38.7	14.5	0.077	1,035	4,072,460	25.4
Myeloma	Total	3	137,205	2.2	2.8	7.9	0.088	605	8,159,161	7.4
	Male	2	69,294	2.9	3.6	4.8	0.287	355	4,086,701	8.7
	Female	1	67,911	1.5	1.9	3.2	0.343	250	4,072,460	6.1
Non-Hodgkin Lymphoma	Total	21	137,205	15.3	19.0	23.8	0.659	1,752	8,159,161	21.5
	Male	12	69,294	17.3	21.0	13.9	0.736	995	4,086,701	24.3
	Female	9	67,911	13.3	16.8	10.0	0.921	757	4,072,460	18.6
Oral Cavity and Pharynx	Total	16	137,205	11.7	14.3	15.8	1.000	1,152	8,159,161	14.1
	Male	13	69,294	18.8	22.6	11.5	0.724	813	4,086,701	19.9
	Female	3	67,911	4.4	5.5	4.5	0.674	339	4,072,460	8.3
Ovary	Female	4	67,911	5.9	7.3	7.0	0.352	515	4,072,460	12.6
Pancreas	Total	12	137,205	8.7	11.2	17.0	0.269	1,292	8,159,161	15.8
	Male	6	69,294	8.7	10.7	9.5	0.329	696	4,086,701	17.0
	Female	6	67,911	8.8	11.6	7.6	0.739	596	4,072,460	14.6
Prostate	Male	76	69,294	109.7	135.5	67.9	0.356	4,951	4,086,701	121.1
Stomach	Total	11	137,205	8.0	10.1	6.4	0.121	477	8,159,161	5.8
	Male	6	69,294	8.7	10.6	4.3	0.530	312	4,086,701	7.6
	Female	5	67,911	7.4	9.5	2.1	0.132	165	4,072,460	4.1
Testis	Male	6	69,294	8.7	9.2	4.2	0.481	261	4,086,701	6.4
Thyroid	Total	35	137,205	25.5	28.6	18.3	0.001 >>	1,221	8,159,161	15.0
	Male	8	69,294	11.5	13.1	4.9	0.237	324	4,086,701	7.9
	Female	27	67,911	39.8	44.5	13.4	0.001 >>	897	4,072,460	22.0
Pediatric Age 0 to 19	Total	6	50,967	11.8	11.9	9.2	0.382	429	2,349,555	18.3
	Male	5	25,810	19.4	19.7	4.9	1.000	229	1,200,092	19.1
	Female	1	25,157	4.0	4.0	4.3	0.140	200	1,149,463	17.4

Notes: 1. Rates are expressed as the number of cases per 100,000 persons per year (person-years).
2. Age and sex-adjusted incidence (A.A.I.) rates for county use age and sex-specific crude rates for the remainder of the state as standard.
3. Expected cases are based upon age and sex-specific rates for the remainder of the state of Idaho (compare to observed).
4. P-values compare observed and expected cases, are two tailed, based upon the Poisson probability distribution.
"<<" denotes significantly fewer cases observed than expected, ">>" denotes significantly more cases observed than expected (p=.05).

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

TABLE 4: CANCER MORTALITY 2014–2018
COMPARISON BETWEEN JEFFERSON COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cause of Death Cancer Site/Type	Sex	Jefferson 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	832	139,847	594.9	783.3	850.4	0.541	66,448	8,299,197	800.7
	Male	457	70,795	645.5	821.9	464.5	0.751	34,729	4,157,085	835.4
	Female	375	69,052	543.1	739.0	388.6	0.510	31,719	4,142,112	765.8
All Malignant Cancers	Total	153	139,847	109.4	142.3	186.9	0.012 <<	14,432	8,299,197	173.9
	Male	89	70,795	125.7	161.4	103.6	0.160	7,812	4,157,085	187.9
	Female	64	69,052	92.7	122.0	83.8	0.029 <<	6,620	4,142,112	159.8
Bladder	Total	7	139,847	5.0	6.8	5.2	0.524	419	8,299,197	5.0
	Male	7	70,795	9.9	13.3	4.0	0.212	312	4,157,085	7.5
	Female	-	69,052	-	-	1.3	0.556	107	4,142,112	2.6
Brain and Other Nervous System	Total	6	139,847	4.3	5.2	6.8	0.964	491	8,299,197	5.9
	Male	5	70,795	7.1	8.5	4.4	0.896	310	4,157,085	7.5
	Female	1	69,052	1.4	1.8	2.4	0.601	181	4,142,112	4.4
Breast	Total	11	139,847	7.9	10.0	14.2	0.486	1,076	8,299,197	13.0
	Male	-	70,795	-	-	0.1	1.000	10	4,157,085	0.2
	Female	11	69,052	15.9	20.6	13.7	0.571	1,066	4,142,112	25.7
Cervix	Female	1	69,052	1.4	1.7	1.1	1.000	79	4,142,112	1.9
Colorectal	Total	16	139,847	11.4	14.8	15.8	1.000	1,210	8,299,197	14.6
	Male	9	70,795	12.7	16.0	8.8	1.000	653	4,157,085	15.7
	Female	7	69,052	10.1	13.5	7.0	1.000	557	4,142,112	13.4
Corpus Uteri	Female	2	69,052	2.9	3.8	1.9	1.000	151	4,142,112	3.6
Esophagus	Total	4	139,847	2.9	3.7	6.1	0.545	467	8,299,197	5.6
	Male	4	70,795	5.7	7.1	5.1	0.856	376	4,157,085	9.0
	Female	-	69,052	-	-	1.1	0.638	91	4,142,112	2.2
Hodgkin Lymphoma	Total	-	139,847	-	-	0.3	1.000	21	8,299,197	0.3
	Male	-	70,795	-	-	0.1	1.000	8	4,157,085	0.2
	Female	-	69,052	-	-	0.2	1.000	13	4,142,112	0.3
Kidney	Total	3	139,847	2.1	2.8	4.8	0.595	367	8,299,197	4.4
	Male	2	70,795	2.8	3.6	3.2	0.744	240	4,157,085	5.8
	Female	1	69,052	1.4	1.9	1.6	1.000	127	4,142,112	3.1
Larynx	Total	1	139,847	0.7	0.9	0.8	1.000	62	8,299,197	0.7
	Male	1	70,795	1.4	1.8	0.7	1.000	52	4,157,085	1.3
	Female	-	69,052	-	-	0.1	1.000	10	4,142,112	0.2
Leukemia	Total	8	139,847	5.7	7.5	7.8	1.000	608	8,299,197	7.3
	Male	5	70,795	7.1	9.1	4.7	0.993	353	4,157,085	8.5
	Female	3	69,052	4.3	5.7	3.2	1.000	255	4,142,112	6.2
Liver and Bile Duct	Total	6	139,847	4.3	5.5	7.8	0.670	592	8,299,197	7.1
	Male	4	70,795	5.7	7.1	5.6	0.696	408	4,157,085	9.8
	Female	2	69,052	2.9	3.8	2.4	1.000	184	4,142,112	4.4
Lung and Bronchus	Total	23	139,847	16.4	21.5	39.9	0.005 <<	3,102	8,299,197	37.4
	Male	13	70,795	18.4	23.7	21.8	0.060	1,654	4,157,085	39.8
	Female	10	69,052	14.5	19.2	18.2	0.055	1,448	4,142,112	35.0
Melanoma of the Skin	Total	3	139,847	2.1	2.7	3.7	0.988	277	8,299,197	3.3
	Male	2	70,795	2.8	3.5	2.5	1.000	185	4,157,085	4.5
	Female	1	69,052	1.4	1.9	1.2	1.000	92	4,142,112	2.2
Myeloma	Total	3	139,847	2.1	2.8	4.1	0.815	326	8,299,197	3.9
	Male	2	70,795	2.8	3.7	2.5	1.000	193	4,157,085	4.6
	Female	1	69,052	1.4	2.0	1.6	1.000	133	4,142,112	3.2
Non-Hodgkin Lymphoma	Total	10	139,847	7.2	9.6	7.1	0.350	560	8,299,197	6.7
	Male	7	70,795	9.9	12.8	4.1	0.242	312	4,157,085	7.5
	Female	3	69,052	4.3	6.0	3.0	1.000	248	4,142,112	6.0
Oral Cavity and Pharynx	Total	1	139,847	0.7	0.9	2.9	0.423	222	8,299,197	2.7
	Male	-	70,795	-	-	2.1	0.253	152	4,157,085	3.7
	Female	1	69,052	1.4	1.9	0.9	1.000	70	4,142,112	1.7
Ovary	Female	2	69,052	2.9	3.8	4.6	0.320	361	4,142,112	8.7
Pancreas	Total	8	139,847	5.7	7.4	13.9	0.129	1,071	8,299,197	12.9
	Male	3	70,795	4.2	5.4	7.9	0.088	589	4,157,085	14.2
	Female	5	69,052	7.2	9.6	6.0	0.880	482	4,142,112	11.6
Prostate	Male	13	70,795	18.4	25.0	11.5	0.740	922	4,157,085	22.2
Stomach	Total	5	139,847	3.6	4.6	2.7	0.269	205	8,299,197	2.5
	Male	3	70,795	4.2	5.3	1.6	0.440	119	4,157,085	2.9
	Female	2	69,052	2.9	3.8	1.1	0.593	86	4,142,112	2.1

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, 2019.

Cancer Screening and Risk Factors

The Bureau of Vital Records and Health Statistics (BVRHS), Division of Public Health, 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) with randomly selected adult Idahoans to measure population prevalences of risk factors for the major causes of death, including cancer, since 1984. BVRHS provided data sets containing Behavioral Risk Factor Surveillance System (BRFSS) data from 2011 through 2018 to CDRI staff, who performed the analyses reported in these *County Profiles*. Analysis weights were poststratified to 2018 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, 2011–2018

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 (2014–2018)	81.2%	80.6%	84.5%	74.6%	84.7%	75.5%	83.3%	83.8%	83.1%
Not See Doctor Due to Cost in Past Year (2014–2018)	14.3%	13.9%	12.2%	18.1%	13.6%	14.3%	12.5%	13.9%	13.9%
Cancer Screening									
Mammogram Past 2 Years, Age 50–74 (2014, 2016, 2018)	67.5%	66.8%	72.1%	63.2%	72.9%	61.0%	64.6%	66.8%	71.0%
Pap Test Past 3 Years, Cervix Intact Age 21–65 (2016, 2018)	72.5%	74.8%	74.3%	72.1%	73.0%	71.7%	72.7%	68.6%	.
Colorectal Cancer Screening, Age 50–75 (2016, 2018)	65.4%	64.9%	71.3%	62.6%	68.9%	60.3%	62.1%	65.3%	67.1%
Tobacco Use									
Current Smoker (2014–2018)	14.6%	17.1%	15.1%	16.8%	13.1%	16.2%	14.4%	10.4%	8.2%
Current Smokeless Tobacco User, Males (2014–2018)	9.5%	10.6%	14.0%	11.1%	8.4%	8.9%	8.4%	7.3%	10.3%
Other Cancer-Related									
Sunburn in Previous 12 Months (2018)	47.7%	42.3%	49.0%	41.6%	50.8%	42.8%	49.9%	56.6%	51.4%
Artificial Tanning Appliance Use (2011, 2014, 2016)	4.4%	5.5%	3.3%	3.3%	3.4%	4.2%	5.7%	6.8%	3.0%
Healthy Weight by Body Mass Index, Age 20+ (2014–2018)	32.6%	34.2%	32.9%	27.0%	36.3%	31.1%	29.4%	32.4%	25.9%
Meet Physical Activity Guidelines (2011, 2013, 2015, 2017)	22.1%	22.1%	19.9%	20.6%	26.1%	18.8%	20.0%	20.1%	16.5%
Home Ever Tested for Radon (2016, 2018)	22.7%	29.7%	19.5%	16.3%	24.1%	20.2%	23.3%	22.7%	20.6%

Access to Care

Have Health Insurance – 2014–2018
Statewide, 81.2% of adults aged 18–64 reported having health care coverage. Health care coverage differed significantly by race/ethnicity, with 84.5% of white non-Hispanics, compared to 59.8% of Hispanics and 79.9% of Native Americans, having health insurance. Spanish-speaking respondents were significantly less likely to be insured (33.1%) than English-speaking respondents (83.1%). Health care coverage differed significantly by age of respondent, with 76.4% of persons aged 30–39, and 86.5% of persons aged 50–64, having health insurance. Health care coverage differed significantly by county, with a range of 57.4% in Adams County to 91.7% in Oneida County having health insurance.

Not See Doctor Due to Cost in Past Year – 2014–2018
Statewide, 14.3% 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 (13.2% of white non-Hispanics, 21.4% of Hispanics, and 23.1% of Native Americans). Inability to see a doctor due to cost differed significantly by annual household income (27.4% for less than $15,000, 6.7% for greater than $50,000). Inability to see a doctor due to cost differed significantly by county, with a range of 7.0% in Caribou County to 20.2% in Jerome County.

Cancer Screening

Mammogram – 2014, 2016, 2018
Statewide, 67.5% 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 (70.7% versus 34.0%). Mammography rates differed significantly by county, with a range in screening of 47.3% in Gooding County to 77.5% in Nez Perce County. In 2018, Idaho ranked 49th among states and the District of Columbia for mammography screening rates among women aged 50–74 and 50th among ages 40+.

Pap Test – 2016, 2018
Statewide, 72.5% 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 (77.3% versus 54.2% screened in the past 3 years). Pap screening differed significantly by county, with a range of 60.5% in Idaho County to 79.2% in Latah County. In 2018, Idaho ranked 51st among states and the District of Columbia for Pap screening rate.

Colorectal Cancer Screening – 2016, 2018
Statewide, 65.4% of adults aged 50–75 reported receiving colorectal cancer screening based on the most recent guidelines.** Persons with health insurance were over twice as likely to be current for colorectal cancer screening. In 2018, Idaho ranked 41st 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 Smoking – 2014–2018
Statewide, 14.6% of adults aged 18 and older were current smokers. Smoking prevalence differed significantly by age of respondent, with 19.2% of persons aged 30–39, and 8.4% of persons aged 65 and older reporting current smoking. Smoking prevalence was lower among white non-Hispanics (14.7%) than among Native Americans (32.4%). Smoking prevalence differed significantly by county, with a range of 4.3% in Madison County to 32.7% in Adams County. Counties with higher rates of current smoking had higher rates of lung cancer.

Smokeless Tobacco Use, Males – 2014–2018
Statewide, 9.5% of males aged 18 and older were current users of smokeless tobacco. Smokeless tobacco use differed significantly by age group, ranging from 12.8% of males aged 30–39 to 4.0% of males aged 65 and older. Smokeless tobacco use differed significantly by county, with a range of 3.4% in Franklin County to 21.1% in Custer County. Counties with higher rates of smokeless tobacco use had higher rates of oral cavity & pharynx cancer.

Other Cancer-Related

Sun Exposure – 2018
Statewide, 47.7% of adults aged 18 and older reported having sunburn in the past 12 months. Sunburn rates were higher for white non-Hispanics (49.6%) and Native Americans (48.7%) than for Hispanics (35.2%). Sunburn rates differed significantly by age group, with 67.2% of persons aged 30–39 and 17.9% of persons aged 65 and older having sunburn in the past 12 months. Sunburn rates differed significantly by county, with a range of 36.7% in Idaho County to 72.9% in Madison County having sunburn in the past 12 months.

Artificial Tanning Appliance Use – 2011, 2014, 2016
Statewide, 4.4% of adults aged 18 and older reported using an artificial tanning appliance, such as a tanning bed, in the past 12 months. Females (6.8%) were significantly more likely than males (2.1%) to have used an artificial tanning appliance in the past 12 months. Tanning appliance use differed significantly by age group, with 8.7% of persons aged 18–29 and 0.9% of persons aged 65 and older, using an appliance in the past 12 months. Tanning appliance use differed by county, with a range of less than 1% in Oneida, Power, and Valley Counties to over 9% in Bear Lake and Fremont Counties using an artificial tanning appliance in the past 12 months.

Healthy Weight by Body Mass Index – 2014–2018
Statewide, 32.6% 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 33.3% of white non-Hispanics, compared to 26.0% of Hispanics and 26.8% of Native Americans, being in the healthy weight range. Males (25.7%) were significantly less likely to be in the healthy weight range than females (39.4%). BMI differed significantly by age of respondent, with 45.0% of persons aged 18–29, and 27.1% of persons aged 50–64, being in the healthy weight range. BMI differed significantly by county, with a range of 19.5% in Minidoka County to 52.8% in Blaine County of adults being in the healthy weight range.

Physical Activity – 2011, 2013, 2015, 2017
Statewide, 22.1% of adults aged 18 and older met aerobic and strength physical activity guidelines during the past month or week. Physical activity differed significantly by age of respondent, with 26.3% of persons aged 18–29, and 19.3% of persons aged 50–64, meeting guidelines. The percentage of adults meeting physical activity guidelines differed significantly by county, with a range of 7.6% in Oneida County to 31.1% in Blaine County.

Home Radon Testing – 2016, 2018
Statewide, 22.7% of adults have ever tested their house for radon. Radon test usage varied significantly by race/ethnicity, with 24.7% of white non-Hispanics, 5.3% of Hispanics, and 27.9% 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 8.0% in Cassia County to 58.0% in Blaine County.

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JEROME COUNTY CANCER PROFILE

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

Cancer Incidence 2013–2017
Cancer Mortality 2014–2018
BRFSS 2011–2018

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 are due to personal lifestyle factors, such as smoking and sedentary lifestyle, and are preventable. Additional cancers are 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. 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.

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://health.gov/dietaryguidelines/2015.

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
615 N. 7th Street
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/contact-center

American Cancer Society
2676 S. Vista Avenue
Boise, ID 83705
208-343-4609
https://www.cancer.org

CANCER INCIDENCE 2013–2017

Nearly one in two Idahoans are estimated to develop cancer during their lifetime. During 2013–2017, 40,996 cases of invasive cancer were diagnosed among Idaho residents, and 466 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, 2013–2017

Cancer Incidence 2013–2017	Jerome County	State of Idaho
All Sites/Types	**466**	**40,996**
Female Breast	**59**	**5,956**
Prostate	**51**	**5,027**
Lung & Bronchus	**59**	**4,657**
Colorectal	**34**	**3,235**

Table 3 (*Cancer Incidence 2013–2017, 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 rate of invasive cancer incidence in Jerome County was 402.0 cases per 100,000 person-years per year during 2013–2017. Comparing this crude rate with the crude rate for the remainder of Idaho (495.5) 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 455.4 cases per 100,000 persons per year during 2013–2017. There were fewer cases of cancer in Jerome County (466) than expected (506.9) 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 2014–2018

During 2014–2018, cancer was the second leading cause of death in Idaho; 14,585 Idaho residents and 168 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, 2014–2018

Mortality 2014–2018	Jerome County	State of Idaho
All Deaths	**853**	**67,280**
Cancer Deaths	**168**	**14,585**
% of All Deaths	*19.7%*	*21.7%*
Lung & Bronchus	**33**	**3,125**
Colorectal	**13**	**1,226**
Pancreas	**11**	**1,079**
Female Breast	**8**	**1,077**
Prostate	**14**	**935**

Table 4 (*Cancer Mortality 2014–2018, 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 167.3 deaths per 100,000 persons per year during 2014–2018, compared with 173.2 for the remainder of the state. There were fewer cancer deaths in Jerome County (168) than expected (173.9) 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 2013–2017
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	466	115,932	402.0	455.4	506.9	0.070	40,530	8,180,434	495.5
	Male	244	58,887	414.4	472.6	264.0	0.227	20,953	4,097,108	511.4
	Female	222	57,045	389.2	439.2	242.4	0.199	19,577	4,083,326	479.4
Bladder	Total	14	115,932	12.1	14.0	24.4	0.033 <<	2,001	8,180,434	24.5
	Male	12	58,887	20.4	23.8	19.1	0.114	1,558	4,097,108	38.0
	Female	2	57,045	3.5	4.1	5.3	0.199	443	4,083,326	10.8
Brain - malignant	Total	2	115,932	1.7	1.9	8.0	0.027 <<	608	8,180,434	7.4
	Male	1	58,887	1.7	1.8	4.9	0.088	370	4,097,108	9.0
	Female	1	57,045	1.8	1.8	3.2	0.355	238	4,083,326	5.8
Brain and other CNS - non-malignant	Total	8	115,932	6.9	7.7	13.5	0.155	1,064	8,180,434	13.0
	Male	4	58,887	6.8	7.5	4.6	1.000	350	4,097,108	8.5
	Female	4	57,045	7.0	7.9	8.9	0.117	714	4,083,326	17.5
Breast	Total	59	115,932	50.9	57.3	74.9	0.069	5,942	8,180,434	72.6
	Male	-	58,887	-	-	0.5	1.000	45	4,097,108	1.1
	Female	59	57,045	103.4	116.8	73.0	0.108	5,897	4,083,326	144.4
Breast - in situ	Total	9	115,932	7.8	8.7	13.4	0.285	1,055	8,180,434	12.9
	Male	-	58,887	-	-	0.0	1.000	3	4,097,108	0.1
	Female	9	57,045	15.8	17.7	13.1	0.322	1,052	4,083,326	25.8
Cervix	Female	3	57,045	5.3	5.7	3.3	1.000	256	4,083,326	6.3
Colorectal	Total	34	115,932	29.3	33.3	39.9	0.394	3,201	8,180,434	39.1
	Male	18	58,887	30.6	34.6	21.8	0.491	1,717	4,097,108	41.9
	Female	16	57,045	28.0	31.9	18.2	0.714	1,484	4,083,326	36.3
Corpus Uteri	Female	15	57,045	26.3	29.9	14.7	1.000	1,194	4,083,326	29.2
Esophagus	Total	8	115,932	6.9	7.9	5.7	0.428	461	8,180,434	5.6
	Male	7	58,887	11.9	13.6	4.8	0.413	381	4,097,108	9.3
	Female	1	57,045	1.8	2.0	1.0	1.000	80	4,083,326	2.0
Hodgkin Lymphoma	Total	5	115,932	4.3	4.5	2.6	0.251	194	8,180,434	2.4
	Male	2	58,887	3.4	3.6	1.5	0.855	106	4,097,108	2.6
	Female	3	57,045	5.3	5.5	1.2	0.229	88	4,083,326	2.2
Kidney and Renal Pelvis	Total	26	115,932	22.4	25.3	19.2	0.158	1,528	8,180,434	18.7
	Male	16	58,887	27.2	30.7	12.5	0.382	979	4,097,108	23.9
	Female	10	57,045	17.5	19.8	6.8	0.300	549	4,083,326	13.4
Larynx	Total	5	115,932	4.3	4.9	2.5	0.229	204	8,180,434	2.5
	Male	4	58,887	6.8	7.7	2.1	0.310	164	4,097,108	4.0
	Female	1	57,045	1.8	2.0	0.5	0.784	40	4,083,326	1.0
Leukemia	Total	14	115,932	12.1	13.4	18.8	0.324	1,472	8,180,434	18.0
	Male	10	58,887	17.0	18.9	11.2	0.866	871	4,097,108	21.3
	Female	4	57,045	7.0	7.8	7.6	0.253	601	4,083,326	14.7
Liver and Bile Duct	Total	11	115,932	9.5	10.8	9.0	0.586	722	8,180,434	8.8
	Male	8	58,887	13.6	15.4	6.7	0.703	524	4,097,108	12.8
	Female	3	57,045	5.3	6.0	2.4	0.870	198	4,083,326	4.8
Lung and Bronchus	Total	59	115,932	50.9	58.7	56.5	0.776	4,598	8,180,434	56.2
	Male	29	58,887	49.2	57.3	29.3	1.000	2,373	4,097,108	57.9
	Female	30	57,045	52.6	60.1	27.2	0.638	2,225	4,083,326	54.5
Melanoma of the Skin	Total	32	115,932	27.6	30.9	31.6	0.984	2,494	8,180,434	30.5
	Male	23	58,887	39.1	44.1	18.4	0.338	1,446	4,097,108	35.3
	Female	9	57,045	15.8	17.5	13.2	0.310	1,048	4,083,326	25.7
Myeloma	Total	12	115,932	10.4	11.9	7.4	0.142	596	8,180,434	7.3
	Male	7	58,887	11.9	13.7	4.4	0.305	350	4,097,108	8.5
	Female	5	57,045	8.8	10.1	3.0	0.366	246	4,083,326	6.0
Non-Hodgkin Lymphoma	Total	24	115,932	20.7	23.5	21.9	0.703	1,749	8,180,434	21.4
	Male	13	58,887	22.1	25.1	12.6	0.982	994	4,097,108	24.3
	Female	11	57,045	19.3	21.9	9.3	0.661	755	4,083,326	18.5
Oral Cavity and Pharynx	Total	8	115,932	6.9	7.8	14.5	0.096	1,160	8,180,434	14.2
	Male	6	58,887	10.2	11.5	10.5	0.208	820	4,097,108	20.0
	Female	2	57,045	3.5	4.0	4.2	0.425	340	4,083,326	8.3
Ovary	Female	5	57,045	8.8	9.9	6.4	0.777	514	4,083,326	12.6
Pancreas	Total	26	115,932	22.4	25.8	15.7	0.022 >>	1,278	8,180,434	15.6
	Male	9	58,887	15.3	17.6	8.7	1.000	693	4,097,108	16.9
	Female	17	57,045	29.8	34.3	7.1	0.002 >>	585	4,083,326	14.3
Prostate	Male	51	58,887	86.6	100.0	61.9	0.179	4,976	4,097,108	121.5
Stomach	Total	4	115,932	3.5	3.9	6.0	0.571	484	8,180,434	5.9
	Male	3	58,887	5.1	5.8	4.0	0.885	315	4,097,108	7.7
	Female	1	57,045	1.8	2.0	2.1	0.776	169	4,083,326	4.1
Testis	Male	3	58,887	5.1	5.2	3.7	0.985	264	4,097,108	6.4
Thyroid	Total	8	115,932	6.9	7.4	16.4	0.034 <<	1,248	8,180,434	15.3
	Male	2	58,887	3.4	3.7	4.4	0.377	330	4,097,108	8.1
	Female	6	57,045	10.5	11.4	11.9	0.098	918	4,083,326	22.5
Pediatric Age 0 to 19	Total	2	38,816	5.2	5.2	7.0	0.057	433	2,361,706	18.3
	Male	1	19,639	5.1	5.2	3.7	0.224	233	1,206,263	19.3
	Female	1	19,177	5.2	5.2	3.3	0.317	200	1,155,443	17.3

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

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

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

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

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

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

TABLE 4: CANCER MORTALITY 2014–2018
COMPARISON BETWEEN JEROME COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cause of Death Cancer Site/Type	Sex	Jerome 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	853	117,157	728.1	857.6	793.9	0.039 >>	66,427	8,321,887	798.2
	Male	463	59,558	777.4	908.2	424.7	0.069	34,723	4,168,322	833.0
	Female	390	57,599	677.1	802.7	370.8	0.332	31,704	4,153,565	763.3
All Malignant Cancers	Total	168	117,157	143.4	167.3	173.9	0.687	14,417	8,321,887	173.2
	Male	84	59,558	141.0	165.5	95.2	0.271	7,817	4,168,322	187.5
	Female	84	57,599	145.8	169.4	78.8	0.586	6,600	4,153,565	158.9
Bladder	Total	7	117,157	6.0	7.2	4.9	0.447	419	8,321,887	5.0
	Male	5	59,558	8.4	10.2	3.7	0.624	314	4,168,322	7.5
	Female	2	57,599	3.5	4.2	1.2	0.682	105	4,153,565	2.5
Brain and Other Nervous System	Total	4	117,157	3.4	3.9	6.1	0.532	493	8,321,887	5.9
	Male	2	59,558	3.4	3.8	4.0	0.487	313	4,168,322	7.5
	Female	2	57,599	3.5	3.9	2.2	1.000	180	4,153,565	4.3
Breast	Total	8	117,157	6.8	7.9	13.1	0.191	1,079	8,321,887	13.0
	Male	-	59,558	-	-	0.1	1.000	10	4,168,322	0.2
	Female	8	57,599	13.9	16.1	12.8	0.218	1,069	4,153,565	25.7
Cervix	Female	-	57,599	-	-	1.0	0.737	80	4,153,565	1.9
Colorectal	Total	13	117,157	11.1	12.9	14.7	0.790	1,213	8,321,887	14.6
	Male	5	59,558	8.4	9.7	8.1	0.360	657	4,168,322	15.8
	Female	8	57,599	13.9	16.3	6.6	0.679	556	4,153,565	13.4
Corpus Uteri	Female	3	57,599	5.2	6.1	1.8	0.530	150	4,153,565	3.6
Esophagus	Total	5	117,157	4.3	5.0	5.6	1.000	466	8,321,887	5.6
	Male	5	59,558	8.4	9.8	4.6	0.969	375	4,168,322	9.0
	Female	-	57,599	-	-	1.1	0.678	91	4,153,565	2.2
Hodgkin Lymphoma	Total	1	117,157	0.9	0.9	0.3	0.449	20	8,321,887	0.2
	Male	-	59,558	-	-	0.1	1.000	8	4,168,322	0.2
	Female	1	57,599	1.7	2.0	0.1	0.271	12	4,153,565	0.3
Kidney	Total	5	117,157	4.3	5.0	4.4	0.903	365	8,321,887	4.4
	Male	3	59,558	5.0	5.8	2.9	1.000	239	4,168,322	5.7
	Female	2	57,599	3.5	4.1	1.5	0.879	126	4,153,565	3.0
Larynx	Total	1	117,157	0.9	1.0	0.7	1.000	62	8,321,887	0.7
	Male	1	59,558	1.7	1.9	0.6	0.948	52	4,168,322	1.2
	Female	-	57,599	-	-	0.1	1.000	10	4,153,565	0.2
Leukemia	Total	6	117,157	5.1	5.9	7.4	0.786	610	8,321,887	7.3
	Male	4	59,558	6.7	7.9	4.3	1.000	354	4,168,322	8.5
	Female	2	57,599	3.5	4.0	3.1	0.809	256	4,153,565	6.2
Liver and Bile Duct	Total	7	117,157	6.0	6.9	7.2	1.000	591	8,321,887	7.1
	Male	5	59,558	8.4	9.7	5.1	1.000	407	4,168,322	9.8
	Female	2	57,599	3.5	4.0	2.2	1.000	184	4,153,565	4.4
Lung and Bronchus	Total	33	117,157	28.2	32.9	37.3	0.549	3,092	8,321,887	37.2
	Male	15	59,558	25.2	29.7	20.0	0.309	1,652	4,168,322	39.6
	Female	18	57,599	31.3	36.2	17.2	0.914	1,440	4,153,565	34.7
Melanoma of the Skin	Total	4	117,157	3.4	3.9	3.4	0.880	276	8,321,887	3.3
	Male	2	59,558	3.4	3.9	2.3	1.000	185	4,168,322	4.4
	Female	2	57,599	3.5	4.0	1.1	0.604	91	4,153,565	2.2
Myeloma	Total	6	117,157	5.1	6.0	3.9	0.397	323	8,321,887	3.9
	Male	4	59,558	6.7	7.9	2.3	0.410	191	4,168,322	4.6
	Female	2	57,599	3.5	4.0	1.6	0.937	132	4,153,565	3.2
Non-Hodgkin Lymphoma	Total	5	117,157	4.3	5.1	6.7	0.678	565	8,321,887	6.8
	Male	3	59,558	5.0	6.0	3.8	0.942	316	4,168,322	7.6
	Female	2	57,599	3.5	4.1	2.9	0.887	249	4,153,565	6.0
Oral Cavity and Pharynx	Total	3	117,157	2.6	3.0	2.7	1.000	220	8,321,887	2.6
	Male	1	59,558	1.7	1.9	1.9	0.886	151	4,168,322	3.6
	Female	2	57,599	3.5	4.0	0.8	0.401	69	4,153,565	1.7
Ovary	Female	5	57,599	8.7	10.1	4.3	0.852	358	4,153,565	8.6
Pancreas	Total	11	117,157	9.4	10.9	12.9	0.721	1,068	8,321,887	12.8
	Male	3	59,558	5.0	5.8	7.3	0.138	589	4,168,322	14.1
	Female	8	57,599	13.9	16.2	5.7	0.432	479	4,153,565	11.5
Prostate	Male	14	59,558	23.5	28.7	10.8	0.395	921	4,168,322	22.1
Stomach	Total	1	117,157	0.9	1.0	2.6	0.552	209	8,321,887	2.5
	Male	1	59,558	1.7	1.9	1.5	1.000	121	4,168,322	2.9
	Female	-	57,599	-	-	1.1	0.696	88	4,153,565	2.1

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, 2019.

Cancer Screening and Risk Factors

The Bureau of Vital Records and Health Statistics (BVRHS), Division of Public Health, 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) with randomly selected adult Idahoans to measure population prevalences of risk factors for the major causes of death, including cancer, since 1984. BVRHS provided data sets containing Behavioral Risk Factor Surveillance System (BRFSS) data from 2011 through 2018 to CDRI staff, who performed the analyses reported in these *County Profiles*. Analysis weights were poststratified to 2018 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, 2011–2018

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 (2014–2018)	81.2%	80.6%	84.5%	74.6%	84.7%	75.5%	83.3%	83.8%	71.8%
Not See Doctor Due to Cost in Past Year (2014–2018)	14.3%	13.9%	12.2%	18.1%	13.6%	14.3%	12.5%	13.9%	20.2%
Cancer Screening									
Mammogram Past 2 Years, Age 50–74 (2014, 2016, 2018)	67.5%	66.8%	72.1%	63.2%	72.9%	61.0%	64.6%	66.8%	63.9%
Pap Test Past 3 Years, Cervix Intact Age 21–65 (2016, 2018)	72.5%	74.8%	74.3%	72.1%	73.0%	71.7%	72.7%	68.6%	.
Colorectal Cancer Screening, Age 50–75 (2016, 2018)	65.4%	64.9%	71.3%	62.6%	68.9%	60.3%	62.1%	65.3%	54.4%
Tobacco Use									
Current Smoker (2014–2018)	14.6%	17.1%	15.1%	16.8%	13.1%	16.2%	14.4%	10.4%	19.8%
Current Smokeless Tobacco User, Males (2014–2018)	9.5%	10.6%	14.0%	11.1%	8.4%	8.9%	8.4%	7.3%	9.5%
Other Cancer-Related									
Sunburn in Previous 12 Months (2018)	47.7%	42.3%	49.0%	41.6%	50.8%	42.8%	49.9%	56.6%	.
Artificial Tanning Appliance Use (2011, 2014, 2016)	4.4%	5.5%	3.3%	3.3%	3.4%	4.2%	5.7%	6.8%	2.4%
Healthy Weight by Body Mass Index, Age 20+ (2014–2018)	32.6%	34.2%	32.9%	27.0%	36.3%	31.1%	29.4%	32.4%	29.2%
Meet Physical Activity Guidelines (2011, 2013, 2015, 2017)	22.1%	22.1%	19.9%	20.6%	26.1%	18.8%	20.0%	20.1%	11.8%
Home Ever Tested for Radon (2016, 2018)	22.7%	29.7%	19.5%	16.3%	24.1%	20.2%	23.3%	22.7%	12.0%

Access to Care

Have Health Insurance – 2014–2018
Statewide, 81.2% of adults aged 18–64 reported having health care coverage. Health care coverage differed significantly by race/ethnicity, with 84.5% of white non-Hispanics, compared to 59.8% of Hispanics and 79.9% of Native Americans, having health insurance. Spanish-speaking respondents were significantly less likely to be insured (33.1%) than English-speaking respondents (83.1%). Health care coverage differed significantly by age of respondent, with 76.4% of persons aged 30–39, and 86.5% of persons aged 50–64, having health insurance. Health care coverage differed significantly by county, with a range of 57.4% in Adams County to 91.7% in Oneida County having health insurance.

Not See Doctor Due to Cost in Past Year – 2014–2018
Statewide, 14.3% 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 (13.2% of white non-Hispanics, 21.4% of Hispanics, and 23.1% of Native Americans). Inability to see a doctor due to cost differed significantly by annual household income (27.4% for less than $15,000, 6.7% for greater than $50,000). Inability to see a doctor due to cost differed significantly by county, with a range of 7.0% in Caribou County to 20.2% in Jerome County.

Cancer Screening

Mammogram – 2014, 2016, 2018
Statewide, 67.5% 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 (70.7% versus 34.0%). Mammography rates differed significantly by county, with a range in screening of 47.3% in Gooding County to 77.5% in Nez Perce County. In 2018, Idaho ranked 49th among states and the District of Columbia for mammography screening rates among women aged 50–74 and 50th among ages 40+.

Pap Test – 2016, 2018
Statewide, 72.5% 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 (77.3% versus 54.2% screened in the past 3 years). Pap screening differed significantly by county, with a range of 60.5% in Idaho County to 79.2% in Latah County. In 2018, Idaho ranked 51st among states and the District of Columbia for Pap screening rate.

Colorectal Cancer Screening – 2016, 2018
Statewide, 65.4% of adults aged 50–75 reported receiving colorectal cancer screening based on the most recent guidelines.** Persons with health insurance were over twice as likely to be current for colorectal cancer screening. In 2018, Idaho ranked 41st 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 Smoking – 2014–2018
Statewide, 14.6% of adults aged 18 and older were current smokers. Smoking prevalence differed significantly by age of respondent, with 19.2% of persons aged 30–39, and 8.4% of persons aged 65 and older reporting current smoking. Smoking prevalence was lower among white non-Hispanics (14.7%) than among Native Americans (32.4%). Smoking prevalence differed significantly by county, with a range of 4.3% in Madison County to 32.7% in Adams County. Counties with higher rates of current smoking had higher rates of lung cancer.

Smokeless Tobacco Use, Males – 2014–2018
Statewide, 9.5% of males aged 18 and older were current users of smokeless tobacco. Smokeless tobacco use differed significantly by age group, ranging from 12.8% of males aged 30–39 to 4.0% of males aged 65 and older. Smokeless tobacco use differed significantly by county, with a range of 3.4% in Franklin County to 21.1% in Custer County. Counties with higher rates of smokeless tobacco use had higher rates of oral cavity & pharynx cancer.

Other Cancer-Related

Sun Exposure – 2018
Statewide, 47.7% of adults aged 18 and older reported having sunburn in the past 12 months. Sunburn rates were higher for white non-Hispanics (49.6%) and Native Americans (48.7%) than for Hispanics (35.2%). Sunburn rates differed significantly by age group, with 67.2% of persons aged 30–39 and 17.9% of persons aged 65 and older having sunburn in the past 12 months. Sunburn rates differed significantly by county, with a range of 36.7% in Idaho County to 72.9% in Madison County having sunburn in the past 12 months.

Artificial Tanning Appliance Use – 2011, 2014, 2016
Statewide, 4.4% of adults aged 18 and older reported using an artificial tanning appliance, such as a tanning bed, in the past 12 months. Females (6.8%) were significantly more likely than males (2.1%) to have used an artificial tanning appliance in the past 12 months. Tanning appliance use differed significantly by age group, with 8.7% of persons aged 18–29 and 0.9% of persons aged 65 and older, using an appliance in the past 12 months. Tanning appliance use differed by county, with a range of less than 1% in Oneida, Power, and Valley Counties to over 9% in Bear Lake and Fremont Counties using an artificial tanning appliance in the past 12 months.

Healthy Weight by Body Mass Index – 2014–2018
Statewide, 32.6% 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 33.3% of white non-Hispanics, compared to 26.0% of Hispanics and 26.8% of Native Americans, being in the healthy weight range. Males (25.7%) were significantly less likely to be in the healthy weight range than females (39.4%). BMI differed significantly by age of respondent, with 45.0% of persons aged 18–29, and 27.1% of persons aged 50–64, being in the healthy weight range. BMI differed significantly by county, with a range of 19.5% in Minidoka County to 52.8% in Blaine County of adults being in the healthy weight range.

Physical Activity – 2011, 2013, 2015, 2017
Statewide, 22.1% of adults aged 18 and older met aerobic and strength physical activity guidelines during the past month or week. Physical activity differed significantly by age of respondent, with 26.3% of persons aged 18–29, and 19.3% of persons aged 50–64, meeting guidelines. The percentage of adults meeting physical activity guidelines differed significantly by county, with a range of 7.6% in Oneida County to 31.1% in Blaine County.

Home Radon Testing – 2016, 2018
Statewide, 22.7% of adults have ever tested their house for radon. Radon test usage varied significantly by race/ethnicity, with 24.7% of white non-Hispanics, 5.3% of Hispanics, and 27.9% 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 8.0% in Cassia County to 58.0% in Blaine County.

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KOOTENAI COUNTY CANCER PROFILE

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

Cancer Incidence 2013–2017
Cancer Mortality 2014–2018
BRFSS 2011–2018

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 are due to personal lifestyle factors, such as smoking and sedentary lifestyle, and are preventable. Additional cancers are 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. 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.

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://health.gov/dietaryguidelines/2015.

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
615 N. 7th Street
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/contact-center

American Cancer Society
2676 S. Vista Avenue
Boise, ID 83705
208-343-4609
https://www.cancer.org

CANCER INCIDENCE 2013–2017

Nearly one in two Idahoans are estimated to develop cancer during their lifetime. During 2013–2017, 40,996 cases of invasive cancer were diagnosed among Idaho residents, and 4,648 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, 2013–2017

Cancer Incidence 2013–2017	Kootenai County	State of Idaho
All Sites/Types	**4,648**	**40,996**
Female Breast	**682**	**5,956**
Prostate	**545**	**5,027**
Lung & Bronchus	**623**	**4,657**
Colorectal	**352**	**3,235**

Table 3 (*Cancer Incidence 2013–2017, 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 rate of invasive cancer incidence in Kootenai County was 619.4 cases per 100,000 person-years per year during 2013–2017. Comparing this crude rate with the crude rate for the remainder of Idaho (481.7) 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 534.1 cases per 100,000 persons per year during 2013–2017. There were statistically significantly more cases of cancer in Kootenai County (4,648) than expected (4,192.1) 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 2014–2018

During 2014–2018, cancer was the second leading cause of death in Idaho; 14,585 Idaho residents and 1,721 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, 2014–2018

Mortality 2014–2018	Kootenai County	State of Idaho
All Deaths	**7,066**	**67,280**
Cancer Deaths	**1,721**	**14,585**
% of All Deaths	*24.4%*	*21.7%*
Lung & Bronchus	**421**	**3,125**
Colorectal	**122**	**1,226**
Pancreas	**133**	**1,079**
Female Breast	**150**	**1,077**
Prostate	**111**	**935**

Table 4 (*Cancer Mortality 2014–2018, 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 190.0 deaths per 100,000 persons per year during 2014–2018, compared with 167.7 for the remainder of the state. There were statistically significantly more cancer deaths in Kootenai County (1,721) than expected (1,519.0) 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 2013–2017
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	4,648	750,417	619.4	534.1	4,192.1	0.000 >>	36,348	7,545,949	481.7
	Male	2,392	370,226	646.1	552.7	2,149.7	0.000 >>	18,805	3,785,769	496.7
	Female	2,256	380,191	593.4	516.0	2,039.6	0.000 >>	17,543	3,760,180	466.5
Bladder	Total	273	750,417	36.4	30.7	205.5	0.000 >>	1,742	7,545,949	23.1
	Male	214	370,226	57.8	48.5	157.9	0.000 >>	1,356	3,785,769	35.8
	Female	59	380,191	15.5	13.2	45.9	0.071	386	3,760,180	10.3
Brain - malignant	Total	48	750,417	6.4	5.8	61.7	0.084	562	7,545,949	7.4
	Male	23	370,226	6.2	5.6	37.9	0.013 <<	348	3,785,769	9.2
	Female	25	380,191	6.6	6.0	23.5	0.815	214	3,760,180	5.7
Brain and other CNS - non-malignant	Total	104	750,417	13.9	12.3	108.1	0.743	968	7,545,949	12.8
	Male	29	370,226	7.8	7.1	35.3	0.333	325	3,785,769	8.6
	Female	75	380,191	19.7	17.5	73.4	0.887	643	3,760,180	17.1
Breast	Total	687	750,417	91.5	79.5	608.4	0.002 >>	5,314	7,545,949	70.4
	Male	5	370,226	1.4	1.1	4.6	0.988	40	3,785,769	1.1
	Female	682	380,191	179.4	155.5	615.1	0.008 >>	5,274	3,760,180	140.3
Breast - in situ	Total	145	750,417	19.3	16.9	104.3	0.000 >>	919	7,545,949	12.2
	Male	-	370,226	-	-	0.3	1.000	3	3,785,769	0.1
	Female	145	380,191	38.1	33.3	106.1	0.000 >>	916	3,760,180	24.4
Cervix	Female	35	380,191	9.2	8.7	24.1	0.043 >>	224	3,760,180	6.0
Colorectal	Total	352	750,417	46.9	40.4	332.9	0.308	2,883	7,545,949	38.2
	Male	191	370,226	51.6	44.4	175.3	0.251	1,544	3,785,769	40.8
	Female	161	380,191	42.3	36.6	156.8	0.759	1,339	3,760,180	35.6
Corpus Uteri	Female	136	380,191	35.8	30.8	125.9	0.389	1,073	3,760,180	28.5
Esophagus	Total	57	750,417	7.6	6.5	48.2	0.237	412	7,545,949	5.5
	Male	46	370,226	12.4	10.6	39.3	0.322	342	3,785,769	9.0
	Female	11	380,191	2.9	2.5	8.4	0.441	70	3,760,180	1.9
Hodgkin Lymphoma	Total	20	750,417	2.7	2.6	18.1	0.721	179	7,545,949	2.4
	Male	14	370,226	3.8	3.7	9.3	0.184	94	3,785,769	2.5
	Female	6	380,191	1.6	1.5	8.8	0.453	85	3,760,180	2.3
Kidney and Renal Pelvis	Total	196	750,417	26.1	22.5	156.8	0.003 >>	1,358	7,545,949	18.0
	Male	130	370,226	35.1	30.2	98.3	0.003 >>	865	3,785,769	22.8
	Female	66	380,191	17.4	15.0	57.6	0.296	493	3,760,180	13.1
Larynx	Total	26	750,417	3.5	2.9	21.4	0.371	183	7,545,949	2.4
	Male	22	370,226	5.9	5.0	16.9	0.268	146	3,785,769	3.9
	Female	4	380,191	1.1	0.9	4.3	1.000	37	3,760,180	1.0
Leukemia	Total	179	750,417	23.9	20.9	148.5	0.016 >>	1,307	7,545,949	17.3
	Male	99	370,226	26.7	23.3	87.7	0.252	782	3,785,769	20.7
	Female	80	380,191	21.0	18.6	60.2	0.017 >>	525	3,760,180	14.0
Liver and Bile Duct	Total	79	750,417	10.5	9.0	76.3	0.787	654	7,545,949	8.7
	Male	56	370,226	15.1	12.9	54.4	0.867	476	3,785,769	12.6
	Female	23	380,191	6.0	5.2	21.1	0.728	178	3,760,180	4.7
Lung and Bronchus	Total	623	750,417	83.0	69.8	477.2	0.000 >>	4,034	7,545,949	53.5
	Male	307	370,226	82.9	69.3	245.0	0.000 >>	2,095	3,785,769	55.3
	Female	316	380,191	83.1	70.3	231.8	0.000 >>	1,939	3,760,180	51.6
Melanoma of the Skin	Total	244	750,417	32.5	28.5	258.6	0.381	2,282	7,545,949	30.2
	Male	149	370,226	40.2	34.9	148.9	1.000	1,320	3,785,769	34.9
	Female	95	380,191	25.0	22.3	109.1	0.189	962	3,760,180	25.6
Myeloma	Total	60	750,417	8.0	6.8	64.5	0.628	548	7,545,949	7.3
	Male	39	370,226	10.5	8.8	37.0	0.789	318	3,785,769	8.4
	Female	21	380,191	5.5	4.7	27.3	0.262	230	3,760,180	6.1
Non-Hodgkin Lymphoma	Total	201	750,417	26.8	23.1	181.3	0.158	1,572	7,545,949	20.8
	Male	107	370,226	28.9	24.9	102.3	0.667	900	3,785,769	23.8
	Female	94	380,191	24.7	21.4	78.6	0.099	672	3,760,180	17.9
Oral Cavity and Pharynx	Total	126	750,417	16.8	14.5	120.3	0.630	1,042	7,545,949	13.8
	Male	93	370,226	25.1	21.7	83.1	0.305	733	3,785,769	19.4
	Female	33	380,191	8.7	7.5	36.1	0.684	309	3,760,180	8.2
Ovary	Female	58	380,191	15.3	13.3	53.6	0.583	461	3,760,180	12.3
Pancreas	Total	144	750,417	19.2	16.3	136.0	0.514	1,160	7,545,949	15.4
	Male	78	370,226	21.1	17.8	72.1	0.520	624	3,785,769	16.5
	Female	66	380,191	17.4	14.8	63.6	0.795	536	3,760,180	14.3
Prostate	Male	545	370,226	147.2	124.2	519.7	0.278	4,482	3,785,769	118.4
Stomach	Total	47	750,417	6.3	5.4	51.1	0.623	441	7,545,949	5.8
	Male	35	370,226	9.5	8.1	32.4	0.696	283	3,785,769	7.5
	Female	12	380,191	3.2	2.7	18.5	0.152	158	3,760,180	4.2
Testis	Male	24	370,226	6.5	6.7	23.1	0.899	243	3,785,769	6.4
Thyroid	Total	109	750,417	14.5	13.5	122.3	0.244	1,147	7,545,949	15.2
	Male	36	370,226	9.7	8.9	31.5	0.472	296	3,785,769	7.8
	Female	73	380,191	19.2	17.9	92.1	0.046 <<	851	3,760,180	22.6
Pediatric Age 0 to 19	Total	33	192,405	17.2	17.1	35.0	0.815	402	2,208,117	18.2
	Male	16	98,957	16.2	16.1	19.2	0.558	218	1,126,945	19.3
	Female	17	93,448	18.2	18.2	15.9	0.850	184	1,081,172	17.0

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

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

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

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

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

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

TABLE 4: CANCER MORTALITY 2014–2018
COMPARISON BETWEEN KOOTENAI COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cause of Death Cancer Site/Type	Sex	Kootenai 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	7,066	768,024	920.0	794.6	6,980.1	0.307	60,214	7,671,020	785.0
	Male	3,708	379,003	978.4	845.0	3,589.0	0.049 >>	31,478	3,848,877	817.8
	Female	3,358	389,021	863.2	747.6	3,377.1	0.751	28,736	3,822,143	751.8
All Malignant Cancers	Total	1,721	768,024	224.1	190.0	1,519.0	0.000 >>	12,864	7,671,020	167.7
	Male	935	379,003	246.7	208.3	812.6	0.000 >>	6,966	3,848,877	181.0
	Female	786	389,021	202.0	172.3	703.9	0.002 >>	5,898	3,822,143	154.3
Bladder	Total	54	768,024	7.0	5.9	44.1	0.164	372	7,671,020	4.8
	Male	38	379,003	10.0	8.4	33.0	0.424	281	3,848,877	7.3
	Female	16	389,021	4.1	3.5	10.8	0.169	91	3,822,143	2.4
Brain and Other Nervous System	Total	46	768,024	6.0	5.2	52.0	0.453	451	7,671,020	5.9
	Male	32	379,003	8.4	7.4	32.0	1.000	283	3,848,877	7.4
	Female	14	389,021	3.6	3.1	19.8	0.229	168	3,822,143	4.4
Breast	Total	151	768,024	19.7	16.8	109.4	0.000 >>	936	7,671,020	12.2
	Male	1	379,003	0.3	0.2	1.0	1.000	9	3,848,877	0.2
	Female	150	389,021	38.6	33.1	110.0	0.000 >>	927	3,822,143	24.3
Cervix	Female	8	389,021	2.1	1.8	8.2	1.000	72	3,822,143	1.9
Colorectal	Total	122	768,024	15.9	13.6	129.5	0.547	1,104	7,671,020	14.4
	Male	68	379,003	17.9	15.3	68.6	1.000	594	3,848,877	15.4
	Female	54	389,021	13.9	11.9	60.6	0.439	510	3,822,143	13.3
Corpus Uteri	Female	17	389,021	4.4	3.7	16.4	0.945	136	3,822,143	3.6
Esophagus	Total	56	768,024	7.3	6.2	49.2	0.369	415	7,671,020	5.4
	Male	52	379,003	13.7	11.6	38.3	0.040 >>	328	3,848,877	8.5
	Female	4	389,021	1.0	0.9	10.4	0.045 <<	87	3,822,143	2.3
Hodgkin Lymphoma	Total	-	768,024	-	-	2.4	0.189	21	7,671,020	0.3
	Male	-	379,003	-	-	0.9	0.841	8	3,848,877	0.2
	Female	-	389,021	-	-	1.5	0.445	13	3,822,143	0.3
Kidney	Total	36	768,024	4.7	4.0	39.5	0.646	334	7,671,020	4.4
	Male	25	379,003	6.6	5.6	25.2	1.000	217	3,848,877	5.6
	Female	11	389,021	2.8	2.4	14.0	0.515	117	3,822,143	3.1
Larynx	Total	7	768,024	0.9	0.8	6.6	0.973	56	7,671,020	0.7
	Male	6	379,003	1.6	1.4	5.4	0.908	47	3,848,877	1.2
	Female	1	389,021	0.3	0.2	1.1	1.000	9	3,822,143	0.2
Leukemia	Total	69	768,024	9.0	7.7	64.2	0.585	547	7,671,020	7.1
	Male	40	379,003	10.6	8.9	37.0	0.668	318	3,848,877	8.3
	Female	29	389,021	7.5	6.4	27.0	0.749	229	3,822,143	6.0
Liver and Bile Duct	Total	76	768,024	9.9	8.4	61.9	0.092	522	7,671,020	6.8
	Male	55	379,003	14.5	12.2	41.6	0.054	357	3,848,877	9.3
	Female	21	389,021	5.4	4.6	19.8	0.847	165	3,822,143	4.3
Lung and Bronchus	Total	421	768,024	54.8	46.0	322.8	0.000 >>	2,704	7,671,020	35.2
	Male	213	379,003	56.2	46.9	171.5	0.002 >>	1,454	3,848,877	37.8
	Female	208	389,021	53.5	45.1	150.8	0.000 >>	1,250	3,822,143	32.7
Melanoma of the Skin	Total	31	768,024	4.0	3.5	29.0	0.762	249	7,671,020	3.2
	Male	23	379,003	6.1	5.2	18.8	0.389	164	3,848,877	4.3
	Female	8	389,021	2.1	1.8	10.0	0.662	85	3,822,143	2.2
Myeloma	Total	30	768,024	3.9	3.3	35.6	0.392	299	7,671,020	3.9
	Male	22	379,003	5.8	4.9	20.4	0.772	173	3,848,877	4.5
	Female	8	389,021	2.1	1.7	15.2	0.068	126	3,822,143	3.3
Non-Hodgkin Lymphoma	Total	61	768,024	7.9	6.7	60.5	0.979	509	7,671,020	6.6
	Male	35	379,003	9.2	7.8	33.3	0.815	284	3,848,877	7.4
	Female	26	389,021	6.7	5.7	27.0	0.946	225	3,822,143	5.9
Oral Cavity and Pharynx	Total	31	768,024	4.0	3.4	22.6	0.110	192	7,671,020	2.5
	Male	28	379,003	7.4	6.3	14.4	0.002 >>	124	3,848,877	3.2
	Female	3	389,021	0.8	0.7	8.1	0.078	68	3,822,143	1.8
Ovary	Female	40	389,021	10.3	8.7	38.7	0.881	323	3,822,143	8.5
Pancreas	Total	133	768,024	17.3	14.6	112.4	0.063	946	7,671,020	12.3
	Male	75	379,003	19.8	16.7	60.5	0.079	517	3,848,877	13.4
	Female	58	389,021	14.9	12.6	51.6	0.410	429	3,822,143	11.2
Prostate	Male	111	379,003	29.3	24.5	96.8	0.169	824	3,848,877	21.4
Stomach	Total	19	768,024	2.5	2.1	22.3	0.574	191	7,671,020	2.5
	Male	11	379,003	2.9	2.5	12.8	0.754	111	3,848,877	2.9
	Female	8	389,021	2.1	1.8	9.4	0.809	80	3,822,143	2.1

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, 2019.

Cancer Screening and Risk Factors

The Bureau of Vital Records and Health Statistics (BVRHS), Division of Public Health, 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) with randomly selected adult Idahoans to measure population prevalences of risk factors for the major causes of death, including cancer, since 1984. BVRHS provided data sets containing Behavioral Risk Factor Surveillance System (BRFSS) data from 2011 through 2018 to CDRI staff, who performed the analyses reported in these *County Profiles*. Analysis weights were poststratified to 2018 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, 2011–2018

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 (2014–2018)	81.2%	80.6%	84.5%	74.6%	84.7%	75.5%	83.3%	83.8%	82.3%
Not See Doctor Due to Cost in Past Year (2014–2018)	14.3%	13.9%	12.2%	18.1%	13.6%	14.3%	12.5%	13.9%	14.4%
Cancer Screening									
Mammogram Past 2 Years, Age 50–74 (2014, 2016, 2018)	67.5%	66.8%	72.1%	63.2%	72.9%	61.0%	64.6%	66.8%	70.0%
Pap Test Past 3 Years, Cervix Intact Age 21–65 (2016, 2018)	72.5%	74.8%	74.3%	72.1%	73.0%	71.7%	72.7%	68.6%	78.2%
Colorectal Cancer Screening, Age 50–75 (2016, 2018)	65.4%	64.9%	71.3%	62.6%	68.9%	60.3%	62.1%	65.3%	70.9%
Tobacco Use									
Current Smoker (2014–2018)	14.6%	17.1%	15.1%	16.8%	13.1%	16.2%	14.4%	10.4%	17.2%
Current Smokeless Tobacco User, Males (2014–2018)	9.5%	10.6%	14.0%	11.1%	8.4%	8.9%	8.4%	7.3%	11.1%
Other Cancer-Related									
Sunburn in Previous 12 Months (2018)	47.7%	42.3%	49.0%	41.6%	50.8%	42.8%	49.9%	56.6%	42.1%
Artificial Tanning Appliance Use (2011, 2014, 2016)	4.4%	5.5%	3.3%	3.3%	3.4%	4.2%	5.7%	6.8%	6.0%
Healthy Weight by Body Mass Index, Age 20+ (2014–2018)	32.6%	34.2%	32.9%	27.0%	36.3%	31.1%	29.4%	32.4%	34.4%
Meet Physical Activity Guidelines (2011, 2013, 2015, 2017)	22.1%	22.1%	19.9%	20.6%	26.1%	18.8%	20.0%	20.1%	23.4%
Home Ever Tested for Radon (2016, 2018)	22.7%	29.7%	19.5%	16.3%	24.1%	20.2%	23.3%	22.7%	34.1%

Access to Care

Have Health Insurance – 2014–2018
Statewide, 81.2% of adults aged 18–64 reported having health care coverage. Health care coverage differed significantly by race/ethnicity, with 84.5% of white non-Hispanics, compared to 59.8% of Hispanics and 79.9% of Native Americans, having health insurance. Spanish-speaking respondents were significantly less likely to be insured (33.1%) than English-speaking respondents (83.1%). Health care coverage differed significantly by age of respondent, with 76.4% of persons aged 30–39, and 86.5% of persons aged 50–64, having health insurance. Health care coverage differed significantly by county, with a range of 57.4% in Adams County to 91.7% in Oneida County having health insurance.

Not See Doctor Due to Cost in Past Year – 2014–2018
Statewide, 14.3% 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 (13.2% of white non-Hispanics, 21.4% of Hispanics, and 23.1% of Native Americans). Inability to see a doctor due to cost differed significantly by annual household income (27.4% for less than $15,000, 6.7% for greater than $50,000). Inability to see a doctor due to cost differed significantly by county, with a range of 7.0% in Caribou County to 20.2% in Jerome County.

Cancer Screening

Mammogram – 2014, 2016, 2018
Statewide, 67.5% 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 (70.7% versus 34.0%). Mammography rates differed significantly by county, with a range in screening of 47.3% in Gooding County to 77.5% in Nez Perce County. In 2018, Idaho ranked 49th among states and the District of Columbia for mammography screening rates among women aged 50–74 and 50th among ages 40+.

Pap Test – 2016, 2018
Statewide, 72.5% 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 (77.3% versus 54.2% screened in the past 3 years). Pap screening differed significantly by county, with a range of 60.5% in Idaho County to 79.2% in Latah County. In 2018, Idaho ranked 51st among states and the District of Columbia for Pap screening rate.

Colorectal Cancer Screening – 2016, 2018
Statewide, 65.4% of adults aged 50–75 reported receiving colorectal cancer screening based on the most recent guidelines.** Persons with health insurance were over twice as likely to be current for colorectal cancer screening. In 2018, Idaho ranked 41st 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 Smoking – 2014–2018
Statewide, 14.6% of adults aged 18 and older were current smokers. Smoking prevalence differed significantly by age of respondent, with 19.2% of persons aged 30–39, and 8.4% of persons aged 65 and older reporting current smoking. Smoking prevalence was lower among white non-Hispanics (14.7%) than among Native Americans (32.4%). Smoking prevalence differed significantly by county, with a range of 4.3% in Madison County to 32.7% in Adams County. Counties with higher rates of current smoking had higher rates of lung cancer.

Smokeless Tobacco Use, Males – 2014–2018
Statewide, 9.5% of males aged 18 and older were current users of smokeless tobacco. Smokeless tobacco use differed significantly by age group, ranging from 12.8% of males aged 30–39 to 4.0% of males aged 65 and older. Smokeless tobacco use differed significantly by county, with a range of 3.4% in Franklin County to 21.1% in Custer County. Counties with higher rates of smokeless tobacco use had higher rates of oral cavity & pharynx cancer.

Other Cancer-Related

Sun Exposure – 2018
Statewide, 47.7% of adults aged 18 and older reported having sunburn in the past 12 months. Sunburn rates were higher for white non-Hispanics (49.6%) and Native Americans (48.7%) than for Hispanics (35.2%). Sunburn rates differed significantly by age group, with 67.2% of persons aged 30–39 and 17.9% of persons aged 65 and older having sunburn in the past 12 months. Sunburn rates differed significantly by county, with a range of 36.7% in Idaho County to 72.9% in Madison County having sunburn in the past 12 months.

Artificial Tanning Appliance Use – 2011, 2014, 2016
Statewide, 4.4% of adults aged 18 and older reported using an artificial tanning appliance, such as a tanning bed, in the past 12 months. Females (6.8%) were significantly more likely than males (2.1%) to have used an artificial tanning appliance in the past 12 months. Tanning appliance use differed significantly by age group, with 8.7% of persons aged 18–29 and 0.9% of persons aged 65 and older, using an appliance in the past 12 months. Tanning appliance use differed by county, with a range of less than 1% in Oneida, Power, and Valley Counties to over 9% in Bear Lake and Fremont Counties using an artificial tanning appliance in the past 12 months.

Healthy Weight by Body Mass Index – 2014–2018
Statewide, 32.6% 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 33.3% of white non-Hispanics, compared to 26.0% of Hispanics and 26.8% of Native Americans, being in the healthy weight range. Males (25.7%) were significantly less likely to be in the healthy weight range than females (39.4%). BMI differed significantly by age of respondent, with 45.0% of persons aged 18–29, and 27.1% of persons aged 50–64, being in the healthy weight range. BMI differed significantly by county, with a range of 19.5% in Minidoka County to 52.8% in Blaine County of adults being in the healthy weight range.

Physical Activity – 2011, 2013, 2015, 2017
Statewide, 22.1% of adults aged 18 and older met aerobic and strength physical activity guidelines during the past month or week. Physical activity differed significantly by age of respondent, with 26.3% of persons aged 18–29, and 19.3% of persons aged 50–64, meeting guidelines. The percentage of adults meeting physical activity guidelines differed significantly by county, with a range of 7.6% in Oneida County to 31.1% in Blaine County.

Home Radon Testing – 2016, 2018
Statewide, 22.7% of adults have ever tested their house for radon. Radon test usage varied significantly by race/ethnicity, with 24.7% of white non-Hispanics, 5.3% of Hispanics, and 27.9% 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 8.0% in Cassia County to 58.0% in Blaine County.

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LATAH COUNTY CANCER PROFILE

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

Cancer Incidence 2013–2017
Cancer Mortality 2014–2018
BRFSS 2011–2018

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 are due to personal lifestyle factors, such as smoking and sedentary lifestyle, and are preventable. Additional cancers are 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. 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.

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://health.gov/dietaryguidelines/2015.

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
615 N. 7th Street
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/contact-center

American Cancer Society
2676 S. Vista Avenue
Boise, ID 83705
208-343-4609
https://www.cancer.org

CANCER INCIDENCE 2013–2017

Nearly one in two Idahoans are estimated to develop cancer during their lifetime. During 2013–2017, 40,996 cases of invasive cancer were diagnosed among Idaho residents, and 790 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, 2013–2017

Cancer Incidence 2013–2017	Latah County	State of Idaho
All Sites/Types	**790**	**40,996**
Female Breast	**144**	**5,956**
Prostate	**107**	**5,027**
Lung & Bronchus	**93**	**4,657**
Colorectal	**46**	**3,235**

Table 3 (*Cancer Incidence 2013–2017, 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 rate of invasive cancer incidence in Latah County was 406.6 cases per 100,000 person-years per year during 2013–2017. Comparing this crude rate with the crude rate for the remainder of Idaho (496.2) 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 480.0 cases per 100,000 persons per year during 2013–2017. There were fewer cases of cancer in Latah County (790) than expected (816.8) 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 2014–2018

During 2014–2018, cancer was the second leading cause of death in Idaho; 14,585 Idaho residents and 269 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, 2014–2018

Mortality 2014–2018	Latah County	State of Idaho
All Deaths	**1,111**	**67,280**
Cancer Deaths	**269**	**14,585**
% of All Deaths	*24.2%*	*21.7%*
Lung & Bronchus	**64**	**3,125**
Colorectal	**20**	**1,226**
Pancreas	**15**	**1,079**
Female Breast	**16**	**1,077**
Prostate	**18**	**935**

Table 4 (*Cancer Mortality 2014–2018, 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 163.4 deaths per 100,000 persons per year during 2014–2018, compared with 173.7 for the remainder of the state. There were fewer cancer deaths in Latah County (269) than expected (285.9) 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 2013–2017
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	790	194,277	406.6	480.0	816.8	0.358	40,206	8,102,089	496.2
	Male	394	99,572	395.7	474.0	426.3	0.121	20,803	4,056,423	512.8
	Female	396	94,705	418.1	485.7	391.0	0.815	19,403	4,045,666	479.6
Bladder	Total	46	194,277	23.7	28.5	39.3	0.319	1,969	8,102,089	24.3
	Male	39	99,572	39.2	47.9	30.7	0.167	1,531	4,056,423	37.7
	Female	7	94,705	7.4	8.7	8.7	0.719	438	4,045,666	10.8
Brain - malignant	Total	13	194,277	6.7	7.6	12.6	0.974	597	8,102,089	7.4
	Male	11	99,572	11.0	12.9	7.6	0.285	360	4,056,423	8.9
	Female	2	94,705	2.1	2.3	5.0	0.243	237	4,045,666	5.9
Brain and other CNS - non-malignant	Total	19	194,277	9.8	11.2	22.1	0.592	1,053	8,102,089	13.0
	Male	8	99,572	8.0	9.3	7.3	0.897	346	4,056,423	8.5
	Female	11	94,705	11.6	13.1	14.7	0.409	707	4,045,666	17.5
Breast	Total	146	194,277	75.2	90.2	117.0	0.011 >>	5,855	8,102,089	72.3
	Male	2	99,572	2.0	2.5	0.9	0.424	43	4,056,423	1.1
	Female	144	94,705	152.1	179.7	115.1	0.010 >>	5,812	4,045,666	143.7
Breast - in situ	Total	16	194,277	8.2	9.9	20.8	0.346	1,048	8,102,089	12.9
	Male	-	99,572	-	-	0.1	1.000	3	4,056,423	0.1
	Female	16	94,705	16.9	20.1	20.6	0.375	1,045	4,045,666	25.8
Cervix	Female	9	94,705	9.5	10.7	5.2	0.163	250	4,045,666	6.2
Colorectal	Total	46	194,277	23.7	28.2	64.2	0.021 <<	3,189	8,102,089	39.4
	Male	21	99,572	21.1	25.6	34.7	0.017 <<	1,714	4,056,423	42.3
	Female	25	94,705	26.4	30.9	29.5	0.467	1,475	4,045,666	36.5
Corpus Uteri	Female	20	94,705	21.1	24.8	23.7	0.524	1,189	4,045,666	29.4
Esophagus	Total	6	194,277	3.1	3.7	9.2	0.374	463	8,102,089	5.7
	Male	5	99,572	5.0	6.1	7.7	0.444	383	4,056,423	9.4
	Female	1	94,705	1.1	1.2	1.6	1.000	80	4,045,666	2.0
Hodgkin Lymphoma	Total	5	194,277	2.6	2.3	5.2	1.000	194	8,102,089	2.4
	Male	3	99,572	3.0	2.8	2.8	1.000	105	4,056,423	2.6
	Female	2	94,705	2.1	1.8	2.4	1.000	89	4,045,666	2.2
Kidney and Renal Pelvis	Total	28	194,277	14.4	17.3	30.6	0.729	1,526	8,102,089	18.8
	Male	18	99,572	18.1	22.0	19.7	0.816	977	4,056,423	24.1
	Female	10	94,705	10.6	12.4	11.0	0.930	549	4,045,666	13.6
Larynx	Total	4	194,277	2.1	2.4	4.2	1.000	205	8,102,089	2.5
	Male	3	99,572	3.0	3.7	3.3	1.000	165	4,056,423	4.1
	Female	1	94,705	1.1	1.1	0.9	1.000	40	4,045,666	1.0
Leukemia	Total	25	194,277	12.9	14.9	30.3	0.391	1,461	8,102,089	18.0
	Male	12	99,572	12.1	14.2	18.1	0.174	869	4,056,423	21.4
	Female	13	94,705	13.7	15.6	12.2	0.895	592	4,045,666	14.6
Liver and Bile Duct	Total	8	194,277	4.1	4.9	14.6	0.092	725	8,102,089	8.9
	Male	5	99,572	5.0	6.1	10.7	0.089	527	4,056,423	13.0
	Female	3	94,705	3.2	3.7	3.9	0.892	198	4,045,666	4.9
Lung and Bronchus	Total	93	194,277	47.9	57.7	90.7	0.840	4,564	8,102,089	56.3
	Male	40	99,572	40.2	49.1	47.4	0.313	2,362	4,056,423	58.2
	Female	53	94,705	56.0	66.7	43.3	0.167	2,202	4,045,666	54.4
Melanoma of the Skin	Total	35	194,277	18.0	20.9	51.4	0.020 <<	2,491	8,102,089	30.7
	Male	18	99,572	18.1	21.6	29.8	0.028 <<	1,451	4,056,423	35.8
	Female	17	94,705	18.0	20.2	21.6	0.383	1,040	4,045,666	25.7
Myeloma	Total	15	194,277	7.7	9.3	11.8	0.420	593	8,102,089	7.3
	Male	10	99,572	10.0	12.3	6.9	0.328	347	4,056,423	8.6
	Female	5	94,705	5.3	6.2	4.9	1.000	246	4,045,666	6.1
Non-Hodgkin Lymphoma	Total	47	194,277	24.2	28.5	35.2	0.064	1,726	8,102,089	21.3
	Male	28	99,572	28.1	33.3	20.3	0.122	979	4,056,423	24.1
	Female	19	94,705	20.1	23.5	15.0	0.354	747	4,045,666	18.5
Oral Cavity and Pharynx	Total	23	194,277	11.8	14.0	23.3	1.000	1,145	8,102,089	14.1
	Male	19	99,572	19.1	23.1	16.4	0.580	807	4,056,423	19.9
	Female	4	94,705	4.2	4.8	6.9	0.358	338	4,045,666	8.4
Ovary	Female	9	94,705	9.5	11.0	10.3	0.831	510	4,045,666	12.6
Pancreas	Total	22	194,277	11.3	13.6	25.7	0.546	1,282	8,102,089	15.8
	Male	14	99,572	14.1	17.2	13.8	1.000	688	4,056,423	17.0
	Female	8	94,705	8.4	9.9	11.9	0.323	594	4,045,666	14.7
Prostate	Male	107	99,572	107.5	130.4	99.5	0.478	4,920	4,056,423	121.3
Stomach	Total	8	194,277	4.1	4.9	9.6	0.758	480	8,102,089	5.9
	Male	6	99,572	6.0	7.4	6.3	1.000	312	4,056,423	7.7
	Female	2	94,705	2.1	2.5	3.4	0.698	168	4,045,666	4.2
Testis	Male	7	99,572	7.0	5.8	7.7	0.979	260	4,056,423	6.4
Thyroid	Total	14	194,277	7.2	7.7	27.8	0.006 <<	1,242	8,102,089	15.3
	Male	1	99,572	1.0	1.1	7.5	0.009 <<	331	4,056,423	8.2
	Female	13	94,705	13.7	14.6	20.0	0.130	911	4,045,666	22.5
Pediatric Age 0 to 19	Total	10	49,590	20.2	18.8	9.6	0.984	425	2,350,932	18.1
	Male	7	25,150	27.8	25.4	5.2	0.540	227	1,200,752	18.9
	Female	3	24,440	12.3	11.8	4.4	0.727	198	1,150,180	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 2014–2018
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	1,111	196,195	566.3	655.9	1,359.8	0.000 <<	66,169	8,242,849	802.7
	Male	581	100,309	579.2	684.3	711.8	0.000 <<	34,605	4,127,571	838.4
	Female	530	95,886	552.7	625.0	650.4	0.000 <<	31,564	4,115,278	767.0
All Malignant Cancers	Total	269	196,195	137.1	163.4	285.9	0.331	14,316	8,242,849	173.7
	Male	139	100,309	138.6	168.1	155.5	0.197	7,762	4,127,571	188.1
	Female	130	95,886	135.6	158.8	130.4	1.000	6,554	4,115,278	159.3
Bladder	Total	6	196,195	3.1	3.6	8.4	0.530	420	8,242,849	5.1
	Male	5	100,309	5.0	6.1	6.2	0.827	314	4,127,571	7.6
	Female	1	95,886	1.0	1.2	2.2	0.733	106	4,115,278	2.6
Brain and Other Nervous System	Total	8	196,195	4.1	4.8	9.9	0.686	489	8,242,849	5.9
	Male	6	100,309	6.0	7.1	6.3	1.000	309	4,127,571	7.5
	Female	2	95,886	2.1	2.4	3.6	0.590	180	4,115,278	4.4
Breast	Total	16	196,195	8.2	9.8	21.3	0.297	1,071	8,242,849	13.0
	Male	-	100,309	-	-	0.2	1.000	10	4,127,571	0.2
	Female	16	95,886	16.7	19.6	21.0	0.323	1,061	4,115,278	25.8
Cervix	Female	2	95,886	2.1	2.5	1.5	0.910	78	4,115,278	1.9
Colorectal	Total	20	196,195	10.2	12.2	24.0	0.481	1,206	8,242,849	14.6
	Male	11	100,309	11.0	13.3	13.0	0.706	651	4,127,571	15.8
	Female	9	95,886	9.4	10.9	11.1	0.662	555	4,115,278	13.5
Corpus Uteri	Female	3	95,886	3.1	3.7	3.0	1.000	150	4,115,278	3.6
Esophagus	Total	10	196,195	5.1	6.1	9.1	0.864	461	8,242,849	5.6
	Male	7	100,309	7.0	8.5	7.4	1.000	373	4,127,571	9.0
	Female	3	95,886	3.1	3.7	1.8	0.515	88	4,115,278	2.1
Hodgkin Lymphoma	Total	-	196,195	-	-	0.5	1.000	21	8,242,849	0.3
	Male	-	100,309	-	-	0.2	1.000	8	4,127,571	0.2
	Female	-	95,886	-	-	0.3	1.000	13	4,115,278	0.3
Kidney	Total	4	196,195	2.0	2.4	7.3	0.294	366	8,242,849	4.4
	Male	2	100,309	2.0	2.4	4.8	0.285	240	4,127,571	5.8
	Female	2	95,886	2.1	2.4	2.5	1.000	126	4,115,278	3.1
Larynx	Total	1	196,195	0.5	0.6	1.3	1.000	62	8,242,849	0.8
	Male	1	100,309	1.0	1.2	1.1	1.000	52	4,127,571	1.3
	Female	-	95,886	-	-	0.2	1.000	10	4,115,278	0.2
Leukemia	Total	14	196,195	7.1	8.3	12.3	0.704	602	8,242,849	7.3
	Male	6	100,309	6.0	7.0	7.3	0.809	352	4,127,571	8.5
	Female	8	95,886	8.3	9.7	5.0	0.273	250	4,115,278	6.1
Liver and Bile Duct	Total	8	196,195	4.1	4.9	11.7	0.345	590	8,242,849	7.2
	Male	5	100,309	5.0	6.0	8.2	0.348	407	4,127,571	9.9
	Female	3	95,886	3.1	3.7	3.6	1.000	183	4,115,278	4.4
Lung and Bronchus	Total	64	196,195	32.6	39.2	60.6	0.699	3,061	8,242,849	37.1
	Male	31	100,309	30.9	37.7	32.6	0.866	1,636	4,127,571	39.6
	Female	33	95,886	34.4	40.7	28.1	0.395	1,425	4,115,278	34.6
Melanoma of the Skin	Total	8	196,195	4.1	4.8	5.5	0.369	272	8,242,849	3.3
	Male	4	100,309	4.0	4.8	3.7	1.000	183	4,127,571	4.4
	Female	4	95,886	4.2	4.9	1.8	0.208	89	4,115,278	2.2
Myeloma	Total	13	196,195	6.6	8.0	6.3	0.024 >>	316	8,242,849	3.8
	Male	10	100,309	10.0	12.2	3.7	0.009 >>	185	4,127,571	4.5
	Female	3	95,886	3.1	3.7	2.6	0.954	131	4,115,278	3.2
Non-Hodgkin Lymphoma	Total	14	196,195	7.1	8.5	11.2	0.466	556	8,242,849	6.7
	Male	6	100,309	6.0	7.2	6.3	1.000	313	4,127,571	7.6
	Female	8	95,886	8.3	9.7	4.9	0.239	243	4,115,278	5.9
Oral Cavity and Pharynx	Total	6	196,195	3.1	3.7	4.3	0.532	217	8,242,849	2.6
	Male	5	100,309	5.0	6.1	2.9	0.348	147	4,127,571	3.6
	Female	1	95,886	1.0	1.2	1.4	1.000	70	4,115,278	1.7
Ovary	Female	6	95,886	6.3	7.4	7.1	0.877	357	4,115,278	8.7
Pancreas	Total	15	196,195	7.6	9.2	21.1	0.216	1,064	8,242,849	12.9
	Male	7	100,309	7.0	8.5	11.7	0.210	585	4,127,571	14.2
	Female	8	95,886	8.3	9.8	9.5	0.791	479	4,115,278	11.6
Prostate	Male	18	100,309	17.9	22.1	18.1	1.000	917	4,127,571	22.2
Stomach	Total	4	196,195	2.0	2.4	4.1	1.000	206	8,242,849	2.5
	Male	2	100,309	2.0	2.4	2.4	1.000	120	4,127,571	2.9
	Female	2	95,886	2.1	2.4	1.7	1.000	86	4,115,278	2.1

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, 2019.

Cancer Screening and Risk Factors

The Bureau of Vital Records and Health Statistics (BVRHS), Division of Public Health, 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) with randomly selected adult Idahoans to measure population prevalences of risk factors for the major causes of death, including cancer, since 1984. BVRHS provided data sets containing Behavioral Risk Factor Surveillance System (BRFSS) data from 2011 through 2018 to CDRI staff, who performed the analyses reported in these *County Profiles*. Analysis weights were poststratified to 2018 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, 2011–2018

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 (2014–2018)	81.2%	80.6%	84.5%	74.6%	84.7%	75.5%	83.3%	83.8%	89.0%
Not See Doctor Due to Cost in Past Year (2014–2018)	14.3%	13.9%	12.2%	18.1%	13.6%	14.3%	12.5%	13.9%	11.0%
Cancer Screening									
Mammogram Past 2 Years, Age 50–74 (2014, 2016, 2018)	67.5%	66.8%	72.1%	63.2%	72.9%	61.0%	64.6%	66.8%	70.4%
Pap Test Past 3 Years, Cervix Intact Age 21–65 (2016, 2018)	72.5%	74.8%	74.3%	72.1%	73.0%	71.7%	72.7%	68.6%	79.2%
Colorectal Cancer Screening, Age 50–75 (2016, 2018)	65.4%	64.9%	71.3%	62.6%	68.9%	60.3%	62.1%	65.3%	74.9%
Tobacco Use									
Current Smoker (2014–2018)	14.6%	17.1%	15.1%	16.8%	13.1%	16.2%	14.4%	10.4%	11.8%
Current Smokeless Tobacco User, Males (2014–2018)	9.5%	10.6%	14.0%	11.1%	8.4%	8.9%	8.4%	7.3%	11.8%
Other Cancer-Related									
Sunburn in Previous 12 Months (2018)	47.7%	42.3%	49.0%	41.6%	50.8%	42.8%	49.9%	56.6%	57.1%
Artificial Tanning Appliance Use (2011, 2014, 2016)	4.4%	5.5%	3.3%	3.3%	3.4%	4.2%	5.7%	6.8%	2.7%
Healthy Weight by Body Mass Index, Age 20+ (2014–2018)	32.6%	34.2%	32.9%	27.0%	36.3%	31.1%	29.4%	32.4%	37.8%
Meet Physical Activity Guidelines (2011, 2013, 2015, 2017)	22.1%	22.1%	19.9%	20.6%	26.1%	18.8%	20.0%	20.1%	26.6%
Home Ever Tested for Radon (2016, 2018)	22.7%	29.7%	19.5%	16.3%	24.1%	20.2%	23.3%	22.7%	25.4%

Access to Care

Have Health Insurance – 2014–2018
Statewide, 81.2% of adults aged 18–64 reported having health care coverage. Health care coverage differed significantly by race/ethnicity, with 84.5% of white non-Hispanics, compared to 59.8% of Hispanics and 79.9% of Native Americans, having health insurance. Spanish-speaking respondents were significantly less likely to be insured (33.1%) than English-speaking respondents (83.1%). Health care coverage differed significantly by age of respondent, with 76.4% of persons aged 30–39, and 86.5% of persons aged 50–64, having health insurance. Health care coverage differed significantly by county, with a range of 57.4% in Adams County to 91.7% in Oneida County having health insurance.

Not See Doctor Due to Cost in Past Year – 2014–2018
Statewide, 14.3% 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 (13.2% of white non-Hispanics, 21.4% of Hispanics, and 23.1% of Native Americans). Inability to see a doctor due to cost differed significantly by annual household income (27.4% for less than $15,000, 6.7% for greater than $50,000). Inability to see a doctor due to cost differed significantly by county, with a range of 7.0% in Caribou County to 20.2% in Jerome County.

Cancer Screening

Mammogram – 2014, 2016, 2018
Statewide, 67.5% 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 (70.7% versus 34.0%). Mammography rates differed significantly by county, with a range in screening of 47.3% in Gooding County to 77.5% in Nez Perce County. In 2018, Idaho ranked 49th among states and the District of Columbia for mammography screening rates among women aged 50–74 and 50th among ages 40+.

Pap Test – 2016, 2018
Statewide, 72.5% 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 (77.3% versus 54.2% screened in the past 3 years). Pap screening differed significantly by county, with a range of 60.5% in Idaho County to 79.2% in Latah County. In 2018, Idaho ranked 51st among states and the District of Columbia for Pap screening rate.

Colorectal Cancer Screening – 2016, 2018
Statewide, 65.4% of adults aged 50–75 reported receiving colorectal cancer screening based on the most recent guidelines.** Persons with health insurance were over twice as likely to be current for colorectal cancer screening. In 2018, Idaho ranked 41st 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 Smoking – 2014–2018
Statewide, 14.6% of adults aged 18 and older were current smokers. Smoking prevalence differed significantly by age of respondent, with 19.2% of persons aged 30–39, and 8.4% of persons aged 65 and older reporting current smoking. Smoking prevalence was lower among white non-Hispanics (14.7%) than among Native Americans (32.4%). Smoking prevalence differed significantly by county, with a range of 4.3% in Madison County to 32.7% in Adams County. Counties with higher rates of current smoking had higher rates of lung cancer.

Smokeless Tobacco Use, Males – 2014–2018
Statewide, 9.5% of males aged 18 and older were current users of smokeless tobacco. Smokeless tobacco use differed significantly by age group, ranging from 12.8% of males aged 30–39 to 4.0% of males aged 65 and older. Smokeless tobacco use differed significantly by county, with a range of 3.4% in Franklin County to 21.1% in Custer County. Counties with higher rates of smokeless tobacco use had higher rates of oral cavity & pharynx cancer.

Other Cancer-Related

Sun Exposure – 2018
Statewide, 47.7% of adults aged 18 and older reported having sunburn in the past 12 months. Sunburn rates were higher for white non-Hispanics (49.6%) and Native Americans (48.7%) than for Hispanics (35.2%). Sunburn rates differed significantly by age group, with 67.2% of persons aged 30–39 and 17.9% of persons aged 65 and older having sunburn in the past 12 months. Sunburn rates differed significantly by county, with a range of 36.7% in Idaho County to 72.9% in Madison County having sunburn in the past 12 months.

Artificial Tanning Appliance Use – 2011, 2014, 2016
Statewide, 4.4% of adults aged 18 and older reported using an artificial tanning appliance, such as a tanning bed, in the past 12 months. Females (6.8%) were significantly more likely than males (2.1%) to have used an artificial tanning appliance in the past 12 months. Tanning appliance use differed significantly by age group, with 8.7% of persons aged 18–29 and 0.9% of persons aged 65 and older, using an appliance in the past 12 months. Tanning appliance use differed by county, with a range of less than 1% in Oneida, Power, and Valley Counties to over 9% in Bear Lake and Fremont Counties using an artificial tanning appliance in the past 12 months.

Healthy Weight by Body Mass Index – 2014–2018
Statewide, 32.6% 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 33.3% of white non-Hispanics, compared to 26.0% of Hispanics and 26.8% of Native Americans, being in the healthy weight range. Males (25.7%) were significantly less likely to be in the healthy weight range than females (39.4%). BMI differed significantly by age of respondent, with 45.0% of persons aged 18–29, and 27.1% of persons aged 50–64, being in the healthy weight range. BMI differed significantly by county, with a range of 19.5% in Minidoka County to 52.8% in Blaine County of adults being in the healthy weight range.

Physical Activity – 2011, 2013, 2015, 2017
Statewide, 22.1% of adults aged 18 and older met aerobic and strength physical activity guidelines during the past month or week. Physical activity differed significantly by age of respondent, with 26.3% of persons aged 18–29, and 19.3% of persons aged 50–64, meeting guidelines. The percentage of adults meeting physical activity guidelines differed significantly by county, with a range of 7.6% in Oneida County to 31.1% in Blaine County.

Home Radon Testing – 2016, 2018
Statewide, 22.7% of adults have ever tested their house for radon. Radon test usage varied significantly by race/ethnicity, with 24.7% of white non-Hispanics, 5.3% of Hispanics, and 27.9% 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 8.0% in Cassia County to 58.0% in Blaine County.

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LEMHI COUNTY CANCER PROFILE

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

Cancer Incidence 2013–2017
Cancer Mortality 2014–2018
BRFSS 2011–2018

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 are due to personal lifestyle factors, such as smoking and sedentary lifestyle, and are preventable. Additional cancers are 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. 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.

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://health.gov/dietaryguidelines/2015.

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
615 N. 7th Street
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/contact-center

American Cancer Society
2676 S. Vista Avenue
Boise, ID 83705
208-343-4609
https://www.cancer.org

CANCER INCIDENCE 2013–2017

Nearly one in two Idahoans are estimated to develop cancer during their lifetime. During 2013–2017, 40,996 cases of invasive cancer were diagnosed among Idaho residents, and 336 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, 2013–2017

Cancer Incidence 2013–2017	Lemhi County	State of Idaho
All Sites/Types	**336**	**40,996**
Female Breast	**49**	**5,956**
Prostate	**60**	**5,027**
Lung & Bronchus	**34**	**4,657**
Colorectal	**37**	**3,235**

Table 3 (*Cancer Incidence 2013–2017, 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 rate of invasive cancer incidence in Lemhi County was 867.2 cases per 100,000 person-years per year during 2013–2017. Comparing this crude rate with the crude rate for the remainder of Idaho (492.4) 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 528.8 cases per 100,000 persons per year during 2013–2017. There were more cases of cancer in Lemhi County (336) than expected (312.9) 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 2014–2018

During 2014–2018, cancer was the second leading cause of death in Idaho; 14,585 Idaho residents and 129 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, 2014–2018

Mortality 2014–2018	Lemhi County	State of Idaho
All Deaths	**543**	**67,280**
Cancer Deaths	**129**	**14,585**
% of All Deaths	*23.8%*	*21.7%*
Lung & Bronchus	**33**	**3,125**
Colorectal	**11**	**1,226**
Pancreas	**6**	**1,079**
Female Breast	**8**	**1,077**
Prostate	**11**	**935**

Table 4 (*Cancer Mortality 2014–2018, 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 186.0 deaths per 100,000 persons per year during 2014–2018, compared with 172.1 for the remainder of the state. There were more cancer deaths in Lemhi County (129) than expected (119.3) 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 2013–2017
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	336	38,744	867.2	528.8	312.9	0.203	40,660	8,257,622	492.4
	Male	198	19,686	1,005.8	560.0	179.5	0.182	20,999	4,136,309	507.7
	Female	138	19,058	724.1	478.6	137.5	0.992	19,661	4,121,313	477.1
Bladder	Total	20	38,744	51.6	28.6	16.9	0.507	1,995	8,257,622	24.2
	Male	16	19,686	81.3	41.7	14.4	0.744	1,554	4,136,309	37.6
	Female	4	19,058	21.0	12.6	3.4	0.885	441	4,121,313	10.7
Brain - malignant	Total	5	38,744	12.9	9.2	4.0	0.738	605	8,257,622	7.3
	Male	4	19,686	20.3	13.4	2.6	0.548	367	4,136,309	8.9
	Female	1	19,058	5.2	4.1	1.4	1.000	238	4,121,313	5.8
Brain and other CNS - non-malignant	Total	6	38,744	15.5	10.4	7.4	0.780	1,066	8,257,622	12.9
	Male	4	19,686	20.3	13.2	2.6	0.509	350	4,136,309	8.5
	Female	2	19,058	10.5	7.3	4.7	0.295	716	4,121,313	17.4
Breast	Total	49	38,744	126.5	81.1	43.6	0.447	5,952	8,257,622	72.1
	Male	-	19,686	-	-	0.4	1.000	45	4,136,309	1.1
	Female	49	19,058	257.1	172.0	40.8	0.234	5,907	4,121,313	143.3
Breast - in situ	Total	8	38,744	20.6	14.0	7.3	0.892	1,056	8,257,622	12.8
	Male	-	19,686	-	-	0.0	1.000	3	4,136,309	0.1
	Female	8	19,058	42.0	29.4	7.0	0.790	1,053	4,121,313	25.6
Cervix	Female	1	19,058	5.2	4.7	1.3	1.000	258	4,121,313	6.3
Colorectal	Total	37	38,744	95.5	58.3	24.6	0.023 >>	3,198	8,257,622	38.7
	Male	20	19,686	101.6	58.5	14.2	0.167	1,715	4,136,309	41.5
	Female	17	19,058	89.2	57.4	10.7	0.088	1,483	4,121,313	36.0
Corpus Uteri	Female	7	19,058	36.7	24.2	8.4	0.788	1,202	4,121,313	29.2
Esophagus	Total	5	38,744	12.9	7.5	3.8	0.647	464	8,257,622	5.6
	Male	4	19,686	20.3	11.2	3.3	0.842	384	4,136,309	9.3
	Female	1	19,058	5.2	3.1	0.6	0.931	80	4,121,313	1.9
Hodgkin Lymphoma	Total	1	38,744	2.6	2.4	1.0	1.000	198	8,257,622	2.4
	Male	1	19,686	5.1	4.9	0.5	0.825	107	4,136,309	2.6
	Female	-	19,058	-	-	0.4	1.000	91	4,121,313	2.2
Kidney and Renal Pelvis	Total	14	38,744	36.1	22.1	11.8	0.600	1,540	8,257,622	18.6
	Male	10	19,686	50.8	29.2	8.2	0.604	985	4,136,309	23.8
	Female	4	19,058	21.0	13.6	4.0	1.000	555	4,121,313	13.5
Larynx	Total	2	38,744	5.2	3.0	1.7	0.986	207	8,257,622	2.5
	Male	2	19,686	10.2	5.5	1.5	0.856	166	4,136,309	4.0
	Female	-	19,058	-	-	0.3	1.000	41	4,121,313	1.0
Leukemia	Total	8	38,744	20.6	12.8	11.2	0.433	1,478	8,257,622	17.9
	Male	5	19,686	25.4	14.7	7.2	0.556	876	4,136,309	21.2
	Female	3	19,058	15.7	10.4	4.2	0.791	602	4,121,313	14.6
Liver and Bile Duct	Total	4	38,744	10.3	6.1	5.8	0.637	729	8,257,622	8.8
	Male	2	19,686	10.2	5.8	4.4	0.361	530	4,136,309	12.8
	Female	2	19,058	10.5	6.5	1.5	0.870	199	4,121,313	4.8
Lung and Bronchus	Total	34	38,744	87.8	48.8	39.0	0.479	4,623	8,257,622	56.0
	Male	23	19,686	116.8	60.0	22.1	0.897	2,379	4,136,309	57.5
	Female	11	19,058	57.7	34.6	17.3	0.147	2,244	4,121,313	54.4
Melanoma of the Skin	Total	18	38,744	46.5	30.4	18.0	1.000	2,508	8,257,622	30.4
	Male	14	19,686	71.1	41.9	11.8	0.586	1,455	4,136,309	35.2
	Female	4	19,058	21.0	15.3	6.7	0.405	1,053	4,121,313	25.6
Myeloma	Total	3	38,744	7.7	4.4	5.0	0.519	605	8,257,622	7.3
	Male	3	19,686	15.2	7.9	3.2	1.000	354	4,136,309	8.6
	Female	-	19,058	-	-	1.9	0.298	251	4,121,313	6.1
Non-Hodgkin Lymphoma	Total	12	38,744	31.0	18.6	13.7	0.772	1,761	8,257,622	21.3
	Male	7	19,686	35.6	20.1	8.4	0.794	1,000	4,136,309	24.2
	Female	5	19,058	26.2	16.7	5.5	1.000	761	4,121,313	18.5
Oral Cavity and Pharynx	Total	13	38,744	33.6	20.7	8.8	0.216	1,155	8,257,622	14.0
	Male	11	19,686	55.9	32.9	6.6	0.145	815	4,136,309	19.7
	Female	2	19,058	10.5	6.9	2.4	1.000	340	4,121,313	8.2
Ovary	Female	5	19,058	26.2	17.5	3.6	0.574	514	4,121,313	12.5
Pancreas	Total	9	38,744	23.2	13.2	10.7	0.758	1,295	8,257,622	15.7
	Male	8	19,686	40.6	21.9	6.1	0.551	694	4,136,309	16.8
	Female	1	19,058	5.2	3.2	4.6	0.112	601	4,121,313	14.6
Prostate	Male	60	19,686	304.8	163.2	44.1	0.027 >>	4,967	4,136,309	120.1
Stomach	Total	4	38,744	10.3	6.1	3.8	1.000	484	8,257,622	5.9
	Male	2	19,686	10.2	5.6	2.7	0.973	316	4,136,309	7.6
	Female	2	19,058	10.5	6.7	1.2	0.693	168	4,121,313	4.1
Testis	Male	-	19,686	-	-	1.0	0.740	267	4,136,309	6.5
Thyroid	Total	7	38,744	18.1	15.1	7.0	1.000	1,249	8,257,622	15.1
	Male	-	19,686	-	-	2.1	0.233	332	4,136,309	8.0
	Female	7	19,058	36.7	32.0	4.9	0.435	917	4,121,313	22.3
Pediatric Age 0 to 19	Total	1	7,778	12.9	12.9	1.4	1.000	434	2,392,744	18.1
	Male	-	4,089	-	-	0.8	0.911	234	1,221,813	19.2
	Female	1	3,689	27.1	27.2	0.6	0.933	200	1,170,931	17.1

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

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

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

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

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

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

TABLE 4: CANCER MORTALITY 2014–2018
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	543	38,990	1,392.7	792.6	544.3	0.978	66,737	8,400,054	794.5
	Male	305	19,794	1,540.9	832.6	303.6	0.953	34,881	4,208,086	828.9
	Female	238	19,196	1,239.8	735.3	246.0	0.639	31,856	4,191,968	759.9
All Malignant Cancers	Total	129	38,990	330.9	186.0	119.3	0.399	14,456	8,400,054	172.1
	Male	78	19,794	394.1	204.3	71.0	0.434	7,823	4,208,086	185.9
	Female	51	19,196	265.7	160.4	50.3	0.961	6,633	4,191,968	158.2
Bladder	Total	6	38,990	15.4	8.2	3.7	0.333	420	8,400,054	5.0
	Male	4	19,794	20.2	9.8	3.1	0.732	315	4,208,086	7.5
	Female	2	19,196	10.4	6.0	0.8	0.410	105	4,191,968	2.5
Brain and Other Nervous System	Total	4	38,990	10.3	6.5	3.6	0.986	493	8,400,054	5.9
	Male	3	19,794	15.2	9.1	2.4	0.885	312	4,208,086	7.4
	Female	1	19,196	5.2	3.4	1.3	1.000	181	4,191,968	4.3
Breast	Total	8	38,990	20.5	12.1	8.5	1.000	1,079	8,400,054	12.8
	Male	-	19,794	-	-	0.1	1.000	10	4,208,086	0.2
	Female	8	19,196	41.7	25.9	7.9	1.000	1,069	4,191,968	25.5
Cervix	Female	-	19,196	-	-	0.5	1.000	80	4,191,968	1.9
Colorectal	Total	11	38,990	28.2	16.3	9.8	0.779	1,215	8,400,054	14.5
	Male	7	19,794	35.4	19.3	5.7	0.676	655	4,208,086	15.6
	Female	4	19,196	20.8	12.6	4.2	1.000	560	4,191,968	13.4
Corpus Uteri	Female	-	19,196	-	-	1.2	0.617	153	4,191,968	3.6
Esophagus	Total	3	38,990	7.7	4.3	3.8	0.928	468	8,400,054	5.6
	Male	3	19,794	15.2	8.1	3.3	1.000	377	4,208,086	9.0
	Female	-	19,196	-	-	0.7	0.994	91	4,191,968	2.2
Hodgkin Lymphoma	Total	-	38,990	-	-	0.1	1.000	21	8,400,054	0.2
	Male	-	19,794	-	-	0.1	1.000	8	4,208,086	0.2
	Female	-	19,196	-	-	0.1	1.000	13	4,191,968	0.3
Kidney	Total	5	38,990	12.8	7.2	3.0	0.378	365	8,400,054	4.3
	Male	4	19,794	20.2	10.7	2.1	0.331	238	4,208,086	5.7
	Female	1	19,196	5.2	3.1	1.0	1.000	127	4,191,968	3.0
Larynx	Total	-	38,990	-	-	0.5	1.000	63	8,400,054	0.7
	Male	-	19,794	-	-	0.5	1.000	53	4,208,086	1.3
	Female	-	19,196	-	-	0.1	1.000	10	4,191,968	0.2
Leukemia	Total	8	38,990	20.5	11.5	5.0	0.273	608	8,400,054	7.2
	Male	3	19,794	15.2	7.8	3.2	1.000	355	4,208,086	8.4
	Female	5	19,196	26.0	15.8	1.9	0.089	253	4,191,968	6.0
Liver and Bile Duct	Total	2	38,990	5.1	2.9	4.8	0.277	596	8,400,054	7.1
	Male	1	19,794	5.1	2.7	3.6	0.253	411	4,208,086	9.8
	Female	1	19,196	5.2	3.2	1.4	1.000	185	4,191,968	4.4
Lung and Bronchus	Total	33	38,990	84.6	46.4	26.2	0.223	3,092	8,400,054	36.8
	Male	19	19,794	96.0	48.6	15.3	0.407	1,648	4,208,086	39.2
	Female	14	19,196	72.9	43.0	11.2	0.477	1,444	4,191,968	34.4
Melanoma of the Skin	Total	1	38,990	2.6	1.5	2.2	0.719	279	8,400,054	3.3
	Male	1	19,794	5.1	2.8	1.6	1.000	186	4,208,086	4.4
	Female	-	19,196	-	-	0.7	1.000	93	4,191,968	2.2
Myeloma	Total	-	38,990	-	-	2.8	0.117	329	8,400,054	3.9
	Male	-	19,794	-	-	1.8	0.318	195	4,208,086	4.6
	Female	-	19,196	-	-	1.1	0.693	134	4,191,968	3.2
Non-Hodgkin Lymphoma	Total	5	38,990	12.8	6.9	4.9	1.000	565	8,400,054	6.7
	Male	4	19,794	20.2	10.2	2.9	0.683	315	4,208,086	7.5
	Female	1	19,196	5.2	3.0	2.0	0.805	250	4,191,968	6.0
Oral Cavity and Pharynx	Total	4	38,990	10.3	5.9	1.8	0.209	219	8,400,054	2.6
	Male	3	19,794	15.2	8.3	1.3	0.278	149	4,208,086	3.5
	Female	1	19,196	5.2	3.1	0.5	0.830	70	4,191,968	1.7
Ovary	Female	4	19,196	20.8	12.7	2.7	0.570	359	4,191,968	8.6
Pancreas	Total	6	38,990	15.4	8.6	8.9	0.427	1,073	8,400,054	12.8
	Male	6	19,794	30.3	16.0	5.2	0.841	586	4,208,086	13.9
	Female	-	19,196	-	-	3.8	0.045 <<	487	4,191,968	11.6
Prostate	Male	11	19,794	55.6	26.4	9.1	0.621	924	4,208,086	22.0
Stomach	Total	5	38,990	12.8	7.5	1.6	0.050 >>	205	8,400,054	2.4
	Male	1	19,794	5.1	2.8	1.0	1.000	121	4,208,086	2.9
	Female	4	19,196	20.8	13.0	0.6	0.007 >>	84	4,191,968	2.0

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, 2019.

Cancer Screening and Risk Factors

The Bureau of Vital Records and Health Statistics (BVRHS), Division of Public Health, 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) with randomly selected adult Idahoans to measure population prevalences of risk factors for the major causes of death, including cancer, since 1984. BVRHS provided data sets containing Behavioral Risk Factor Surveillance System (BRFSS) data from 2011 through 2018 to CDRI staff, who performed the analyses reported in these *County Profiles*. Analysis weights were poststratified to 2018 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, 2011–2018

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 (2014–2018)	81.2%	80.6%	84.5%	74.6%	84.7%	75.5%	83.3%	83.8%	79.3%
Not See Doctor Due to Cost in Past Year (2014–2018)	14.3%	13.9%	12.2%	18.1%	13.6%	14.3%	12.5%	13.9%	15.5%
Cancer Screening									
Mammogram Past 2 Years, Age 50–74 (2014, 2016, 2018)	67.5%	66.8%	72.1%	63.2%	72.9%	61.0%	64.6%	66.8%	49.9%
Pap Test Past 3 Years, Cervix Intact Age 21–65 (2016, 2018)	72.5%	74.8%	74.3%	72.1%	73.0%	71.7%	72.7%	68.6%	.
Colorectal Cancer Screening, Age 50–75 (2016, 2018)	65.4%	64.9%	71.3%	62.6%	68.9%	60.3%	62.1%	65.3%	52.5%
Tobacco Use									
Current Smoker (2014–2018)	14.6%	17.1%	15.1%	16.8%	13.1%	16.2%	14.4%	10.4%	20.3%
Current Smokeless Tobacco User, Males (2014–2018)	9.5%	10.6%	14.0%	11.1%	8.4%	8.9%	8.4%	7.3%	13.7%
Other Cancer-Related									
Sunburn in Previous 12 Months (2018)	47.7%	42.3%	49.0%	41.6%	50.8%	42.8%	49.9%	56.6%	.
Artificial Tanning Appliance Use (2011, 2014, 2016)	4.4%	5.5%	3.3%	3.3%	3.4%	4.2%	5.7%	6.8%	4.0%
Healthy Weight by Body Mass Index, Age 20+ (2014–2018)	32.6%	34.2%	32.9%	27.0%	36.3%	31.1%	29.4%	32.4%	39.6%
Meet Physical Activity Guidelines (2011, 2013, 2015, 2017)	22.1%	22.1%	19.9%	20.6%	26.1%	18.8%	20.0%	20.1%	19.5%
Home Ever Tested for Radon (2016, 2018)	22.7%	29.7%	19.5%	16.3%	24.1%	20.2%	23.3%	22.7%	21.8%

Access to Care

Have Health Insurance – 2014–2018
Statewide, 81.2% of adults aged 18–64 reported having health care coverage. Health care coverage differed significantly by race/ethnicity, with 84.5% of white non-Hispanics, compared to 59.8% of Hispanics and 79.9% of Native Americans, having health insurance. Spanish-speaking respondents were significantly less likely to be insured (33.1%) than English-speaking respondents (83.1%). Health care coverage differed significantly by age of respondent, with 76.4% of persons aged 30–39, and 86.5% of persons aged 50–64, having health insurance. Health care coverage differed significantly by county, with a range of 57.4% in Adams County to 91.7% in Oneida County having health insurance.

Not See Doctor Due to Cost in Past Year – 2014–2018
Statewide, 14.3% 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 (13.2% of white non-Hispanics, 21.4% of Hispanics, and 23.1% of Native Americans). Inability to see a doctor due to cost differed significantly by annual household income (27.4% for less than $15,000, 6.7% for greater than $50,000). Inability to see a doctor due to cost differed significantly by county, with a range of 7.0% in Caribou County to 20.2% in Jerome County.

Cancer Screening

Mammogram – 2014, 2016, 2018
Statewide, 67.5% 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 (70.7% versus 34.0%). Mammography rates differed significantly by county, with a range in screening of 47.3% in Gooding County to 77.5% in Nez Perce County. In 2018, Idaho ranked 49th among states and the District of Columbia for mammography screening rates among women aged 50–74 and 50th among ages 40+.

Pap Test – 2016, 2018
Statewide, 72.5% 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 (77.3% versus 54.2% screened in the past 3 years). Pap screening differed significantly by county, with a range of 60.5% in Idaho County to 79.2% in Latah County. In 2018, Idaho ranked 51st among states and the District of Columbia for Pap screening rate.

Colorectal Cancer Screening – 2016, 2018
Statewide, 65.4% of adults aged 50–75 reported receiving colorectal cancer screening based on the most recent guidelines.** Persons with health insurance were over twice as likely to be current for colorectal cancer screening. In 2018, Idaho ranked 41st 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 Smoking – 2014–2018
Statewide, 14.6% of adults aged 18 and older were current smokers. Smoking prevalence differed significantly by age of respondent, with 19.2% of persons aged 30–39, and 8.4% of persons aged 65 and older reporting current smoking. Smoking prevalence was lower among white non-Hispanics (14.7%) than among Native Americans (32.4%). Smoking prevalence differed significantly by county, with a range of 4.3% in Madison County to 32.7% in Adams County. Counties with higher rates of current smoking had higher rates of lung cancer.

Smokeless Tobacco Use, Males – 2014–2018
Statewide, 9.5% of males aged 18 and older were current users of smokeless tobacco. Smokeless tobacco use differed significantly by age group, ranging from 12.8% of males aged 30–39 to 4.0% of males aged 65 and older. Smokeless tobacco use differed significantly by county, with a range of 3.4% in Franklin County to 21.1% in Custer County. Counties with higher rates of smokeless tobacco use had higher rates of oral cavity & pharynx cancer.

Other Cancer-Related

Sun Exposure – 2018
Statewide, 47.7% of adults aged 18 and older reported having sunburn in the past 12 months. Sunburn rates were higher for white non-Hispanics (49.6%) and Native Americans (48.7%) than for Hispanics (35.2%). Sunburn rates differed significantly by age group, with 67.2% of persons aged 30–39 and 17.9% of persons aged 65 and older having sunburn in the past 12 months. Sunburn rates differed significantly by county, with a range of 36.7% in Idaho County to 72.9% in Madison County having sunburn in the past 12 months.

Artificial Tanning Appliance Use – 2011, 2014, 2016
Statewide, 4.4% of adults aged 18 and older reported using an artificial tanning appliance, such as a tanning bed, in the past 12 months. Females (6.8%) were significantly more likely than males (2.1%) to have used an artificial tanning appliance in the past 12 months. Tanning appliance use differed significantly by age group, with 8.7% of persons aged 18–29 and 0.9% of persons aged 65 and older, using an appliance in the past 12 months. Tanning appliance use differed by county, with a range of less than 1% in Oneida, Power, and Valley Counties to over 9% in Bear Lake and Fremont Counties using an artificial tanning appliance in the past 12 months.

Healthy Weight by Body Mass Index – 2014–2018
Statewide, 32.6% 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 33.3% of white non-Hispanics, compared to 26.0% of Hispanics and 26.8% of Native Americans, being in the healthy weight range. Males (25.7%) were significantly less likely to be in the healthy weight range than females (39.4%). BMI differed significantly by age of respondent, with 45.0% of persons aged 18–29, and 27.1% of persons aged 50–64, being in the healthy weight range. BMI differed significantly by county, with a range of 19.5% in Minidoka County to 52.8% in Blaine County of adults being in the healthy weight range.

Physical Activity – 2011, 2013, 2015, 2017
Statewide, 22.1% of adults aged 18 and older met aerobic and strength physical activity guidelines during the past month or week. Physical activity differed significantly by age of respondent, with 26.3% of persons aged 18–29, and 19.3% of persons aged 50–64, meeting guidelines. The percentage of adults meeting physical activity guidelines differed significantly by county, with a range of 7.6% in Oneida County to 31.1% in Blaine County.

Home Radon Testing – 2016, 2018
Statewide, 22.7% of adults have ever tested their house for radon. Radon test usage varied significantly by race/ethnicity, with 24.7% of white non-Hispanics, 5.3% of Hispanics, and 27.9% 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 8.0% in Cassia County to 58.0% in Blaine County.

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LEWIS COUNTY CANCER PROFILE

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

Cancer Incidence 2013–2017
Cancer Mortality 2014–2018
BRFSS 2011–2018

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 are due to personal lifestyle factors, such as smoking and sedentary lifestyle, and are preventable. Additional cancers are 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. 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.

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://health.gov/dietaryguidelines/2015.

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
615 N. 7th Street
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/contact-center

American Cancer Society
2676 S. Vista Avenue
Boise, ID 83705
208-343-4609
https://www.cancer.org

CANCER INCIDENCE 2013–2017

Nearly one in two Idahoans are estimated to develop cancer during their lifetime. During 2013–2017, 40,996 cases of invasive cancer were diagnosed among Idaho residents, and 128 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, 2013–2017

Cancer Incidence 2013–2017	Lewis County	State of Idaho
All Sites/Types	**128**	**40,996**
Female Breast	**17**	**5,956**
Prostate	**14**	**5,027**
Lung & Bronchus	**25**	**4,657**
Colorectal	**8**	**3,235**

Table 3 (*Cancer Incidence 2013–2017, 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 rate of invasive cancer incidence in Lewis County was 667.8 cases per 100,000 person-years per year during 2013–2017. Comparing this crude rate with the crude rate for the remainder of Idaho (493.7) 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 454.2 cases per 100,000 persons per year during 2013–2017. There were fewer cases of cancer in Lewis County (128) than expected (139.1) 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 2014–2018

During 2014–2018, cancer was the second leading cause of death in Idaho; 14,585 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, 2014–2018

Mortality 2014–2018	Lewis County	State of Idaho
All Deaths	**225**	**67,280**
Cancer Deaths	**55**	**14,585**
% of All Deaths	*24.4%*	*21.7%*
Lung & Bronchus	**19**	**3,125**
Colorectal	**4**	**1,226**
Pancreas	**3**	**1,079**
Female Breast	**0**	**1,077**
Prostate	**7**	**935**

Table 4 (*Cancer Mortality 2014–2018, Comparison between Lewis County and the Remainder of the State of Idaho*) shows the number of observed deaths, person-years, crude rates, age- and sex-adjusted rates, expected number of deaths based upon age- and sex-specific rates in the remainder of Idaho, and p-values for tests comparing the number of observed and expected deaths for Lewis County. The table also shows the number of observed deaths, person-years, and crude rates for the remainder of the state of Idaho. Comparisons between the county and the remainder of the state were made for all deaths, all cancer deaths, and 21 specific cancer types. Separate comparisons for males, females, and both sexes combined are included.

The age- and sex-adjusted cancer mortality rate for Lewis County, all sites combined, was 180.1 deaths per 100,000 persons per year during 2014–2018, compared with 172.6 for the remainder of the state. There were more cancer deaths in Lewis County (55) than expected (52.7) 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 2013–2017
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	128	19,167	667.8	454.2	139.1	0.369	40,868	8,277,199	493.7
	Male	84	9,587	876.2	559.3	76.5	0.418	21,113	4,146,408	509.2
	Female	44	9,580	459.3	331.7	63.4	0.013 <<	19,755	4,130,791	478.2
Bladder	Total	5	19,167	26.1	16.2	7.5	0.486	2,010	8,277,199	24.3
	Male	4	9,587	41.7	24.8	6.1	0.543	1,566	4,146,408	37.8
	Female	1	9,580	10.4	6.9	1.6	1.000	444	4,130,791	10.7
Brain - malignant	Total	2	19,167	10.4	8.0	1.8	1.000	608	8,277,199	7.3
	Male	2	9,587	20.9	15.2	1.2	0.655	369	4,146,408	8.9
	Female	-	9,580	-	-	0.7	1.000	239	4,130,791	5.8
Brain and other CNS - non-malignant	Total	2	19,167	10.4	7.8	3.3	0.708	1,070	8,277,199	12.9
	Male	1	9,587	10.4	7.7	1.1	1.000	353	4,146,408	8.5
	Female	1	9,580	10.4	7.9	2.2	0.715	717	4,130,791	17.4
Breast	Total	17	19,167	88.7	63.4	19.4	0.693	5,984	8,277,199	72.3
	Male	-	9,587	-	-	0.2	1.000	45	4,146,408	1.1
	Female	17	9,580	177.5	130.9	18.7	0.815	5,939	4,130,791	143.8
Breast - in situ	Total	3	19,167	15.7	11.9	3.2	1.000	1,061	8,277,199	12.8
	Male	-	9,587	-	-	0.0	1.000	3	4,146,408	0.1
	Female	3	9,580	31.3	24.3	3.2	1.000	1,058	4,130,791	25.6
Cervix	Female	-	9,580	-	-	0.6	1.000	259	4,130,791	6.3
Colorectal	Total	8	19,167	41.7	28.2	11.0	0.455	3,227	8,277,199	39.0
	Male	7	9,587	73.0	47.7	6.1	0.826	1,728	4,146,408	41.7
	Female	1	9,580	10.4	7.3	5.0	0.082	1,499	4,130,791	36.3
Corpus Uteri	Female	1	9,580	10.4	7.8	3.8	0.223	1,208	4,130,791	29.2
Esophagus	Total	1	19,167	5.2	3.4	1.7	1.000	468	8,277,199	5.7
	Male	1	9,587	10.4	6.6	1.4	1.000	387	4,146,408	9.3
	Female	-	9,580	-	-	0.3	1.000	81	4,130,791	2.0
Hodgkin Lymphoma	Total	-	19,167	-	-	0.5	1.000	199	8,277,199	2.4
	Male	-	9,587	-	-	0.3	1.000	108	4,146,408	2.6
	Female	-	9,580	-	-	0.2	1.000	91	4,130,791	2.2
Kidney and Renal Pelvis	Total	7	19,167	36.5	24.9	5.3	0.553	1,547	8,277,199	18.7
	Male	5	9,587	52.2	34.4	3.5	0.538	990	4,146,408	23.9
	Female	2	9,580	20.9	14.7	1.8	1.000	557	4,130,791	13.5
Larynx	Total	-	19,167	-	-	0.7	0.958	209	8,277,199	2.5
	Male	-	9,587	-	-	0.6	1.000	168	4,146,408	4.1
	Female	-	9,580	-	-	0.1	1.000	41	4,130,791	1.0
Leukemia	Total	4	19,167	20.9	14.2	5.1	0.861	1,482	8,277,199	17.9
	Male	2	9,587	20.9	13.7	3.1	0.803	879	4,146,408	21.2
	Female	2	9,580	20.9	14.6	2.0	1.000	603	4,130,791	14.6
Liver and Bile Duct	Total	6	19,167	31.3	21.1	2.5	0.084	727	8,277,199	8.8
	Male	6	9,587	62.6	40.6	1.9	0.025 >>	526	4,146,408	12.7
	Female	-	9,580	-	-	0.7	1.000	201	4,130,791	4.9
Lung and Bronchus	Total	25	19,167	130.4	81.1	17.3	0.093	4,632	8,277,199	56.0
	Male	16	9,587	166.9	99.2	9.3	0.056	2,386	4,146,408	57.5
	Female	9	9,580	93.9	60.9	8.0	0.825	2,246	4,130,791	54.4
Melanoma of the Skin	Total	6	19,167	31.3	22.6	8.1	0.611	2,520	8,277,199	30.4
	Male	5	9,587	52.2	34.8	5.1	1.000	1,464	4,146,408	35.3
	Female	1	9,580	10.4	8.3	3.1	0.375	1,056	4,130,791	25.6
Myeloma	Total	6	19,167	31.3	19.7	2.2	0.051	602	8,277,199	7.3
	Male	4	9,587	41.7	25.2	1.3	0.096	353	4,146,408	8.5
	Female	2	9,580	20.9	13.6	0.9	0.443	249	4,130,791	6.0
Non-Hodgkin Lymphoma	Total	7	19,167	36.5	24.3	6.1	0.834	1,766	8,277,199	21.3
	Male	4	9,587	41.7	26.8	3.6	0.974	1,003	4,146,408	24.2
	Female	3	9,580	31.3	21.5	2.6	0.952	763	4,130,791	18.5
Oral Cavity and Pharynx	Total	3	19,167	15.7	10.9	3.9	0.911	1,165	8,277,199	14.1
	Male	2	9,587	20.9	13.9	2.9	0.914	824	4,146,408	19.9
	Female	1	9,580	10.4	7.5	1.1	1.000	341	4,130,791	8.3
Ovary	Female	1	9,580	10.4	7.6	1.7	1.000	518	4,130,791	12.5
Pancreas	Total	2	19,167	10.4	6.6	4.7	0.297	1,302	8,277,199	15.7
	Male	2	9,587	20.9	12.8	2.6	1.000	700	4,146,408	16.9
	Female	-	9,580	-	-	2.1	0.240	602	4,130,791	14.6
Prostate	Male	14	9,587	146.0	91.3	18.5	0.349	5,013	4,146,408	120.9
Stomach	Total	-	19,167	-	-	1.7	0.358	488	8,277,199	5.9
	Male	-	9,587	-	-	1.2	0.621	318	4,146,408	7.7
	Female	-	9,580	-	-	0.6	1.000	170	4,130,791	4.1
Testis	Male	-	9,587	-	-	0.5	1.000	267	4,146,408	6.4
Thyroid	Total	4	19,167	20.9	18.9	3.2	0.796	1,252	8,277,199	15.1
	Male	3	9,587	31.3	25.8	0.9	0.133	329	4,146,408	7.9
	Female	1	9,580	10.4	9.8	2.3	0.673	923	4,130,791	22.3
Pediatric Age 0 to 19	Total	-	4,826	-	-	0.9	0.842	435	2,395,696	18.2
	Male	-	2,460	-	-	0.5	1.000	234	1,223,442	19.1
	Female	-	2,366	-	-	0.4	1.000	201	1,172,254	17.1

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

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

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

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

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

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

TABLE 4: CANCER MORTALITY 2014–2018
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	225	19,225	1,170.4	743.0	241.2	0.313	67,055	8,419,819	796.4
	Male	113	9,644	1,171.7	720.9	130.3	0.135	35,073	4,218,236	831.5
	Female	112	9,581	1,169.0	760.3	112.1	1.000	31,982	4,201,583	761.2
All Malignant Cancers	Total	55	19,225	286.1	180.1	52.7	0.788	14,530	8,419,819	172.6
	Male	35	9,644	362.9	215.8	30.2	0.432	7,866	4,218,236	186.5
	Female	20	9,581	208.7	138.3	22.9	0.629	6,664	4,201,583	158.6
Bladder	Total	1	19,225	5.2	3.1	1.6	1.000	425	8,419,819	5.0
	Male	1	9,644	10.4	5.8	1.3	1.000	318	4,218,236	7.5
	Female	-	9,581	-	-	0.4	1.000	107	4,201,583	2.5
Brain and Other Nervous System	Total	4	19,225	20.8	14.6	1.6	0.160	493	8,419,819	5.9
	Male	4	9,644	41.5	27.8	1.1	0.046 >>	311	4,218,236	7.4
	Female	-	9,581	-	-	0.6	1.000	182	4,201,583	4.3
Breast	Total	-	19,225	-	-	3.8	0.046 <<	1,087	8,419,819	12.9
	Male	-	9,644	-	-	0.0	1.000	10	4,218,236	0.2
	Female	-	9,581	-	-	3.6	0.056	1,077	4,201,583	25.6
Cervix	Female	-	9,581	-	-	0.2	1.000	80	4,201,583	1.9
Colorectal	Total	4	19,225	20.8	13.4	4.3	1.000	1,222	8,419,819	14.5
	Male	3	9,644	31.1	19.3	2.4	0.879	659	4,218,236	15.6
	Female	1	9,581	10.4	6.9	1.9	0.851	563	4,201,583	13.4
Corpus Uteri	Female	-	9,581	-	-	0.5	1.000	153	4,201,583	3.6
Esophagus	Total	2	19,225	10.4	6.6	1.7	1.000	469	8,419,819	5.6
	Male	1	9,644	10.4	6.3	1.4	1.000	379	4,218,236	9.0
	Female	1	9,581	10.4	6.8	0.3	0.538	90	4,201,583	2.1
Hodgkin Lymphoma	Total	-	19,225	-	-	0.1	1.000	21	8,419,819	0.2
	Male	-	9,644	-	-	0.0	1.000	8	4,218,236	0.2
	Female	-	9,581	-	-	0.0	1.000	13	4,201,583	0.3
Kidney	Total	1	19,225	5.2	3.3	1.3	1.000	369	8,419,819	4.4
	Male	1	9,644	10.4	6.3	0.9	1.000	241	4,218,236	5.7
	Female	-	9,581	-	-	0.5	1.000	128	4,201,583	3.0
Larynx	Total	-	19,225	-	-	0.2	1.000	63	8,419,819	0.7
	Male	-	9,644	-	-	0.2	1.000	53	4,218,236	1.3
	Female	-	9,581	-	-	0.0	1.000	10	4,201,583	0.2
Leukemia	Total	1	19,225	5.2	3.2	2.3	0.682	615	8,419,819	7.3
	Male	-	9,644	-	-	1.4	0.504	358	4,218,236	8.5
	Female	1	9,581	10.4	6.8	0.9	1.000	257	4,201,583	6.1
Liver and Bile Duct	Total	4	19,225	20.8	13.4	2.1	0.326	594	8,419,819	7.1
	Male	4	9,644	41.5	25.6	1.5	0.135	408	4,218,236	9.7
	Female	-	9,581	-	-	0.6	1.000	186	4,201,583	4.4
Lung and Bronchus	Total	19	19,225	98.8	60.8	11.5	0.053	3,106	8,419,819	36.9
	Male	6	9,644	62.2	36.3	6.5	1.000	1,661	4,218,236	39.4
	Female	13	9,581	135.7	87.5	5.1	0.005 >>	1,445	4,201,583	34.4
Melanoma of the Skin	Total	-	19,225	-	-	1.0	0.759	280	8,419,819	3.3
	Male	-	9,644	-	-	0.7	1.000	187	4,218,236	4.4
	Female	-	9,581	-	-	0.3	1.000	93	4,201,583	2.2
Myeloma	Total	3	19,225	15.6	9.3	1.2	0.263	326	8,419,819	3.9
	Male	3	9,644	31.1	17.7	0.8	0.087	192	4,218,236	4.6
	Female	-	9,581	-	-	0.5	1.000	134	4,201,583	3.2
Non-Hodgkin Lymphoma	Total	1	19,225	5.2	3.1	2.2	0.730	569	8,419,819	6.8
	Male	-	9,644	-	-	1.3	0.571	319	4,218,236	7.6
	Female	1	9,581	10.4	6.5	0.9	1.000	250	4,201,583	6.0
Oral Cavity and Pharynx	Total	-	19,225	-	-	0.8	0.902	223	8,419,819	2.6
	Male	-	9,644	-	-	0.6	1.000	152	4,218,236	3.6
	Female	-	9,581	-	-	0.2	1.000	71	4,201,583	1.7
Ovary	Female	1	9,581	10.4	7.1	1.2	1.000	362	4,201,583	8.6
Pancreas	Total	3	19,225	15.6	9.8	3.9	0.896	1,076	8,419,819	12.8
	Male	3	9,644	31.1	18.8	2.2	0.771	589	4,218,236	14.0
	Female	-	9,581	-	-	1.7	0.359	487	4,201,583	11.6
Prostate	Male	7	9,644	72.6	40.1	3.8	0.189	928	4,218,236	22.0
Stomach	Total	-	19,225	-	-	0.7	0.956	210	8,419,819	2.5
	Male	-	9,644	-	-	0.4	1.000	122	4,218,236	2.9
	Female	-	9,581	-	-	0.3	1.000	88	4,201,583	2.1

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, 2019.

Cancer Screening and Risk Factors

The Bureau of Vital Records and Health Statistics (BVRHS), Division of Public Health, 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) with randomly selected adult Idahoans to measure population prevalences of risk factors for the major causes of death, including cancer, since 1984. BVRHS provided data sets containing Behavioral Risk Factor Surveillance System (BRFSS) data from 2011 through 2018 to CDRI staff, who performed the analyses reported in these *County Profiles*. Analysis weights were poststratified to 2018 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, 2011–2018

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 (2014–2018)	81.2%	80.6%	84.5%	74.6%	84.7%	75.5%	83.3%	83.8%	83.7%
Not See Doctor Due to Cost in Past Year (2014–2018)	14.3%	13.9%	12.2%	18.1%	13.6%	14.3%	12.5%	13.9%	11.9%
Cancer Screening									
Mammogram Past 2 Years, Age 50–74 (2014, 2016, 2018)	67.5%	66.8%	72.1%	63.2%	72.9%	61.0%	64.6%	66.8%	.
Pap Test Past 3 Years, Cervix Intact Age 21–65 (2016, 2018)	72.5%	74.8%	74.3%	72.1%	73.0%	71.7%	72.7%	68.6%	.
Colorectal Cancer Screening, Age 50–75 (2016, 2018)	65.4%	64.9%	71.3%	62.6%	68.9%	60.3%	62.1%	65.3%	.
Tobacco Use									
Current Smoker (2014–2018)	14.6%	17.1%	15.1%	16.8%	13.1%	16.2%	14.4%	10.4%	22.9%
Current Smokeless Tobacco User, Males (2014–2018)	9.5%	10.6%	14.0%	11.1%	8.4%	8.9%	8.4%	7.3%	16.3%
Other Cancer-Related									
Sunburn in Previous 12 Months (2018)	47.7%	42.3%	49.0%	41.6%	50.8%	42.8%	49.9%	56.6%	.
Artificial Tanning Appliance Use (2011, 2014, 2016)	4.4%	5.5%	3.3%	3.3%	3.4%	4.2%	5.7%	6.8%	3.8%
Healthy Weight by Body Mass Index, Age 20+ (2014–2018)	32.6%	34.2%	32.9%	27.0%	36.3%	31.1%	29.4%	32.4%	27.5%
Meet Physical Activity Guidelines (2011, 2013, 2015, 2017)	22.1%	22.1%	19.9%	20.6%	26.1%	18.8%	20.0%	20.1%	15.8%
Home Ever Tested for Radon (2016, 2018)	22.7%	29.7%	19.5%	16.3%	24.1%	20.2%	23.3%	22.7%	16.2%

Access to Care

Have Health Insurance – 2014–2018
Statewide, 81.2% of adults aged 18–64 reported having health care coverage. Health care coverage differed significantly by race/ethnicity, with 84.5% of white non-Hispanics, compared to 59.8% of Hispanics and 79.9% of Native Americans, having health insurance. Spanish-speaking respondents were significantly less likely to be insured (33.1%) than English-speaking respondents (83.1%). Health care coverage differed significantly by age of respondent, with 76.4% of persons aged 30–39, and 86.5% of persons aged 50–64, having health insurance. Health care coverage differed significantly by county, with a range of 57.4% in Adams County to 91.7% in Oneida County having health insurance.

Not See Doctor Due to Cost in Past Year – 2014–2018
Statewide, 14.3% 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 (13.2% of white non-Hispanics, 21.4% of Hispanics, and 23.1% of Native Americans). Inability to see a doctor due to cost differed significantly by annual household income (27.4% for less than $15,000, 6.7% for greater than $50,000). Inability to see a doctor due to cost differed significantly by county, with a range of 7.0% in Caribou County to 20.2% in Jerome County.

Cancer Screening

Mammogram – 2014, 2016, 2018
Statewide, 67.5% 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 (70.7% versus 34.0%). Mammography rates differed significantly by county, with a range in screening of 47.3% in Gooding County to 77.5% in Nez Perce County. In 2018, Idaho ranked 49th among states and the District of Columbia for mammography screening rates among women aged 50–74 and 50th among ages 40+.

Pap Test – 2016, 2018
Statewide, 72.5% 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 (77.3% versus 54.2% screened in the past 3 years). Pap screening differed significantly by county, with a range of 60.5% in Idaho County to 79.2% in Latah County. In 2018, Idaho ranked 51st among states and the District of Columbia for Pap screening rate.

Colorectal Cancer Screening – 2016, 2018
Statewide, 65.4% of adults aged 50–75 reported receiving colorectal cancer screening based on the most recent guidelines.** Persons with health insurance were over twice as likely to be current for colorectal cancer screening. In 2018, Idaho ranked 41st 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 Smoking – 2014–2018
Statewide, 14.6% of adults aged 18 and older were current smokers. Smoking prevalence differed significantly by age of respondent, with 19.2% of persons aged 30–39, and 8.4% of persons aged 65 and older reporting current smoking. Smoking prevalence was lower among white non-Hispanics (14.7%) than among Native Americans (32.4%). Smoking prevalence differed significantly by county, with a range of 4.3% in Madison County to 32.7% in Adams County. Counties with higher rates of current smoking had higher rates of lung cancer.

Smokeless Tobacco Use, Males – 2014–2018
Statewide, 9.5% of males aged 18 and older were current users of smokeless tobacco. Smokeless tobacco use differed significantly by age group, ranging from 12.8% of males aged 30–39 to 4.0% of males aged 65 and older. Smokeless tobacco use differed significantly by county, with a range of 3.4% in Franklin County to 21.1% in Custer County. Counties with higher rates of smokeless tobacco use had higher rates of oral cavity & pharynx cancer.

Other Cancer-Related

Sun Exposure – 2018
Statewide, 47.7% of adults aged 18 and older reported having sunburn in the past 12 months. Sunburn rates were higher for white non-Hispanics (49.6%) and Native Americans (48.7%) than for Hispanics (35.2%). Sunburn rates differed significantly by age group, with 67.2% of persons aged 30–39 and 17.9% of persons aged 65 and older having sunburn in the past 12 months. Sunburn rates differed significantly by county, with a range of 36.7% in Idaho County to 72.9% in Madison County having sunburn in the past 12 months.

Artificial Tanning Appliance Use – 2011, 2014, 2016
Statewide, 4.4% of adults aged 18 and older reported using an artificial tanning appliance, such as a tanning bed, in the past 12 months. Females (6.8%) were significantly more likely than males (2.1%) to have used an artificial tanning appliance in the past 12 months. Tanning appliance use differed significantly by age group, with 8.7% of persons aged 18–29 and 0.9% of persons aged 65 and older, using an appliance in the past 12 months. Tanning appliance use differed by county, with a range of less than 1% in Oneida, Power, and Valley Counties to over 9% in Bear Lake and Fremont Counties using an artificial tanning appliance in the past 12 months.

Healthy Weight by Body Mass Index – 2014–2018
Statewide, 32.6% 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 33.3% of white non-Hispanics, compared to 26.0% of Hispanics and 26.8% of Native Americans, being in the healthy weight range. Males (25.7%) were significantly less likely to be in the healthy weight range than females (39.4%). BMI differed significantly by age of respondent, with 45.0% of persons aged 18–29, and 27.1% of persons aged 50–64, being in the healthy weight range. BMI differed significantly by county, with a range of 19.5% in Minidoka County to 52.8% in Blaine County of adults being in the healthy weight range.

Physical Activity – 2011, 2013, 2015, 2017
Statewide, 22.1% of adults aged 18 and older met aerobic and strength physical activity guidelines during the past month or week. Physical activity differed significantly by age of respondent, with 26.3% of persons aged 18–29, and 19.3% of persons aged 50–64, meeting guidelines. The percentage of adults meeting physical activity guidelines differed significantly by county, with a range of 7.6% in Oneida County to 31.1% in Blaine County.

Home Radon Testing – 2016, 2018
Statewide, 22.7% of adults have ever tested their house for radon. Radon test usage varied significantly by race/ethnicity, with 24.7% of white non-Hispanics, 5.3% of Hispanics, and 27.9% 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 8.0% in Cassia County to 58.0% in Blaine County.

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LINCOLN COUNTY CANCER PROFILE

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

Cancer Incidence 2013–2017
Cancer Mortality 2014–2018
BRFSS 2011–2018

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 are due to personal lifestyle factors, such as smoking and sedentary lifestyle, and are preventable. Additional cancers are 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. 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.

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://health.gov/dietaryguidelines/2015.

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
615 N. 7th Street
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/contact-center

American Cancer Society
2676 S. Vista Avenue
Boise, ID 83705
208-343-4609
https://www.cancer.org

CANCER INCIDENCE 2013–2017

Nearly one in two Idahoans are estimated to develop cancer during their lifetime. During 2013–2017, 40,996 cases of invasive cancer were diagnosed among Idaho residents, and 119 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, 2013–2017

Cancer Incidence 2013–2017	Lincoln County	State of Idaho
All Sites/Types	**119**	**40,996**
Female Breast	**14**	**5,956**
Prostate	**22**	**5,027**
Lung & Bronchus	**9**	**4,657**
Colorectal	**10**	**3,235**

Table 3 (*Cancer Incidence 2013–2017, 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 rate of invasive cancer incidence in Lincoln County was 447.8 cases per 100,000 person-years per year during 2013–2017. Comparing this crude rate with the crude rate for the remainder of Idaho (494.3) 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 497.4 cases per 100,000 persons per year during 2013–2017. There were more cases of cancer in Lincoln County (119) than expected (118.2) 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 2014–2018

During 2014–2018, cancer was the second leading cause of death in Idaho; 14,585 Idaho residents and 38 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, 2014–2018

Mortality 2014–2018	Lincoln County	State of Idaho
All Deaths	**186**	**67,280**
Cancer Deaths	**38**	**14,585**
% of All Deaths	*20.4%*	*21.7%*
Lung & Bronchus	**12**	**3,125**
Colorectal	**3**	**1,226**
Pancreas	**1**	**1,079**
Female Breast	**4**	**1,077**
Prostate	**2**	**935**

Table 4 (*Cancer Mortality 2014–2018, 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 161.0 deaths per 100,000 persons per year during 2014–2018, compared with 172.9 for the remainder of the state. There were fewer cancer deaths in Lincoln County (38) 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 2013–2017
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	119	26,573	447.8	497.4	118.2	0.969	40,877	8,269,793	494.3
	Male	67	13,799	485.5	526.5	64.9	0.828	21,130	4,142,196	510.1
	Female	52	12,774	407.1	459.3	54.2	0.838	19,747	4,127,597	478.4
Bladder	Total	5	26,573	18.8	21.5	5.7	1.000	2,010	8,269,793	24.3
	Male	5	13,799	36.2	39.7	4.8	1.000	1,565	4,142,196	37.8
	Female	-	12,774	-	-	1.2	0.618	445	4,127,597	10.8
Brain - malignant	Total	3	26,573	11.3	12.0	1.8	0.559	607	8,269,793	7.3
	Male	2	13,799	14.5	15.3	1.2	0.652	369	4,142,196	8.9
	Female	1	12,774	7.8	8.3	0.7	1.000	238	4,127,597	5.8
Brain and other CNS - non-malignant	Total	1	26,573	3.8	4.1	3.2	0.350	1,071	8,269,793	13.0
	Male	-	13,799	-	-	1.1	0.653	354	4,142,196	8.5
	Female	1	12,774	7.8	8.7	2.0	0.813	717	4,127,597	17.4
Breast	Total	14	26,573	52.7	57.9	17.5	0.483	5,987	8,269,793	72.4
	Male	-	13,799	-	-	0.1	1.000	45	4,142,196	1.1
	Female	14	12,774	109.6	122.9	16.4	0.662	5,942	4,127,597	144.0
Breast - in situ	Total	1	26,573	3.8	4.1	3.1	0.359	1,063	8,269,793	12.9
	Male	-	13,799	-	-	0.0	1.000	3	4,142,196	0.1
	Female	1	12,774	7.8	8.7	3.0	0.410	1,060	4,127,597	25.7
Cervix	Female	1	12,774	7.8	8.1	0.8	1.000	258	4,127,597	6.3
Colorectal	Total	10	26,573	37.6	41.7	9.3	0.917	3,225	8,269,793	39.0
	Male	8	13,799	58.0	62.3	5.4	0.346	1,727	4,142,196	41.7
	Female	2	12,774	15.7	17.9	4.1	0.457	1,498	4,127,597	36.3
Corpus Uteri	Female	5	12,774	39.1	43.9	3.3	0.484	1,204	4,127,597	29.2
Esophagus	Total	1	26,573	3.8	4.3	1.3	1.000	468	8,269,793	5.7
	Male	1	13,799	7.2	8.0	1.2	1.000	387	4,142,196	9.3
	Female	-	12,774	-	-	0.2	1.000	81	4,127,597	2.0
Hodgkin Lymphoma	Total	-	26,573	-	-	0.6	1.000	199	8,269,793	2.4
	Male	-	13,799	-	-	0.3	1.000	108	4,142,196	2.6
	Female	-	12,774	-	-	0.3	1.000	91	4,127,597	2.2
Kidney and Renal Pelvis	Total	7	26,573	26.3	29.2	4.5	0.334	1,547	8,269,793	18.7
	Male	5	13,799	36.2	39.1	3.1	0.389	990	4,142,196	23.9
	Female	2	12,774	15.7	17.8	1.5	0.896	557	4,127,597	13.5
Larynx	Total	1	26,573	3.8	4.2	0.6	0.903	208	8,269,793	2.5
	Male	1	13,799	7.2	7.9	0.5	0.802	167	4,142,196	4.0
	Female	-	12,774	-	-	0.1	1.000	41	4,127,597	1.0
Leukemia	Total	7	26,573	26.3	29.0	4.3	0.292	1,479	8,269,793	17.9
	Male	4	13,799	29.0	31.1	2.7	0.583	877	4,142,196	21.2
	Female	3	12,774	23.5	26.4	1.7	0.462	602	4,127,597	14.6
Liver and Bile Duct	Total	2	26,573	7.5	8.3	2.1	1.000	731	8,269,793	8.8
	Male	-	13,799	-	-	1.7	0.384	532	4,142,196	12.8
	Female	2	12,774	15.7	18.0	0.5	0.202	199	4,127,597	4.8
Lung and Bronchus	Total	9	26,573	33.9	38.6	13.1	0.316	4,648	8,269,793	56.2
	Male	6	13,799	43.5	47.8	7.3	0.824	2,396	4,142,196	57.8
	Female	3	12,774	23.5	27.5	6.0	0.309	2,252	4,127,597	54.6
Melanoma of the Skin	Total	7	26,573	26.3	28.8	7.4	1.000	2,519	8,269,793	30.5
	Male	3	13,799	21.7	23.3	4.6	0.663	1,466	4,142,196	35.4
	Female	4	12,774	31.3	34.5	3.0	0.688	1,053	4,127,597	25.5
Myeloma	Total	-	26,573	-	-	1.7	0.354	608	8,269,793	7.4
	Male	-	13,799	-	-	1.1	0.679	357	4,142,196	8.6
	Female	-	12,774	-	-	0.7	1.000	251	4,127,597	6.1
Non-Hodgkin Lymphoma	Total	2	26,573	7.5	8.4	5.1	0.233	1,771	8,269,793	21.4
	Male	2	13,799	14.5	15.7	3.1	0.805	1,005	4,142,196	24.3
	Female	-	12,774	-	-	2.1	0.253	766	4,127,597	18.6
Oral Cavity and Pharynx	Total	4	26,573	15.1	16.7	3.4	0.871	1,164	8,269,793	14.1
	Male	2	13,799	14.5	15.6	2.5	1.000	824	4,142,196	19.9
	Female	2	12,774	15.7	17.8	0.9	0.472	340	4,127,597	8.2
Ovary	Female	2	12,774	15.7	17.6	1.4	0.831	517	4,127,597	12.5
Pancreas	Total	2	26,573	7.5	8.5	3.7	0.574	1,302	8,269,793	15.7
	Male	-	13,799	-	-	2.1	0.237	702	4,142,196	16.9
	Female	2	12,774	15.7	18.3	1.6	0.943	600	4,127,597	14.5
Prostate	Male	22	13,799	159.4	174.1	15.3	0.123	5,005	4,142,196	120.8
Stomach	Total	2	26,573	7.5	8.4	1.4	0.813	486	8,269,793	5.9
	Male	1	13,799	7.2	7.8	1.0	1.000	317	4,142,196	7.7
	Female	1	12,774	7.8	9.0	0.5	0.730	169	4,127,597	4.1
Testis	Male	-	13,799	-	-	0.8	0.862	267	4,142,196	6.4
Thyroid	Total	2	26,573	7.5	7.9	3.8	0.533	1,254	8,269,793	15.2
	Male	-	13,799	-	-	1.0	0.702	332	4,142,196	8.0
	Female	2	12,774	15.7	16.6	2.7	0.988	922	4,127,597	22.3
Pediatric Age 0 to 19	Total	-	8,917	-	-	1.6	0.404	435	2,391,605	18.2
	Male	-	4,669	-	-	0.9	0.834	234	1,221,233	19.2
	Female	-	4,248	-	-	0.7	0.970	201	1,170,372	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 2014–2018
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	186	26,606	699.1	786.4	188.6	0.886	67,094	8,412,438	797.6
	Male	88	13,801	637.6	675.7	108.5	0.049 <<	35,098	4,214,079	832.9
	Female	98	12,805	765.3	912.2	81.9	0.090	31,996	4,198,359	762.1
All Malignant Cancers	Total	38	26,606	142.8	161.0	40.8	0.735	14,547	8,412,438	172.9
	Male	15	13,801	108.7	117.1	24.0	0.070	7,886	4,214,079	187.1
	Female	23	12,805	179.6	209.7	17.4	0.227	6,661	4,198,359	158.7
Bladder	Total	-	26,606	-	-	1.2	0.617	426	8,412,438	5.1
	Male	-	13,801	-	-	1.0	0.751	319	4,214,079	7.6
	Female	-	12,805	-	-	0.3	1.000	107	4,198,359	2.5
Brain and Other Nervous System	Total	1	26,606	3.8	4.1	1.4	1.000	496	8,412,438	5.9
	Male	-	13,801	-	-	1.0	0.763	315	4,214,079	7.5
	Female	1	12,805	7.8	8.7	0.5	0.778	181	4,198,359	4.3
Breast	Total	4	26,606	15.0	16.8	3.1	0.736	1,083	8,412,438	12.9
	Male	-	13,801	-	-	0.0	1.000	10	4,214,079	0.2
	Female	4	12,805	31.2	36.1	2.8	0.630	1,073	4,198,359	25.6
Cervix	Female	-	12,805	-	-	0.2	1.000	80	4,198,359	1.9
Colorectal	Total	3	26,606	11.3	12.6	3.5	1.000	1,223	8,412,438	14.5
	Male	1	13,801	7.2	7.7	2.0	0.796	661	4,214,079	15.7
	Female	2	12,805	15.6	18.4	1.5	0.856	562	4,198,359	13.4
Corpus Uteri	Female	1	12,805	7.8	9.1	0.4	0.659	152	4,198,359	3.6
Esophagus	Total	-	26,606	-	-	1.3	0.536	471	8,412,438	5.6
	Male	-	13,801	-	-	1.1	0.634	380	4,214,079	9.0
	Female	-	12,805	-	-	0.2	1.000	91	4,198,359	2.2
Hodgkin Lymphoma	Total	-	26,606	-	-	0.1	1.000	21	8,412,438	0.2
	Male	-	13,801	-	-	0.0	1.000	8	4,214,079	0.2
	Female	-	12,805	-	-	0.0	1.000	13	4,198,359	0.3
Kidney	Total	1	26,606	3.8	4.2	1.0	1.000	369	8,412,438	4.4
	Male	-	13,801	-	-	0.7	0.956	242	4,214,079	5.7
	Female	1	12,805	7.8	9.1	0.3	0.565	127	4,198,359	3.0
Larynx	Total	-	26,606	-	-	0.2	1.000	63	8,412,438	0.7
	Male	-	13,801	-	-	0.2	1.000	53	4,214,079	1.3
	Female	-	12,805	-	-	0.0	1.000	10	4,198,359	0.2
Leukemia	Total	1	26,606	3.8	4.2	1.7	0.972	615	8,412,438	7.3
	Male	1	13,801	7.2	7.8	1.1	1.000	357	4,214,079	8.5
	Female	-	12,805	-	-	0.7	1.000	258	4,198,359	6.1
Liver and Bile Duct	Total	1	26,606	3.8	4.2	1.7	0.991	597	8,412,438	7.1
	Male	-	13,801	-	-	1.2	0.575	412	4,214,079	9.8
	Female	1	12,805	7.8	9.0	0.5	0.772	185	4,198,359	4.4
Lung and Bronchus	Total	12	26,606	45.1	51.3	8.7	0.329	3,113	8,412,438	37.0
	Male	6	13,801	43.5	47.4	5.0	0.764	1,661	4,214,079	39.4
	Female	6	12,805	46.9	55.1	3.8	0.358	1,452	4,198,359	34.6
Melanoma of the Skin	Total	1	26,606	3.8	4.2	0.8	1.000	279	8,412,438	3.3
	Male	1	13,801	7.2	7.8	0.6	0.865	186	4,214,079	4.4
	Female	-	12,805	-	-	0.2	1.000	93	4,198,359	2.2
Myeloma	Total	-	26,606	-	-	0.9	0.801	329	8,412,438	3.9
	Male	-	13,801	-	-	0.6	1.000	195	4,214,079	4.6
	Female	-	12,805	-	-	0.3	1.000	134	4,198,359	3.2
Non-Hodgkin Lymphoma	Total	3	26,606	11.3	12.9	1.6	0.418	567	8,412,438	6.7
	Male	2	13,801	14.5	15.7	1.0	0.500	317	4,214,079	7.5
	Female	1	12,805	7.8	9.4	0.6	0.938	250	4,198,359	6.0
Oral Cavity and Pharynx	Total	1	26,606	3.8	4.2	0.6	0.933	222	8,412,438	2.6
	Male	-	13,801	-	-	0.5	1.000	152	4,214,079	3.6
	Female	1	12,805	7.8	9.1	0.2	0.335	70	4,198,359	1.7
Ovary	Female	-	12,805	-	-	1.0	0.765	363	4,198,359	8.6
Pancreas	Total	1	26,606	3.8	4.3	3.0	0.397	1,078	8,412,438	12.8
	Male	-	13,801	-	-	1.8	0.340	592	4,214,079	14.0
	Female	1	12,805	7.8	9.2	1.3	1.000	486	4,198,359	11.6
Prostate	Male	2	13,801	14.5	15.4	2.9	0.905	933	4,214,079	22.1
Stomach	Total	1	26,606	3.8	4.2	0.6	0.898	209	8,412,438	2.5
	Male	-	13,801	-	-	0.4	1.000	122	4,214,079	2.9
	Female	1	12,805	7.8	9.1	0.2	0.407	87	4,198,359	2.1

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, 2019.

Cancer Screening and Risk Factors

The Bureau of Vital Records and Health Statistics (BVRHS), Division of Public Health, 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) with randomly selected adult Idahoans to measure population prevalences of risk factors for the major causes of death, including cancer, since 1984. BVRHS provided data sets containing Behavioral Risk Factor Surveillance System (BRFSS) data from 2011 through 2018 to CDRI staff, who performed the analyses reported in these *County Profiles*. Analysis weights were poststratified to 2018 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, 2011–2018

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 (2014–2018)	81.2%	80.6%	84.5%	74.6%	84.7%	75.5%	83.3%	83.8%	74.7%
Not See Doctor Due to Cost in Past Year (2014–2018)	14.3%	13.9%	12.2%	18.1%	13.6%	14.3%	12.5%	13.9%	13.6%
Cancer Screening									
Mammogram Past 2 Years, Age 50–74 (2014, 2016, 2018)	67.5%	66.8%	72.1%	63.2%	72.9%	61.0%	64.6%	66.8%	.
Pap Test Past 3 Years, Cervix Intact Age 21–65 (2016, 2018)	72.5%	74.8%	74.3%	72.1%	73.0%	71.7%	72.7%	68.6%	.
Colorectal Cancer Screening, Age 50–75 (2016, 2018)	65.4%	64.9%	71.3%	62.6%	68.9%	60.3%	62.1%	65.3%	.
Tobacco Use									
Current Smoker (2014–2018)	14.6%	17.1%	15.1%	16.8%	13.1%	16.2%	14.4%	10.4%	13.5%
Current Smokeless Tobacco User, Males (2014–2018)	9.5%	10.6%	14.0%	11.1%	8.4%	8.9%	8.4%	7.3%	.
Other Cancer-Related									
Sunburn in Previous 12 Months (2018)	47.7%	42.3%	49.0%	41.6%	50.8%	42.8%	49.9%	56.6%	.
Artificial Tanning Appliance Use (2011, 2014, 2016)	4.4%	5.5%	3.3%	3.3%	3.4%	4.2%	5.7%	6.8%	6.0%
Healthy Weight by Body Mass Index, Age 20+ (2014–2018)	32.6%	34.2%	32.9%	27.0%	36.3%	31.1%	29.4%	32.4%	28.0%
Meet Physical Activity Guidelines (2011, 2013, 2015, 2017)	22.1%	22.1%	19.9%	20.6%	26.1%	18.8%	20.0%	20.1%	22.1%
Home Ever Tested for Radon (2016, 2018)	22.7%	29.7%	19.5%	16.3%	24.1%	20.2%	23.3%	22.7%	.

Access to Care

Have Health Insurance – 2014–2018
Statewide, 81.2% of adults aged 18–64 reported having health care coverage. Health care coverage differed significantly by race/ethnicity, with 84.5% of white non-Hispanics, compared to 59.8% of Hispanics and 79.9% of Native Americans, having health insurance. Spanish-speaking respondents were significantly less likely to be insured (33.1%) than English-speaking respondents (83.1%). Health care coverage differed significantly by age of respondent, with 76.4% of persons aged 30–39, and 86.5% of persons aged 50–64, having health insurance. Health care coverage differed significantly by county, with a range of 57.4% in Adams County to 91.7% in Oneida County having health insurance.

Not See Doctor Due to Cost in Past Year – 2014–2018
Statewide, 14.3% 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 (13.2% of white non-Hispanics, 21.4% of Hispanics, and 23.1% of Native Americans). Inability to see a doctor due to cost differed significantly by annual household income (27.4% for less than $15,000, 6.7% for greater than $50,000). Inability to see a doctor due to cost differed significantly by county, with a range of 7.0% in Caribou County to 20.2% in Jerome County.

Cancer Screening

Mammogram – 2014, 2016, 2018
Statewide, 67.5% 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 (70.7% versus 34.0%). Mammography rates differed significantly by county, with a range in screening of 47.3% in Gooding County to 77.5% in Nez Perce County. In 2018, Idaho ranked 49th among states and the District of Columbia for mammography screening rates among women aged 50–74 and 50th among ages 40+.

Pap Test – 2016, 2018
Statewide, 72.5% 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 (77.3% versus 54.2% screened in the past 3 years). Pap screening differed significantly by county, with a range of 60.5% in Idaho County to 79.2% in Latah County. In 2018, Idaho ranked 51st among states and the District of Columbia for Pap screening rate.

Colorectal Cancer Screening – 2016, 2018
Statewide, 65.4% of adults aged 50–75 reported receiving colorectal cancer screening based on the most recent guidelines.** Persons with health insurance were over twice as likely to be current for colorectal cancer screening. In 2018, Idaho ranked 41st 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 Smoking – 2014–2018
Statewide, 14.6% of adults aged 18 and older were current smokers. Smoking prevalence differed significantly by age of respondent, with 19.2% of persons aged 30–39, and 8.4% of persons aged 65 and older reporting current smoking. Smoking prevalence was lower among white non-Hispanics (14.7%) than among Native Americans (32.4%). Smoking prevalence differed significantly by county, with a range of 4.3% in Madison County to 32.7% in Adams County. Counties with higher rates of current smoking had higher rates of lung cancer.

Smokeless Tobacco Use, Males – 2014–2018
Statewide, 9.5% of males aged 18 and older were current users of smokeless tobacco. Smokeless tobacco use differed significantly by age group, ranging from 12.8% of males aged 30–39 to 4.0% of males aged 65 and older. Smokeless tobacco use differed significantly by county, with a range of 3.4% in Franklin County to 21.1% in Custer County. Counties with higher rates of smokeless tobacco use had higher rates of oral cavity & pharynx cancer.

Other Cancer-Related

Sun Exposure – 2018
Statewide, 47.7% of adults aged 18 and older reported having sunburn in the past 12 months. Sunburn rates were higher for white non-Hispanics (49.6%) and Native Americans (48.7%) than for Hispanics (35.2%). Sunburn rates differed significantly by age group, with 67.2% of persons aged 30–39 and 17.9% of persons aged 65 and older having sunburn in the past 12 months. Sunburn rates differed significantly by county, with a range of 36.7% in Idaho County to 72.9% in Madison County having sunburn in the past 12 months.

Artificial Tanning Appliance Use – 2011, 2014, 2016
Statewide, 4.4% of adults aged 18 and older reported using an artificial tanning appliance, such as a tanning bed, in the past 12 months. Females (6.8%) were significantly more likely than males (2.1%) to have used an artificial tanning appliance in the past 12 months. Tanning appliance use differed significantly by age group, with 8.7% of persons aged 18–29 and 0.9% of persons aged 65 and older, using an appliance in the past 12 months. Tanning appliance use differed by county, with a range of less than 1% in Oneida, Power, and Valley Counties to over 9% in Bear Lake and Fremont Counties using an artificial tanning appliance in the past 12 months.

Healthy Weight by Body Mass Index – 2014–2018
Statewide, 32.6% 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 33.3% of white non-Hispanics, compared to 26.0% of Hispanics and 26.8% of Native Americans, being in the healthy weight range. Males (25.7%) were significantly less likely to be in the healthy weight range than females (39.4%). BMI differed significantly by age of respondent, with 45.0% of persons aged 18–29, and 27.1% of persons aged 50–64, being in the healthy weight range. BMI differed significantly by county, with a range of 19.5% in Minidoka County to 52.8% in Blaine County of adults being in the healthy weight range.

Physical Activity – 2011, 2013, 2015, 2017
Statewide, 22.1% of adults aged 18 and older met aerobic and strength physical activity guidelines during the past month or week. Physical activity differed significantly by age of respondent, with 26.3% of persons aged 18–29, and 19.3% of persons aged 50–64, meeting guidelines. The percentage of adults meeting physical activity guidelines differed significantly by county, with a range of 7.6% in Oneida County to 31.1% in Blaine County.

Home Radon Testing – 2016, 2018
Statewide, 22.7% of adults have ever tested their house for radon. Radon test usage varied significantly by race/ethnicity, with 24.7% of white non-Hispanics, 5.3% of Hispanics, and 27.9% 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 8.0% in Cassia County to 58.0% in Blaine County.

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MADISON COUNTY CANCER PROFILE

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

Cancer Incidence 2013–2017
Cancer Mortality 2014–2018
BRFSS 2011–2018

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 are due to personal lifestyle factors, such as smoking and sedentary lifestyle, and are preventable. Additional cancers are 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. 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.

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://health.gov/dietaryguidelines/2015.

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
615 N. 7th Street
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/contact-center

American Cancer Society
2676 S. Vista Avenue
Boise, ID 83705
208-343-4609
https://www.cancer.org

CANCER INCIDENCE 2013–2017

Nearly one in two Idahoans are estimated to develop cancer during their lifetime. During 2013–2017, 40,996 cases of invasive cancer were diagnosed among Idaho residents, and 411 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, 2013–2017

Cancer Incidence 2013–2017	Madison County	State of Idaho
All Sites/Types	**411**	**40,996**
Female Breast	**54**	**5,956**
Prostate	**51**	**5,027**
Lung & Bronchus	**7**	**4,657**
Colorectal	**38**	**3,235**

Table 3 (*Cancer Incidence 2013–2017, 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 rate of invasive cancer incidence in Madison County was 214.3 cases per 100,000 person-years per year during 2013–2017. Comparing this crude rate with the crude rate for the remainder of Idaho (500.8) 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 426.8 cases per 100,000 persons per year during 2013–2017. There were statistically significantly fewer cases of cancer in Madison County (411) than expected (482.2) 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 2014–2018

During 2014–2018, cancer was the second leading cause of death in Idaho; 14,585 Idaho residents and 101 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, 2014–2018

Mortality 2014–2018	Madison County	State of Idaho
All Deaths	**689**	**67,280**
Cancer Deaths	**101**	**14,585**
% of All Deaths	*14.7%*	*21.7%*
Lung & Bronchus	**6**	**3,125**
Colorectal	**11**	**1,226**
Pancreas	**10**	**1,079**
Female Breast	**8**	**1,077**
Prostate	**9**	**935**

Table 4 (*Cancer Mortality 2014–2018, 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 112.4 deaths per 100,000 persons per year during 2014–2018, compared with 175.7 for the remainder of the state. There were statistically significantly fewer cancer deaths in Madison County (101) than expected (157.9) 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 2013–2017
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	411	191,750	214.3	426.8	482.2	0.001 <<	40,585	8,104,616	500.8
	Male	205	96,229	213.0	439.6	241.1	0.019 <<	20,992	4,059,766	517.1
	Female	206	95,521	215.7	416.5	239.6	0.029 <<	19,593	4,044,850	484.4
Bladder	Total	10	191,750	5.2	11.5	21.6	0.009 <<	2,005	8,104,616	24.7
	Male	10	96,229	10.4	23.3	16.5	0.124	1,560	4,059,766	38.4
	Female	-	95,521	-	-	4.9	0.016 <<	445	4,044,850	11.0
Brain - malignant	Total	4	191,750	2.1	3.2	9.3	0.089	606	8,104,616	7.5
	Male	3	96,229	3.1	5.2	5.3	0.459	368	4,059,766	9.1
	Female	1	95,521	1.0	1.5	4.0	0.178	238	4,044,850	5.9
Brain and other CNS - non-malignant	Total	13	191,750	6.8	11.5	14.8	0.764	1,059	8,104,616	13.1
	Male	4	96,229	4.2	6.8	5.0	0.865	350	4,059,766	8.6
	Female	9	95,521	9.4	16.1	9.8	0.961	709	4,044,850	17.5
Breast	Total	54	191,750	28.2	58.2	68.0	0.093	5,947	8,104,616	73.4
	Male	-	96,229	-	-	0.5	1.000	45	4,059,766	1.1
	Female	54	95,521	56.5	115.2	68.4	0.085	5,902	4,044,850	145.9
Breast - in situ	Total	7	191,750	3.7	7.5	12.2	0.164	1,057	8,104,616	13.0
	Male	-	96,229	-	-	0.0	1.000	3	4,059,766	0.1
	Female	7	95,521	7.3	14.7	12.4	0.149	1,054	4,044,850	26.1
Cervix	Female	-	95,521	-	-	3.8	0.043 <<	259	4,044,850	6.4
Colorectal	Total	38	191,750	19.8	40.8	36.8	0.881	3,197	8,104,616	39.4
	Male	18	96,229	18.7	39.4	19.3	0.884	1,717	4,059,766	42.3
	Female	20	95,521	20.9	42.0	17.4	0.600	1,480	4,044,850	36.6
Corpus Uteri	Female	14	95,521	14.7	30.2	13.7	1.000	1,195	4,044,850	29.5
Esophagus	Total	4	191,750	2.1	4.5	5.1	0.863	465	8,104,616	5.7
	Male	4	96,229	4.2	9.2	4.1	1.000	384	4,059,766	9.5
	Female	-	95,521	-	-	0.9	0.831	81	4,044,850	2.0
Hodgkin Lymphoma	Total	3	191,750	1.6	1.4	5.1	0.496	196	8,104,616	2.4
	Male	1	96,229	1.0	1.0	2.6	0.529	107	4,059,766	2.6
	Female	2	95,521	2.1	1.8	2.4	1.000	89	4,044,850	2.2
Kidney and Renal Pelvis	Total	19	191,750	9.9	20.5	17.6	0.797	1,535	8,104,616	18.9
	Male	11	96,229	11.4	24.5	10.9	1.000	984	4,059,766	24.2
	Female	8	95,521	8.4	16.5	6.6	0.684	551	4,044,850	13.6
Larynx	Total	1	191,750	0.5	1.1	2.4	0.614	208	8,104,616	2.6
	Male	1	96,229	1.0	2.3	1.8	0.943	167	4,059,766	4.1
	Female	-	95,521	-	-	0.6	1.000	41	4,044,850	1.0
Leukemia	Total	23	191,750	12.0	21.0	19.8	0.525	1,463	8,104,616	18.1
	Male	19	96,229	19.7	35.4	11.4	0.048 >>	862	4,059,766	21.2
	Female	4	95,521	4.2	7.1	8.4	0.162	601	4,044,850	14.9
Liver and Bile Duct	Total	5	191,750	2.6	5.6	8.1	0.371	728	8,104,616	9.0
	Male	2	96,229	2.1	4.5	5.8	0.147	530	4,059,766	13.1
	Female	3	95,521	3.1	6.5	2.2	0.778	198	4,044,850	4.9
Lung and Bronchus	Total	7	191,750	3.7	8.1	49.9	0.000 <<	4,650	8,104,616	57.4
	Male	3	96,229	3.1	7.1	25.1	0.000 <<	2,399	4,059,766	59.1
	Female	4	95,521	4.2	9.0	24.7	0.000 <<	2,251	4,044,850	55.7
Melanoma of the Skin	Total	24	191,750	12.5	23.3	31.8	0.186	2,502	8,104,616	30.9
	Male	13	96,229	13.5	27.2	17.1	0.386	1,456	4,059,766	35.9
	Female	11	95,521	11.5	19.7	14.4	0.452	1,046	4,044,850	25.9
Myeloma	Total	8	191,750	4.2	9.2	6.4	0.632	600	8,104,616	7.4
	Male	4	96,229	4.2	9.4	3.7	1.000	353	4,059,766	8.7
	Female	4	95,521	4.2	9.1	2.7	0.571	247	4,044,850	6.1
Non-Hodgkin Lymphoma	Total	23	191,750	12.0	23.6	21.1	0.728	1,750	8,104,616	21.6
	Male	11	96,229	11.4	22.5	12.0	0.924	996	4,059,766	24.5
	Female	12	95,521	12.6	25.1	8.9	0.380	754	4,044,850	18.6
Oral Cavity and Pharynx	Total	11	191,750	5.7	11.6	13.5	0.601	1,157	8,104,616	14.3
	Male	9	96,229	9.4	19.8	9.2	1.000	817	4,059,766	20.1
	Female	2	95,521	2.1	3.9	4.3	0.397	340	4,044,850	8.4
Ovary	Female	6	95,521	6.3	11.9	6.4	1.000	513	4,044,850	12.7
Pancreas	Total	11	191,750	5.7	12.4	14.1	0.497	1,293	8,104,616	16.0
	Male	4	96,229	4.2	9.3	7.4	0.280	698	4,059,766	17.2
	Female	7	95,521	7.3	15.4	6.7	1.000	595	4,044,850	14.7
Prostate	Male	51	96,229	53.0	120.6	51.8	0.982	4,976	4,059,766	122.6
Stomach	Total	2	191,750	1.0	2.2	5.4	0.190	486	8,104,616	6.0
	Male	2	96,229	2.1	4.6	3.4	0.677	316	4,059,766	7.8
	Female	-	95,521	-	-	1.9	0.293	170	4,044,850	4.2
Testis	Male	6	96,229	6.2	4.8	8.0	0.629	261	4,059,766	6.4
Thyroid	Total	41	191,750	21.4	29.9	20.6	0.000 >>	1,215	8,104,616	15.0
	Male	10	96,229	10.4	15.4	5.1	0.074	322	4,059,766	7.9
	Female	31	95,521	32.5	45.1	15.2	0.000 >>	893	4,044,850	22.1
Pediatric Age 0 to 19	Total	10	67,261	14.9	13.9	13.1	0.480	425	2,333,261	18.2
	Male	7	30,727	22.8	21.6	6.2	0.836	227	1,195,175	19.0
	Female	3	36,534	8.2	7.8	6.7	0.195	198	1,138,086	17.4

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

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

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

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

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

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

TABLE 4: CANCER MORTALITY 2014–2018
COMPARISON BETWEEN MADISON COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cause of Death / Cancer Site/Type	Sex	Madison County						Remainder of Idaho		
		Observed Deaths	Person Years	Crude Rate (1)	A.A.M. Rate (1,2)	Expected Deaths (3)	P-Value (4)	Observed Deaths	Person Years	Crude Rate (1)
All Causes of Death	Total	689	193,526	356.0	696.1	799.4	0.000 <<	66,591	8,245,518	807.6
	Male	328	97,440	336.6	641.0	431.8	0.000 <<	34,858	4,130,440	843.9
	Female	361	96,086	375.7	757.8	367.3	0.767	31,733	4,115,078	771.1
All Malignant Cancers	Total	101	193,526	52.2	112.4	157.9	0.000 <<	14,484	8,245,518	175.7
	Male	51	97,440	52.3	115.0	84.3	0.000 <<	7,850	4,130,440	190.1
	Female	50	96,086	52.0	109.8	73.4	0.005 <<	6,634	4,115,078	161.2
Bladder	Total	3	193,526	1.6	3.5	4.4	0.703	423	8,245,518	5.1
	Male	3	97,440	3.1	7.0	3.3	1.000	316	4,130,440	7.7
	Female	-	96,086	-	-	1.1	0.642	107	4,115,078	2.6
Brain and Other Nervous System	Total	6	193,526	3.1	5.9	6.0	1.000	491	8,245,518	6.0
	Male	3	97,440	3.1	6.0	3.8	0.958	312	4,130,440	7.6
	Female	3	96,086	3.1	5.8	2.3	0.787	179	4,115,078	4.3
Breast	Total	8	193,526	4.1	8.9	11.8	0.340	1,079	8,245,518	13.1
	Male	-	97,440	-	-	0.1	1.000	10	4,130,440	0.2
	Female	8	96,086	8.3	17.6	11.8	0.332	1,069	4,115,078	26.0
Cervix	Female	-	96,086	-	-	1.0	0.752	80	4,115,078	1.9
Colorectal	Total	11	193,526	5.7	12.3	13.2	0.665	1,215	8,245,518	14.7
	Male	4	97,440	4.1	9.0	7.1	0.328	658	4,130,440	15.9
	Female	7	96,086	7.3	15.5	6.1	0.819	557	4,115,078	13.5
Corpus Uteri	Female	1	96,086	1.0	2.3	1.6	1.000	152	4,115,078	3.7
Esophagus	Total	2	193,526	1.0	2.3	5.0	0.250	469	8,245,518	5.7
	Male	2	97,440	2.1	4.6	4.0	0.491	378	4,130,440	9.2
	Female	-	96,086	-	-	1.0	0.748	91	4,115,078	2.2
Hodgkin Lymphoma	Total	-	193,526	-	-	0.3	1.000	21	8,245,518	0.3
	Male	-	97,440	-	-	0.1	1.000	8	4,130,440	0.2
	Female	-	96,086	-	-	0.2	1.000	13	4,115,078	0.3
Kidney	Total	4	193,526	2.1	4.5	4.0	1.000	366	8,245,518	4.4
	Male	3	97,440	3.1	6.8	2.6	0.942	239	4,130,440	5.8
	Female	1	96,086	1.0	2.2	1.4	1.000	127	4,115,078	3.1
Larynx	Total	-	193,526	-	-	0.7	1.000	63	8,245,518	0.8
	Male	-	97,440	-	-	0.6	1.000	53	4,130,440	1.3
	Female	-	96,086	-	-	0.1	1.000	10	4,115,078	0.2
Leukemia	Total	5	193,526	2.6	5.0	7.4	0.516	611	8,245,518	7.4
	Male	5	97,440	5.1	9.8	4.4	0.879	353	4,130,440	8.5
	Female	-	96,086	-	-	3.0	0.095	258	4,115,078	6.3
Liver and Bile Duct	Total	5	193,526	2.6	5.7	6.3	0.785	593	8,245,518	7.2
	Male	3	97,440	3.1	6.9	4.3	0.754	409	4,130,440	9.9
	Female	2	96,086	2.1	4.5	2.0	1.000	184	4,115,078	4.5
Lung and Bronchus	Total	6	193,526	3.1	6.9	32.9	0.000 <<	3,119	8,245,518	37.8
	Male	3	97,440	3.1	7.0	17.2	0.000 <<	1,664	4,130,440	40.3
	Female	3	96,086	3.1	6.8	15.7	0.000 <<	1,455	4,115,078	35.4
Melanoma of the Skin	Total	1	193,526	0.5	1.1	3.2	0.349	279	8,245,518	3.4
	Male	1	97,440	1.0	2.1	2.1	0.739	186	4,130,440	4.5
	Female	-	96,086	-	-	1.0	0.704	93	4,115,078	2.3
Myeloma	Total	6	193,526	3.1	6.9	3.4	0.267	323	8,245,518	3.9
	Male	4	97,440	4.1	9.2	2.0	0.288	191	4,130,440	4.6
	Female	2	96,086	2.1	4.5	1.4	0.826	132	4,115,078	3.2
Non-Hodgkin Lymphoma	Total	7	193,526	3.6	7.9	6.0	0.796	563	8,245,518	6.8
	Male	3	97,440	3.1	6.8	3.4	1.000	316	4,130,440	7.7
	Female	4	96,086	4.2	9.2	2.6	0.537	247	4,115,078	6.0
Oral Cavity and Pharynx	Total	1	193,526	0.5	1.1	2.4	0.620	222	8,245,518	2.7
	Male	-	97,440	-	-	1.6	0.399	152	4,130,440	3.7
	Female	1	96,086	1.0	2.2	0.8	1.000	70	4,115,078	1.7
Ovary	Female	4	96,086	4.2	8.9	3.9	1.000	359	4,115,078	8.7
Pancreas	Total	10	193,526	5.2	11.4	11.4	0.831	1,069	8,245,518	13.0
	Male	3	97,440	3.1	6.9	6.2	0.273	589	4,130,440	14.3
	Female	7	96,086	7.3	15.8	5.2	0.526	480	4,115,078	11.7
Prostate	Male	9	97,440	9.2	21.1	9.5	1.000	926	4,130,440	22.4
Stomach	Total	-	193,526	-	-	2.3	0.196	210	8,245,518	2.5
	Male	-	97,440	-	-	1.3	0.533	122	4,130,440	3.0
	Female	-	96,086	-	-	1.0	0.738	88	4,115,078	2.1

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, 2019.

Cancer Screening and Risk Factors

The Bureau of Vital Records and Health Statistics (BVRHS), Division of Public Health, 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) with randomly selected adult Idahoans to measure population prevalences of risk factors for the major causes of death, including cancer, since 1984. BVRHS provided data sets containing Behavioral Risk Factor Surveillance System (BRFSS) data from 2011 through 2018 to CDRI staff, who performed the analyses reported in these *County Profiles*. Analysis weights were poststratified to 2018 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, 2011–2018

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 (2014–2018)	81.2%	80.6%	84.5%	74.6%	84.7%	75.5%	83.3%	83.8%	87.0%
Not See Doctor Due to Cost in Past Year (2014–2018)	14.3%	13.9%	12.2%	18.1%	13.6%	14.3%	12.5%	13.9%	10.1%
Cancer Screening									
Mammogram Past 2 Years, Age 50–74 (2014, 2016, 2018)	67.5%	66.8%	72.1%	63.2%	72.9%	61.0%	64.6%	66.8%	62.2%
Pap Test Past 3 Years, Cervix Intact Age 21–65 (2016, 2018)	72.5%	74.8%	74.3%	72.1%	73.0%	71.7%	72.7%	68.6%	.
Colorectal Cancer Screening, Age 50–75 (2016, 2018)	65.4%	64.9%	71.3%	62.6%	68.9%	60.3%	62.1%	65.3%	57.4%
Tobacco Use									
Current Smoker (2014–2018)	14.6%	17.1%	15.1%	16.8%	13.1%	16.2%	14.4%	10.4%	4.3%
Current Smokeless Tobacco User, Males (2014–2018)	9.5%	10.6%	14.0%	11.1%	8.4%	8.9%	8.4%	7.3%	4.9%
Other Cancer-Related									
Sunburn in Previous 12 Months (2018)	47.7%	42.3%	49.0%	41.6%	50.8%	42.8%	49.9%	56.6%	72.9%
Artificial Tanning Appliance Use (2011, 2014, 2016)	4.4%	5.5%	3.3%	3.3%	3.4%	4.2%	5.7%	6.8%	8.9%
Healthy Weight by Body Mass Index, Age 20+ (2014–2018)	32.6%	34.2%	32.9%	27.0%	36.3%	31.1%	29.4%	32.4%	38.9%
Meet Physical Activity Guidelines (2011, 2013, 2015, 2017)	22.1%	22.1%	19.9%	20.6%	26.1%	18.8%	20.0%	20.1%	20.4%
Home Ever Tested for Radon (2016, 2018)	22.7%	29.7%	19.5%	16.3%	24.1%	20.2%	23.3%	22.7%	17.8%

Access to Care

Have Health Insurance – 2014–2018
Statewide, 81.2% of adults aged 18–64 reported having health care coverage. Health care coverage differed significantly by race/ethnicity, with 84.5% of white non-Hispanics, compared to 59.8% of Hispanics and 79.9% of Native Americans, having health insurance. Spanish-speaking respondents were significantly less likely to be insured (33.1%) than English-speaking respondents (83.1%). Health care coverage differed significantly by age of respondent, with 76.4% of persons aged 30–39, and 86.5% of persons aged 50–64, having health insurance. Health care coverage differed significantly by county, with a range of 57.4% in Adams County to 91.7% in Oneida County having health insurance.

Not See Doctor Due to Cost in Past Year – 2014–2018
Statewide, 14.3% 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 (13.2% of white non-Hispanics, 21.4% of Hispanics, and 23.1% of Native Americans). Inability to see a doctor due to cost differed significantly by annual household income (27.4% for less than $15,000, 6.7% for greater than $50,000). Inability to see a doctor due to cost differed significantly by county, with a range of 7.0% in Caribou County to 20.2% in Jerome County.

Cancer Screening

Mammogram – 2014, 2016, 2018
Statewide, 67.5% 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 (70.7% versus 34.0%). Mammography rates differed significantly by county, with a range in screening of 47.3% in Gooding County to 77.5% in Nez Perce County. In 2018, Idaho ranked 49th among states and the District of Columbia for mammography screening rates among women aged 50–74 and 50th among ages 40+.

Pap Test – 2016, 2018
Statewide, 72.5% 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 (77.3% versus 54.2% screened in the past 3 years). Pap screening differed significantly by county, with a range of 60.5% in Idaho County to 79.2% in Latah County. In 2018, Idaho ranked 51st among states and the District of Columbia for Pap screening rate.

Colorectal Cancer Screening – 2016, 2018
Statewide, 65.4% of adults aged 50–75 reported receiving colorectal cancer screening based on the most recent guidelines.** Persons with health insurance were over twice as likely to be current for colorectal cancer screening. In 2018, Idaho ranked 41st 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 Smoking – 2014–2018
Statewide, 14.6% of adults aged 18 and older were current smokers. Smoking prevalence differed significantly by age of respondent, with 19.2% of persons aged 30–39, and 8.4% of persons aged 65 and older reporting current smoking. Smoking prevalence was lower among white non-Hispanics (14.7%) than among Native Americans (32.4%). Smoking prevalence differed significantly by county, with a range of 4.3% in Madison County to 32.7% in Adams County. Counties with higher rates of current smoking had higher rates of lung cancer.

Smokeless Tobacco Use, Males – 2014–2018
Statewide, 9.5% of males aged 18 and older were current users of smokeless tobacco. Smokeless tobacco use differed significantly by age group, ranging from 12.8% of males aged 30–39 to 4.0% of males aged 65 and older. Smokeless tobacco use differed significantly by county, with a range of 3.4% in Franklin County to 21.1% in Custer County. Counties with higher rates of smokeless tobacco use had higher rates of oral cavity & pharynx cancer.

Other Cancer-Related

Sun Exposure – 2018
Statewide, 47.7% of adults aged 18 and older reported having sunburn in the past 12 months. Sunburn rates were higher for white non-Hispanics (49.6%) and Native Americans (48.7%) than for Hispanics (35.2%). Sunburn rates differed significantly by age group, with 67.2% of persons aged 30–39 and 17.9% of persons aged 65 and older having sunburn in the past 12 months. Sunburn rates differed significantly by county, with a range of 36.7% in Idaho County to 72.9% in Madison County having sunburn in the past 12 months.

Artificial Tanning Appliance Use – 2011, 2014, 2016
Statewide, 4.4% of adults aged 18 and older reported using an artificial tanning appliance, such as a tanning bed, in the past 12 months. Females (6.8%) were significantly more likely than males (2.1%) to have used an artificial tanning appliance in the past 12 months. Tanning appliance use differed significantly by age group, with 8.7% of persons aged 18–29 and 0.9% of persons aged 65 and older, using an appliance in the past 12 months. Tanning appliance use differed by county, with a range of less than 1% in Oneida, Power, and Valley Counties to over 9% in Bear Lake and Fremont Counties using an artificial tanning appliance in the past 12 months.

Healthy Weight by Body Mass Index – 2014–2018
Statewide, 32.6% 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 33.3% of white non-Hispanics, compared to 26.0% of Hispanics and 26.8% of Native Americans, being in the healthy weight range. Males (25.7%) were significantly less likely to be in the healthy weight range than females (39.4%). BMI differed significantly by age of respondent, with 45.0% of persons aged 18–29, and 27.1% of persons aged 50–64, being in the healthy weight range. BMI differed significantly by county, with a range of 19.5% in Minidoka County to 52.8% in Blaine County of adults being in the healthy weight range.

Physical Activity – 2011, 2013, 2015, 2017
Statewide, 22.1% of adults aged 18 and older met aerobic and strength physical activity guidelines during the past month or week. Physical activity differed significantly by age of respondent, with 26.3% of persons aged 18–29, and 19.3% of persons aged 50–64, meeting guidelines. The percentage of adults meeting physical activity guidelines differed significantly by county, with a range of 7.6% in Oneida County to 31.1% in Blaine County.

Home Radon Testing – 2016, 2018
Statewide, 22.7% of adults have ever tested their house for radon. Radon test usage varied significantly by race/ethnicity, with 24.7% of white non-Hispanics, 5.3% of Hispanics, and 27.9% 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 8.0% in Cassia County to 58.0% in Blaine County.

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MINIDOKA COUNTY CANCER PROFILE

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

Cancer Incidence 2013–2017
Cancer Mortality 2014–2018
BRFSS 2011–2018

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 are due to personal lifestyle factors, such as smoking and sedentary lifestyle, and are preventable. Additional cancers are 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. 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.

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://health.gov/dietaryguidelines/2015.

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
615 N. 7th Street
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/contact-center

American Cancer Society
2676 S. Vista Avenue
Boise, ID 83705
208-343-4609
https://www.cancer.org

CANCER INCIDENCE 2013–2017

Nearly one in two Idahoans are estimated to develop cancer during their lifetime. During 2013–2017, 40,996 cases of invasive cancer were diagnosed among Idaho residents, and 480 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, 2013–2017

Cancer Incidence 2013–2017	Minidoka County	State of Idaho
All Sites/Types	**480**	**40,996**
Female Breast	**66**	**5,956**
Prostate	**58**	**5,027**
Lung & Bronchus	**48**	**4,657**
Colorectal	**40**	**3,235**

Table 3 (*Cancer Incidence 2013–2017, 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 rate of invasive cancer incidence in Minidoka County was 467.6 cases per 100,000 person-years per year during 2013–2017. Comparing this crude rate with the crude rate for the remainder of Idaho (494.5) 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 448.0 cases per 100,000 persons per year during 2013–2017. There were statistically significantly fewer cases of cancer in Minidoka County (480) than expected (529.8) based upon rates in the remainder of the state (p=.030).

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 2014–2018

During 2014–2018, cancer was the second leading cause of death in Idaho; 14,585 Idaho residents and 166 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, 2014–2018

Mortality 2014–2018	Minidoka County	State of Idaho
All Deaths	**876**	**67,280**
Cancer Deaths	**166**	**14,585**
% of All Deaths	*18.9%*	*21.7%*
Lung & Bronchus	**29**	**3,125**
Colorectal	**11**	**1,226**
Pancreas	**15**	**1,079**
Female Breast	**12**	**1,077**
Prostate	**13**	**935**

Table 4 (*Cancer Mortality 2014–2018, 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 148.0 deaths per 100,000 persons per year during 2014–2018, compared with 173.0 for the remainder of the state. There were statistically significantly fewer cancer deaths in Minidoka County (166) than expected (194.0) based upon rates in the remainder of the state (p=.044).

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 2013–2017
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	480	102,656	467.6	448.0	529.8	0.030 <<	40,516	8,193,710	494.5
	Male	266	51,718	514.3	489.1	277.3	0.519	20,931	4,104,277	510.0
	Female	214	50,938	420.1	405.3	252.9	0.014 <<	19,585	4,089,433	478.9
Bladder	Total	25	102,656	24.4	22.4	27.1	0.780	1,990	8,193,710	24.3
	Male	21	51,718	40.6	37.1	21.4	1.000	1,549	4,104,277	37.7
	Female	4	50,938	7.9	7.3	5.9	0.585	441	4,089,433	10.8
Brain - malignant	Total	12	102,656	11.7	11.4	7.7	0.181	598	8,193,710	7.3
	Male	6	51,718	11.6	11.3	4.7	0.668	365	4,104,277	8.9
	Female	6	50,938	11.8	11.5	3.0	0.165	233	4,089,433	5.7
Brain and other CNS - non-malignant	Total	16	102,656	15.6	15.1	13.6	0.592	1,056	8,193,710	12.9
	Male	4	51,718	7.7	7.4	4.6	1.000	350	4,104,277	8.5
	Female	12	50,938	23.6	23.0	9.0	0.398	706	4,089,433	17.3
Breast	Total	67	102,656	65.3	63.9	75.9	0.337	5,934	8,193,710	72.4
	Male	1	51,718	1.9	1.7	0.6	0.921	44	4,104,277	1.1
	Female	66	50,938	129.6	127.3	74.7	0.345	5,890	4,089,433	144.0
Breast - in situ	Total	12	102,656	11.7	11.8	13.1	0.907	1,052	8,193,710	12.8
	Male	-	51,718	-	-	0.0	1.000	3	4,104,277	0.1
	Female	12	50,938	23.6	23.7	13.0	0.935	1,049	4,089,433	25.7
Cervix	Female	5	50,938	9.8	10.4	3.0	0.368	254	4,089,433	6.2
Colorectal	Total	40	102,656	39.0	37.0	42.1	0.821	3,195	8,193,710	39.0
	Male	26	51,718	50.3	47.9	22.6	0.526	1,709	4,104,277	41.6
	Female	14	50,938	27.5	26.0	19.6	0.243	1,486	4,089,433	36.3
Corpus Uteri	Female	19	50,938	37.3	37.1	14.9	0.345	1,190	4,089,433	29.1
Esophagus	Total	6	102,656	5.8	5.6	6.1	1.000	463	8,193,710	5.7
	Male	5	51,718	9.7	9.2	5.1	1.000	383	4,104,277	9.3
	Female	1	50,938	2.0	1.8	1.1	1.000	80	4,089,433	2.0
Hodgkin Lymphoma	Total	6	102,656	5.8	6.0	2.4	0.067	193	8,193,710	2.4
	Male	2	51,718	3.9	4.0	1.3	0.750	106	4,104,277	2.6
	Female	4	50,938	7.9	8.0	1.1	0.047 >>	87	4,089,433	2.1
Kidney and Renal Pelvis	Total	24	102,656	23.4	22.5	19.9	0.411	1,530	8,193,710	18.7
	Male	15	51,718	29.0	28.1	12.8	0.600	980	4,104,277	23.9
	Female	9	50,938	17.7	16.9	7.2	0.587	550	4,089,433	13.4
Larynx	Total	4	102,656	3.9	3.7	2.7	0.563	205	8,193,710	2.5
	Male	2	51,718	3.9	3.7	2.2	1.000	166	4,104,277	4.0
	Female	2	50,938	3.9	3.8	0.5	0.185	39	4,089,433	1.0
Leukemia	Total	14	102,656	13.6	12.7	19.8	0.227	1,472	8,193,710	18.0
	Male	8	51,718	15.5	14.5	11.7	0.348	873	4,104,277	21.3
	Female	6	50,938	11.8	10.8	8.1	0.601	599	4,089,433	14.6
Liver and Bile Duct	Total	10	102,656	9.7	9.4	9.4	0.917	723	8,193,710	8.8
	Male	9	51,718	17.4	16.9	6.8	0.483	523	4,104,277	12.7
	Female	1	50,938	2.0	1.9	2.6	0.528	200	4,089,433	4.9
Lung and Bronchus	Total	48	102,656	46.8	43.6	61.9	0.080	4,609	8,193,710	56.3
	Male	28	51,718	54.1	50.3	32.2	0.528	2,374	4,104,277	57.8
	Female	20	50,938	39.3	36.6	29.9	0.074	2,235	4,089,433	54.7
Melanoma of the Skin	Total	29	102,656	28.2	27.5	32.1	0.664	2,497	8,193,710	30.5
	Male	20	51,718	38.7	37.0	19.1	0.891	1,449	4,104,277	35.3
	Female	9	50,938	17.7	17.6	13.1	0.317	1,048	4,089,433	25.6
Myeloma	Total	5	102,656	4.9	4.5	8.1	0.360	603	8,193,710	7.4
	Male	3	51,718	5.8	5.5	4.7	0.606	354	4,104,277	8.6
	Female	2	50,938	3.9	3.6	3.4	0.685	249	4,089,433	6.1
Non-Hodgkin Lymphoma	Total	16	102,656	15.6	14.8	23.2	0.150	1,757	8,193,710	21.4
	Male	12	51,718	23.2	22.0	13.2	0.880	995	4,104,277	24.2
	Female	4	50,938	7.9	7.4	10.1	0.056	762	4,089,433	18.6
Oral Cavity and Pharynx	Total	12	102,656	11.7	11.4	14.9	0.557	1,156	8,193,710	14.1
	Male	10	51,718	19.3	18.8	10.6	1.000	816	4,104,277	19.9
	Female	2	50,938	3.9	3.8	4.4	0.379	340	4,089,433	8.3
Ovary	Female	7	50,938	13.7	13.3	6.6	0.972	512	4,089,433	12.5
Pancreas	Total	14	102,656	13.6	12.7	17.3	0.508	1,290	8,193,710	15.7
	Male	11	51,718	21.3	20.0	9.3	0.651	691	4,104,277	16.8
	Female	3	50,938	5.9	5.4	8.1	0.080	599	4,089,433	14.6
Prostate	Male	58	51,718	112.1	108.4	64.8	0.438	4,969	4,104,277	121.1
Stomach	Total	4	102,656	3.9	3.6	6.5	0.450	484	8,193,710	5.9
	Male	2	51,718	3.9	3.6	4.3	0.406	316	4,104,277	7.7
	Female	2	50,938	3.9	3.6	2.3	1.000	168	4,089,433	4.1
Testis	Male	3	51,718	5.8	6.2	3.1	1.000	264	4,104,277	6.4
Thyroid	Total	10	102,656	9.7	10.1	15.1	0.229	1,246	8,193,710	15.2
	Male	5	51,718	9.7	9.8	4.1	0.766	327	4,104,277	8.0
	Female	5	50,938	9.8	10.3	10.9	0.078	919	4,089,433	22.5
Pediatric Age 0 to 19	Total	2	31,985	6.3	6.3	5.8	0.139	433	2,368,537	18.3
	Male	-	16,346	-	-	3.2	0.085	234	1,209,556	19.3
	Female	2	15,639	12.8	12.8	2.7	0.995	199	1,158,981	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 2014–2018
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	876	103,074	849.9	746.1	935.3	0.053	66,404	8,335,970	796.6
	Male	494	51,839	953.0	847.0	484.5	0.679	34,692	4,176,041	830.7
	Female	382	51,235	745.6	644.7	451.7	0.001 <<	31,712	4,159,929	762.3
All Malignant Cancers	Total	166	103,074	161.0	148.0	194.0	0.044 <<	14,419	8,335,970	173.0
	Male	100	51,839	192.9	176.4	105.9	0.608	7,801	4,176,041	186.8
	Female	66	51,235	128.8	118.7	88.4	0.015 <<	6,618	4,159,929	159.1
Bladder	Total	7	103,074	6.8	5.8	6.0	0.793	419	8,335,970	5.0
	Male	6	51,839	11.6	9.8	4.6	0.619	313	4,176,041	7.5
	Female	1	51,235	2.0	1.7	1.5	1.000	106	4,159,929	2.5
Brain and Other Nervous System	Total	7	103,074	6.8	6.6	6.2	0.854	490	8,335,970	5.9
	Male	5	51,839	9.6	9.4	4.0	0.723	310	4,176,041	7.4
	Female	2	51,235	3.9	3.8	2.3	1.000	180	4,159,929	4.3
Breast	Total	12	103,074	11.6	10.8	14.3	0.664	1,075	8,335,970	12.9
	Male	-	51,839	-	-	0.1	1.000	10	4,176,041	0.2
	Female	12	51,235	23.4	22.0	14.0	0.718	1,065	4,159,929	25.6
Cervix	Female	1	51,235	2.0	2.0	1.0	1.000	79	4,159,929	1.9
Colorectal	Total	11	103,074	10.7	9.8	16.3	0.223	1,215	8,335,970	14.6
	Male	5	51,839	9.6	9.0	8.8	0.261	657	4,176,041	15.7
	Female	6	51,235	11.7	10.6	7.6	0.739	558	4,159,929	13.4
Corpus Uteri	Female	1	51,235	2.0	1.8	2.0	0.819	152	4,159,929	3.7
Esophagus	Total	4	103,074	3.9	3.6	6.2	0.522	467	8,335,970	5.6
	Male	4	51,839	7.7	7.2	5.0	0.880	376	4,176,041	9.0
	Female	-	51,235	-	-	1.2	0.587	91	4,159,929	2.2
Hodgkin Lymphoma	Total	1	103,074	1.0	0.9	0.3	0.462	20	8,335,970	0.2
	Male	-	51,839	-	-	0.1	1.000	8	4,176,041	0.2
	Female	1	51,235	2.0	1.8	0.2	0.295	12	4,159,929	0.3
Kidney	Total	4	103,074	3.9	3.6	4.9	0.916	366	8,335,970	4.4
	Male	4	51,839	7.7	7.2	3.2	0.783	238	4,176,041	5.7
	Female	-	51,235	-	-	1.7	0.351	128	4,159,929	3.1
Larynx	Total	-	103,074	-	-	0.8	0.858	63	8,335,970	0.8
	Male	-	51,839	-	-	0.7	0.969	53	4,176,041	1.3
	Female	-	51,235	-	-	0.1	1.000	10	4,159,929	0.2
Leukemia	Total	8	103,074	7.8	7.0	8.4	1.000	608	8,335,970	7.3
	Male	3	51,839	5.8	5.2	4.9	0.568	355	4,176,041	8.5
	Female	5	51,235	9.8	8.7	3.5	0.550	253	4,159,929	6.1
Liver and Bile Duct	Total	6	103,074	5.8	5.6	7.6	0.719	592	8,335,970	7.1
	Male	4	51,839	7.7	7.5	5.2	0.797	408	4,176,041	9.8
	Female	2	51,235	3.9	3.7	2.4	1.000	184	4,159,929	4.4
Lung and Bronchus	Total	29	103,074	28.1	26.1	41.3	0.056	3,096	8,335,970	37.1
	Male	17	51,839	32.8	30.4	22.1	0.327	1,650	4,176,041	39.5
	Female	12	51,235	23.4	21.6	19.3	0.108	1,446	4,159,929	34.8
Melanoma of the Skin	Total	4	103,074	3.9	3.7	3.6	0.979	276	8,335,970	3.3
	Male	3	51,839	5.8	5.4	2.4	0.876	184	4,176,041	4.4
	Female	1	51,235	2.0	1.8	1.2	1.000	92	4,159,929	2.2
Myeloma	Total	1	103,074	1.0	0.9	4.5	0.119	328	8,335,970	3.9
	Male	1	51,839	1.9	1.7	2.7	0.499	194	4,176,041	4.6
	Female	-	51,235	-	-	1.9	0.313	134	4,159,929	3.2
Non-Hodgkin Lymphoma	Total	9	103,074	8.7	7.8	7.8	0.758	561	8,335,970	6.7
	Male	7	51,839	13.5	12.2	4.3	0.288	312	4,176,041	7.5
	Female	2	51,235	3.9	3.4	3.5	0.640	249	4,159,929	6.0
Oral Cavity and Pharynx	Total	-	103,074	-	-	2.9	0.105	223	8,335,970	2.7
	Male	-	51,839	-	-	2.0	0.270	152	4,176,041	3.6
	Female	-	51,235	-	-	1.0	0.768	71	4,159,929	1.7
Ovary	Female	4	51,235	7.8	7.4	4.7	0.998	359	4,159,929	8.6
Pancreas	Total	15	103,074	14.6	13.6	14.1	0.878	1,064	8,335,970	12.8
	Male	11	51,839	21.2	20.1	7.6	0.295	581	4,176,041	13.9
	Female	4	51,235	7.8	7.2	6.5	0.453	483	4,159,929	11.6
Prostate	Male	13	51,839	25.1	21.2	13.5	1.000	922	4,176,041	22.1
Stomach	Total	3	103,074	2.9	2.7	2.8	1.000	207	8,335,970	2.5
	Male	2	51,839	3.9	3.6	1.6	0.958	120	4,176,041	2.9
	Female	1	51,235	2.0	1.8	1.2	1.000	87	4,159,929	2.1

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, 2019.

Cancer Screening and Risk Factors

The Bureau of Vital Records and Health Statistics (BVRHS), Division of Public Health, 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) with randomly selected adult Idahoans to measure population prevalences of risk factors for the major causes of death, including cancer, since 1984. BVRHS provided data sets containing Behavioral Risk Factor Surveillance System (BRFSS) data from 2011 through 2018 to CDRI staff, who performed the analyses reported in these *County Profiles*. Analysis weights were poststratified to 2018 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, 2011–2018

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 (2014–2018)	81.2%	80.6%	84.5%	74.6%	84.7%	75.5%	83.3%	83.8%	73.7%
Not See Doctor Due to Cost in Past Year (2014–2018)	14.3%	13.9%	12.2%	18.1%	13.6%	14.3%	12.5%	13.9%	10.4%
Cancer Screening									
Mammogram Past 2 Years, Age 50–74 (2014, 2016, 2018)	67.5%	66.8%	72.1%	63.2%	72.9%	61.0%	64.6%	66.8%	57.2%
Pap Test Past 3 Years, Cervix Intact Age 21–65 (2016, 2018)	72.5%	74.8%	74.3%	72.1%	73.0%	71.7%	72.7%	68.6%	.
Colorectal Cancer Screening, Age 50–75 (2016, 2018)	65.4%	64.9%	71.3%	62.6%	68.9%	60.3%	62.1%	65.3%	61.7%
Tobacco Use									
Current Smoker (2014–2018)	14.6%	17.1%	15.1%	16.8%	13.1%	16.2%	14.4%	10.4%	12.8%
Current Smokeless Tobacco User, Males (2014–2018)	9.5%	10.6%	14.0%	11.1%	8.4%	8.9%	8.4%	7.3%	8.1%
Other Cancer-Related									
Sunburn in Previous 12 Months (2018)	47.7%	42.3%	49.0%	41.6%	50.8%	42.8%	49.9%	56.6%	39.7%
Artificial Tanning Appliance Use (2011, 2014, 2016)	4.4%	5.5%	3.3%	3.3%	3.4%	4.2%	5.7%	6.8%	2.6%
Healthy Weight by Body Mass Index, Age 20+ (2014–2018)	32.6%	34.2%	32.9%	27.0%	36.3%	31.1%	29.4%	32.4%	19.5%
Meet Physical Activity Guidelines (2011, 2013, 2015, 2017)	22.1%	22.1%	19.9%	20.6%	26.1%	18.8%	20.0%	20.1%	15.6%
Home Ever Tested for Radon (2016, 2018)	22.7%	29.7%	19.5%	16.3%	24.1%	20.2%	23.3%	22.7%	18.9%

Access to Care

Have Health Insurance – 2014–2018
Statewide, 81.2% of adults aged 18–64 reported having health care coverage. Health care coverage differed significantly by race/ethnicity, with 84.5% of white non-Hispanics, compared to 59.8% of Hispanics and 79.9% of Native Americans, having health insurance. Spanish-speaking respondents were significantly less likely to be insured (33.1%) than English-speaking respondents (83.1%). Health care coverage differed significantly by age of respondent, with 76.4% of persons aged 30–39, and 86.5% of persons aged 50–64, having health insurance. Health care coverage differed significantly by county, with a range of 57.4% in Adams County to 91.7% in Oneida County having health insurance.

Not See Doctor Due to Cost in Past Year – 2014–2018
Statewide, 14.3% 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 (13.2% of white non-Hispanics, 21.4% of Hispanics, and 23.1% of Native Americans). Inability to see a doctor due to cost differed significantly by annual household income (27.4% for less than $15,000, 6.7% for greater than $50,000). Inability to see a doctor due to cost differed significantly by county, with a range of 7.0% in Caribou County to 20.2% in Jerome County.

Cancer Screening

Mammogram – 2014, 2016, 2018
Statewide, 67.5% 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 (70.7% versus 34.0%). Mammography rates differed significantly by county, with a range in screening of 47.3% in Gooding County to 77.5% in Nez Perce County. In 2018, Idaho ranked 49th among states and the District of Columbia for mammography screening rates among women aged 50–74 and 50th among ages 40+.

Pap Test – 2016, 2018
Statewide, 72.5% 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 (77.3% versus 54.2% screened in the past 3 years). Pap screening differed significantly by county, with a range of 60.5% in Idaho County to 79.2% in Latah County. In 2018, Idaho ranked 51st among states and the District of Columbia for Pap screening rate.

Colorectal Cancer Screening – 2016, 2018
Statewide, 65.4% of adults aged 50–75 reported receiving colorectal cancer screening based on the most recent guidelines.** Persons with health insurance were over twice as likely to be current for colorectal cancer screening. In 2018, Idaho ranked 41st 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 Smoking – 2014–2018
Statewide, 14.6% of adults aged 18 and older were current smokers. Smoking prevalence differed significantly by age of respondent, with 19.2% of persons aged 30–39, and 8.4% of persons aged 65 and older reporting current smoking. Smoking prevalence was lower among white non-Hispanics (14.7%) than among Native Americans (32.4%). Smoking prevalence differed significantly by county, with a range of 4.3% in Madison County to 32.7% in Adams County. Counties with higher rates of current smoking had higher rates of lung cancer.

Smokeless Tobacco Use, Males – 2014–2018
Statewide, 9.5% of males aged 18 and older were current users of smokeless tobacco. Smokeless tobacco use differed significantly by age group, ranging from 12.8% of males aged 30–39 to 4.0% of males aged 65 and older. Smokeless tobacco use differed significantly by county, with a range of 3.4% in Franklin County to 21.1% in Custer County. Counties with higher rates of smokeless tobacco use had higher rates of oral cavity & pharynx cancer.

Other Cancer-Related

Sun Exposure – 2018
Statewide, 47.7% of adults aged 18 and older reported having sunburn in the past 12 months. Sunburn rates were higher for white non-Hispanics (49.6%) and Native Americans (48.7%) than for Hispanics (35.2%). Sunburn rates differed significantly by age group, with 67.2% of persons aged 30–39 and 17.9% of persons aged 65 and older having sunburn in the past 12 months. Sunburn rates differed significantly by county, with a range of 36.7% in Idaho County to 72.9% in Madison County having sunburn in the past 12 months.

Artificial Tanning Appliance Use – 2011, 2014, 2016
Statewide, 4.4% of adults aged 18 and older reported using an artificial tanning appliance, such as a tanning bed, in the past 12 months. Females (6.8%) were significantly more likely than males (2.1%) to have used an artificial tanning appliance in the past 12 months. Tanning appliance use differed significantly by age group, with 8.7% of persons aged 18–29 and 0.9% of persons aged 65 and older, using an appliance in the past 12 months. Tanning appliance use differed by county, with a range of less than 1% in Oneida, Power, and Valley Counties to over 9% in Bear Lake and Fremont Counties using an artificial tanning appliance in the past 12 months.

Healthy Weight by Body Mass Index – 2014–2018
Statewide, 32.6% 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 33.3% of white non-Hispanics, compared to 26.0% of Hispanics and 26.8% of Native Americans, being in the healthy weight range. Males (25.7%) were significantly less likely to be in the healthy weight range than females (39.4%). BMI differed significantly by age of respondent, with 45.0% of persons aged 18–29, and 27.1% of persons aged 50–64, being in the healthy weight range. BMI differed significantly by county, with a range of 19.5% in Minidoka County to 52.8% in Blaine County of adults being in the healthy weight range.

Physical Activity – 2011, 2013, 2015, 2017
Statewide, 22.1% of adults aged 18 and older met aerobic and strength physical activity guidelines during the past month or week. Physical activity differed significantly by age of respondent, with 26.3% of persons aged 18–29, and 19.3% of persons aged 50–64, meeting guidelines. The percentage of adults meeting physical activity guidelines differed significantly by county, with a range of 7.6% in Oneida County to 31.1% in Blaine County.

Home Radon Testing – 2016, 2018
Statewide, 22.7% of adults have ever tested their house for radon. Radon test usage varied significantly by race/ethnicity, with 24.7% of white non-Hispanics, 5.3% of Hispanics, and 27.9% 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 8.0% in Cassia County to 58.0% in Blaine County.

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NEZ PERCE COUNTY CANCER PROFILE

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

Cancer Incidence 2013–2017
Cancer Mortality 2014–2018
BRFSS 2011–2018

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 are due to personal lifestyle factors, such as smoking and sedentary lifestyle, and are preventable. Additional cancers are 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. 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.

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://health.gov/dietaryguidelines/2015.

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
615 N. 7th Street
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/contact-center

American Cancer Society
2676 S. Vista Avenue
Boise, ID 83705
208-343-4609
https://www.cancer.org

CANCER INCIDENCE 2013–2017

Nearly one in two Idahoans are estimated to develop cancer during their lifetime. During 2013–2017, 40,996 cases of invasive cancer were diagnosed among Idaho residents, and 1,249 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, 2013–2017

Cancer Incidence 2013–2017	Nez Perce County	State of Idaho
All Sites/Types	**1,249**	**40,996**
Female Breast	**208**	**5,956**
Prostate	**150**	**5,027**
Lung & Bronchus	**185**	**4,657**
Colorectal	**100**	**3,235**

Table 3 (*Cancer Incidence 2013–2017, 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 rate of invasive cancer incidence in Nez Perce County was 624.0 cases per 100,000 person-years per year during 2013–2017. Comparing this crude rate with the crude rate for the remainder of Idaho (490.9) 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 507.0 cases per 100,000 persons per year during 2013–2017. There were more cases of cancer in Nez Perce County (1,249) than expected (1,209.4) 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 2014–2018

During 2014–2018, cancer was the second leading cause of death in Idaho; 14,585 Idaho residents and 537 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, 2014–2018

Mortality 2014–2018	Nez Perce County	State of Idaho
All Deaths	**2,541**	**67,280**
Cancer Deaths	**537**	**14,585**
% of All Deaths	*21.1%*	*21.7%*
Lung & Bronchus	**137**	**3,125**
Colorectal	**45**	**1,226**
Pancreas	**45**	**1,079**
Female Breast	**36**	**1,077**
Prostate	**35**	**935**

Table 4 (*Cancer Mortality 2014–2018, 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 201.9 deaths per 100,000 persons per year during 2014–2018, compared with 170.5 for the remainder of the state. There were statistically significantly more cancer deaths in Nez Perce County (537) than expected (453.4) based upon rates in the remainder of the state ($p<.001$).

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

TABLE 3: CANCER INCIDENCE 2013–2017
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	1,249	200,158	624.0	507.0	1,209.4	0.261	39,747	8,096,208	490.9
	Male	640	99,106	645.8	522.6	620.5	0.445	20,557	4,056,889	506.7
	Female	609	101,052	602.7	493.4	586.4	0.361	19,190	4,039,319	475.1
Bladder	Total	49	200,158	24.5	18.5	64.2	0.059	1,966	8,096,208	24.3
	Male	39	99,106	39.4	30.0	49.0	0.167	1,531	4,056,889	37.7
	Female	10	101,052	9.9	7.5	14.5	0.295	435	4,039,319	10.8
Brain - malignant	Total	21	200,158	10.5	9.2	16.6	0.331	589	8,096,208	7.3
	Male	13	99,106	13.1	11.4	10.1	0.429	358	4,056,889	8.8
	Female	8	101,052	7.9	7.1	6.4	0.635	231	4,039,319	5.7
Brain and other CNS - non-malignant	Total	30	200,158	15.0	12.6	30.7	0.992	1,042	8,096,208	12.9
	Male	11	99,106	11.1	9.4	9.9	0.799	343	4,056,889	8.5
	Female	19	101,052	18.8	15.7	21.0	0.774	699	4,039,319	17.3
Breast	Total	210	200,158	104.9	88.3	170.1	0.003 >>	5,791	8,096,208	71.5
	Male	2	99,106	2.0	1.5	1.4	0.801	43	4,056,889	1.1
	Female	208	101,052	205.8	173.3	170.8	0.006 >>	5,748	4,039,319	142.3
Breast - in situ	Total	39	200,158	19.5	17.1	28.9	0.084	1,025	8,096,208	12.7
	Male	-	99,106	-	-	0.1	1.000	3	4,056,889	0.1
	Female	39	101,052	38.6	33.8	29.2	0.094	1,022	4,039,319	25.3
Cervix	Female	5	101,052	4.9	4.8	6.6	0.714	254	4,039,319	6.3
Colorectal	Total	100	200,158	50.0	39.9	97.1	0.794	3,135	8,096,208	38.7
	Male	54	99,106	54.5	44.1	50.7	0.678	1,681	4,056,889	41.4
	Female	46	101,052	45.5	35.8	46.3	1.000	1,454	4,039,319	36.0
Corpus Uteri	Female	26	101,052	25.7	22.0	34.5	0.162	1,183	4,039,319	29.3
Esophagus	Total	12	200,158	6.0	4.8	14.1	0.702	457	8,096,208	5.6
	Male	10	99,106	10.1	8.2	11.4	0.836	378	4,056,889	9.3
	Female	2	101,052	2.0	1.5	2.6	1.000	79	4,039,319	2.0
Hodgkin Lymphoma	Total	5	200,158	2.5	2.4	5.0	1.000	194	8,096,208	2.4
	Male	3	99,106	3.0	3.0	2.6	0.964	105	4,056,889	2.6
	Female	2	101,052	2.0	1.9	2.4	1.000	89	4,039,319	2.2
Kidney and Renal Pelvis	Total	45	200,158	22.5	18.4	45.5	1.000	1,509	8,096,208	18.6
	Male	30	99,106	30.3	25.0	28.5	0.827	965	4,056,889	23.8
	Female	15	101,052	14.8	12.0	16.8	0.786	544	4,039,319	13.5
Larynx	Total	7	200,158	3.5	2.8	6.2	0.845	202	8,096,208	2.5
	Male	6	99,106	6.1	4.9	4.9	0.736	162	4,056,889	4.0
	Female	1	101,052	1.0	0.8	1.2	1.000	40	4,039,319	1.0
Leukemia	Total	35	200,158	17.5	13.9	45.0	0.147	1,451	8,096,208	17.9
	Male	21	99,106	21.2	17.2	25.9	0.392	860	4,056,889	21.2
	Female	14	101,052	13.9	10.8	19.0	0.300	591	4,039,319	14.6
Liver and Bile Duct	Total	19	200,158	9.5	7.8	21.5	0.689	714	8,096,208	8.8
	Male	17	99,106	17.2	14.2	15.2	0.703	515	4,056,889	12.7
	Female	2	101,052	2.0	1.6	6.3	0.103	199	4,039,319	4.9
Lung and Bronchus	Total	185	200,158	92.4	71.5	143.0	0.001 >>	4,472	8,096,208	55.2
	Male	98	99,106	98.9	76.9	72.3	0.005 >>	2,304	4,056,889	56.8
	Female	87	101,052	86.1	66.3	70.4	0.062	2,168	4,039,319	53.7
Melanoma of the Skin	Total	59	200,158	29.5	24.6	73.0	0.107	2,467	8,096,208	30.5
	Male	29	99,106	29.3	23.9	43.1	0.030 <<	1,440	4,056,889	35.5
	Female	30	101,052	29.7	25.7	29.7	1.000	1,027	4,039,319	25.4
Myeloma	Total	18	200,158	9.0	6.9	19.0	0.944	590	8,096,208	7.3
	Male	13	99,106	13.1	10.3	10.7	0.551	344	4,056,889	8.5
	Female	5	101,052	4.9	3.7	8.2	0.346	246	4,039,319	6.1
Non-Hodgkin Lymphoma	Total	54	200,158	27.0	21.6	53.1	0.938	1,719	8,096,208	21.2
	Male	33	99,106	33.3	27.0	29.3	0.545	974	4,056,889	24.0
	Female	21	101,052	20.8	16.4	23.6	0.682	745	4,039,319	18.4
Oral Cavity and Pharynx	Total	35	200,158	17.5	14.5	33.7	0.875	1,133	8,096,208	14.0
	Male	22	99,106	22.2	18.5	23.6	0.853	804	4,056,889	19.8
	Female	13	101,052	12.9	10.6	10.0	0.419	329	4,039,319	8.1
Ovary	Female	8	101,052	7.9	6.5	15.5	0.057	511	4,039,319	12.7
Pancreas	Total	51	200,158	25.5	19.7	40.0	0.107	1,253	8,096,208	15.5
	Male	22	99,106	22.2	17.5	21.0	0.889	680	4,056,889	16.8
	Female	29	101,052	28.7	21.7	18.9	0.038 >>	573	4,039,319	14.2
Prostate	Male	150	99,106	151.4	124.2	145.2	0.710	4,877	4,056,889	120.2
Stomach	Total	19	200,158	9.5	7.4	14.8	0.339	469	8,096,208	5.8
	Male	13	99,106	13.1	10.4	9.4	0.311	305	4,056,889	7.5
	Female	6	101,052	5.9	4.5	5.4	0.899	164	4,039,319	4.1
Testis	Male	3	99,106	3.0	3.1	6.3	0.248	264	4,056,889	6.5
Thyroid	Total	24	200,158	12.0	11.2	32.5	0.150	1,232	8,096,208	15.2
	Male	6	99,106	6.1	5.5	8.7	0.462	326	4,056,889	8.0
	Female	18	101,052	17.8	16.9	23.9	0.261	906	4,039,319	22.4
Pediatric Age 0 to 19	Total	9	47,917	18.8	18.6	8.8	1.000	426	2,352,605	18.1
	Male	3	24,790	12.1	12.0	4.8	0.584	231	1,201,112	19.2
	Female	6	23,127	25.9	25.7	3.9	0.413	195	1,151,493	16.9

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

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

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

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

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

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

TABLE 4: CANCER MORTALITY 2014–2018
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	2,541	200,773	1,265.6	901.0	2,216.1	0.000 >>	64,739	8,238,271	785.8
	Male	1,295	99,354	1,303.4	967.8	1,098.4	0.000 >>	33,891	4,128,526	820.9
	Female	1,246	101,419	1,228.6	839.6	1,113.9	0.000 >>	30,848	4,109,745	750.6
All Malignant Cancers	Total	537	200,773	267.5	201.9	453.4	0.000 >>	14,048	8,238,271	170.5
	Male	297	99,354	298.9	227.2	240.8	0.001 >>	7,604	4,128,526	184.2
	Female	240	101,419	236.6	178.0	211.4	0.057	6,444	4,109,745	156.8
Bladder	Total	12	200,773	6.0	4.1	14.8	0.577	414	8,238,271	5.0
	Male	8	99,354	8.1	5.6	10.8	0.496	311	4,128,526	7.5
	Female	4	101,419	3.9	2.7	3.8	1.000	103	4,109,745	2.5
Brain and Other Nervous System	Total	12	200,773	6.0	5.0	14.1	0.694	485	8,238,271	5.9
	Male	10	99,354	10.1	8.5	8.7	0.757	305	4,128,526	7.4
	Female	2	101,419	2.0	1.7	5.3	0.202	180	4,109,745	4.4
Breast	Total	36	200,773	17.9	13.9	33.1	0.660	1,051	8,238,271	12.8
	Male	-	99,354	-	-	0.3	1.000	10	4,128,526	0.2
	Female	36	101,419	35.5	27.5	33.2	0.673	1,041	4,109,745	25.3
Cervix	Female	3	101,419	3.0	2.6	2.1	0.721	77	4,109,745	1.9
Colorectal	Total	45	200,773	22.4	17.0	38.0	0.296	1,181	8,238,271	14.3
	Male	25	99,354	25.2	19.6	19.7	0.283	637	4,128,526	15.4
	Female	20	101,419	19.7	14.5	18.3	0.748	544	4,109,745	13.2
Corpus Uteri	Female	5	101,419	4.9	3.8	4.7	1.000	148	4,109,745	3.6
Esophagus	Total	15	200,773	7.5	5.8	14.4	0.936	456	8,238,271	5.5
	Male	10	99,354	10.1	7.9	11.3	0.839	370	4,128,526	9.0
	Female	5	101,419	4.9	3.7	2.9	0.321	86	4,109,745	2.1
Hodgkin Lymphoma	Total	-	200,773	-	-	0.6	1.000	21	8,238,271	0.3
	Male	-	99,354	-	-	0.2	1.000	8	4,128,526	0.2
	Female	-	101,419	-	-	0.4	1.000	13	4,109,745	0.3
Kidney	Total	16	200,773	8.0	6.0	11.4	0.229	354	8,238,271	4.3
	Male	13	99,354	13.1	10.2	7.1	0.060	229	4,128,526	5.5
	Female	3	101,419	3.0	2.2	4.2	0.786	125	4,109,745	3.0
Larynx	Total	2	200,773	1.0	0.7	2.0	1.000	61	8,238,271	0.7
	Male	2	99,354	2.0	1.5	1.6	0.978	51	4,128,526	1.2
	Female	-	101,419	-	-	0.3	1.000	10	4,109,745	0.2
Leukemia	Total	16	200,773	8.0	5.9	19.9	0.462	600	8,238,271	7.3
	Male	11	99,354	11.1	8.3	11.1	1.000	347	4,128,526	8.4
	Female	5	101,419	4.9	3.6	8.7	0.277	253	4,109,745	6.2
Liver and Bile Duct	Total	17	200,773	8.5	6.8	17.7	0.995	581	8,238,271	7.1
	Male	13	99,354	13.1	10.6	11.8	0.809	399	4,128,526	9.7
	Female	4	101,419	3.9	3.1	5.8	0.627	182	4,109,745	4.4
Lung and Bronchus	Total	137	200,773	68.2	52.0	95.6	0.000 >>	2,988	8,238,271	36.3
	Male	74	99,354	74.5	57.4	49.8	0.002 >>	1,593	4,128,526	38.6
	Female	63	101,419	62.1	46.9	45.6	0.017 >>	1,395	4,109,745	33.9
Melanoma of the Skin	Total	9	200,773	4.5	3.5	8.4	0.920	271	8,238,271	3.3
	Male	2	99,354	2.0	1.6	5.6	0.162	185	4,128,526	4.5
	Female	7	101,419	6.9	5.4	2.7	0.042 >>	86	4,109,745	2.1
Myeloma	Total	12	200,773	6.0	4.3	10.7	0.770	317	8,238,271	3.8
	Male	10	99,354	10.1	7.3	6.1	0.184	185	4,128,526	4.5
	Female	2	101,419	2.0	1.4	4.6	0.336	132	4,109,745	3.2
Non-Hodgkin Lymphoma	Total	20	200,773	10.0	7.2	18.6	0.808	550	8,238,271	6.7
	Male	11	99,354	11.1	8.3	9.9	0.805	308	4,128,526	7.5
	Female	9	101,419	8.9	6.1	8.7	0.995	242	4,109,745	5.9
Oral Cavity and Pharynx	Total	12	200,773	6.0	4.6	6.6	0.076	211	8,238,271	2.6
	Male	5	99,354	5.0	4.0	4.4	0.916	147	4,128,526	3.6
	Female	7	101,419	6.9	5.1	2.1	0.013 >>	64	4,109,745	1.6
Ovary	Female	9	101,419	8.9	6.9	11.2	0.637	354	4,109,745	8.6
Pancreas	Total	45	200,773	22.4	17.3	32.7	0.047 >>	1,034	8,238,271	12.6
	Male	20	99,354	20.1	16.0	17.3	0.581	572	4,128,526	13.9
	Female	25	101,419	24.7	18.4	15.3	0.028 >>	462	4,109,745	11.2
Prostate	Male	35	99,354	35.2	24.1	31.6	0.596	900	4,128,526	21.8
Stomach	Total	10	200,773	5.0	3.8	6.4	0.229	200	8,238,271	2.4
	Male	7	99,354	7.0	5.5	3.6	0.139	115	4,128,526	2.8
	Female	3	101,419	3.0	2.2	2.8	1.000	85	4,109,745	2.1

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, 2019.

Cancer Screening and Risk Factors

The Bureau of Vital Records and Health Statistics (BVRHS), Division of Public Health, 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) with randomly selected adult Idahoans to measure population prevalences of risk factors for the major causes of death, including cancer, since 1984. BVRHS provided data sets containing Behavioral Risk Factor Surveillance System (BRFSS) data from 2011 through 2018 to CDRI staff, who performed the analyses reported in these *County Profiles*. Analysis weights were poststratified to 2018 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, 2011–2018

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 (2014–2018)	81.2%	80.6%	84.5%	74.6%	84.7%	75.5%	83.3%	83.8%	85.1%
Not See Doctor Due to Cost in Past Year (2014–2018)	14.3%	13.9%	12.2%	18.1%	13.6%	14.3%	12.5%	13.9%	12.6%
Cancer Screening									
Mammogram Past 2 Years, Age 50–74 (2014, 2016, 2018)	67.5%	66.8%	72.1%	63.2%	72.9%	61.0%	64.6%	66.8%	77.5%
Pap Test Past 3 Years, Cervix Intact Age 21–65 (2016, 2018)	72.5%	74.8%	74.3%	72.1%	73.0%	71.7%	72.7%	68.6%	74.3%
Colorectal Cancer Screening, Age 50–75 (2016, 2018)	65.4%	64.9%	71.3%	62.6%	68.9%	60.3%	62.1%	65.3%	74.3%
Tobacco Use									
Current Smoker (2014–2018)	14.6%	17.1%	15.1%	16.8%	13.1%	16.2%	14.4%	10.4%	16.4%
Current Smokeless Tobacco User, Males (2014–2018)	9.5%	10.6%	14.0%	11.1%	8.4%	8.9%	8.4%	7.3%	14.8%
Other Cancer-Related									
Sunburn in Previous 12 Months (2018)	47.7%	42.3%	49.0%	41.6%	50.8%	42.8%	49.9%	56.6%	45.2%
Artificial Tanning Appliance Use (2011, 2014, 2016)	4.4%	5.5%	3.3%	3.3%	3.4%	4.2%	5.7%	6.8%	5.1%
Healthy Weight by Body Mass Index, Age 20+ (2014–2018)	32.6%	34.2%	32.9%	27.0%	36.3%	31.1%	29.4%	32.4%	31.1%
Meet Physical Activity Guidelines (2011, 2013, 2015, 2017)	22.1%	22.1%	19.9%	20.6%	26.1%	18.8%	20.0%	20.1%	17.3%
Home Ever Tested for Radon (2016, 2018)	22.7%	29.7%	19.5%	16.3%	24.1%	20.2%	23.3%	22.7%	18.4%

Access to Care

Have Health Insurance – 2014–2018
Statewide, 81.2% of adults aged 18–64 reported having health care coverage. Health care coverage differed significantly by race/ethnicity, with 84.5% of white non-Hispanics, compared to 59.8% of Hispanics and 79.9% of Native Americans, having health insurance. Spanish-speaking respondents were significantly less likely to be insured (33.1%) than English-speaking respondents (83.1%). Health care coverage differed significantly by age of respondent, with 76.4% of persons aged 30–39, and 86.5% of persons aged 50–64, having health insurance. Health care coverage differed significantly by county, with a range of 57.4% in Adams County to 91.7% in Oneida County having health insurance.

Not See Doctor Due to Cost in Past Year – 2014–2018
Statewide, 14.3% 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 (13.2% of white non-Hispanics, 21.4% of Hispanics, and 23.1% of Native Americans). Inability to see a doctor due to cost differed significantly by annual household income (27.4% for less than $15,000, 6.7% for greater than $50,000). Inability to see a doctor due to cost differed significantly by county, with a range of 7.0% in Caribou County to 20.2% in Jerome County.

Cancer Screening

Mammogram – 2014, 2016, 2018
Statewide, 67.5% 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 (70.7% versus 34.0%). Mammography rates differed significantly by county, with a range in screening of 47.3% in Gooding County to 77.5% in Nez Perce County. In 2018, Idaho ranked 49th among states and the District of Columbia for mammography screening rates among women aged 50–74 and 50th among ages 40+.

Pap Test – 2016, 2018
Statewide, 72.5% 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 (77.3% versus 54.2% screened in the past 3 years). Pap screening differed significantly by county, with a range of 60.5% in Idaho County to 79.2% in Latah County. In 2018, Idaho ranked 51st among states and the District of Columbia for Pap screening rate.

Colorectal Cancer Screening – 2016, 2018
Statewide, 65.4% of adults aged 50–75 reported receiving colorectal cancer screening based on the most recent guidelines.** Persons with health insurance were over twice as likely to be current for colorectal cancer screening. In 2018, Idaho ranked 41st 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 Smoking – 2014–2018
Statewide, 14.6% of adults aged 18 and older were current smokers. Smoking prevalence differed significantly by age of respondent, with 19.2% of persons aged 30–39, and 8.4% of persons aged 65 and older reporting current smoking. Smoking prevalence was lower among white non-Hispanics (14.7%) than among Native Americans (32.4%). Smoking prevalence differed significantly by county, with a range of 4.3% in Madison County to 32.7% in Adams County. Counties with higher rates of current smoking had higher rates of lung cancer.

Smokeless Tobacco Use, Males – 2014–2018
Statewide, 9.5% of males aged 18 and older were current users of smokeless tobacco. Smokeless tobacco use differed significantly by age group, ranging from 12.8% of males aged 30–39 to 4.0% of males aged 65 and older. Smokeless tobacco use differed significantly by county, with a range of 3.4% in Franklin County to 21.1% in Custer County. Counties with higher rates of smokeless tobacco use had higher rates of oral cavity & pharynx cancer.

Other Cancer-Related

Sun Exposure – 2018
Statewide, 47.7% of adults aged 18 and older reported having sunburn in the past 12 months. Sunburn rates were higher for white non-Hispanics (49.6%) and Native Americans (48.7%) than for Hispanics (35.2%). Sunburn rates differed significantly by age group, with 67.2% of persons aged 30–39 and 17.9% of persons aged 65 and older having sunburn in the past 12 months. Sunburn rates differed significantly by county, with a range of 36.7% in Idaho County to 72.9% in Madison County having sunburn in the past 12 months.

Artificial Tanning Appliance Use – 2011, 2014, 2016
Statewide, 4.4% of adults aged 18 and older reported using an artificial tanning appliance, such as a tanning bed, in the past 12 months. Females (6.8%) were significantly more likely than males (2.1%) to have used an artificial tanning appliance in the past 12 months. Tanning appliance use differed significantly by age group, with 8.7% of persons aged 18–29 and 0.9% of persons aged 65 and older, using an appliance in the past 12 months. Tanning appliance use differed by county, with a range of less than 1% in Oneida, Power, and Valley Counties to over 9% in Bear Lake and Fremont Counties using an artificial tanning appliance in the past 12 months.

Healthy Weight by Body Mass Index – 2014–2018
Statewide, 32.6% 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 33.3% of white non-Hispanics, compared to 26.0% of Hispanics and 26.8% of Native Americans, being in the healthy weight range. Males (25.7%) were significantly less likely to be in the healthy weight range than females (39.4%). BMI differed significantly by age of respondent, with 45.0% of persons aged 18–29, and 27.1% of persons aged 50–64, being in the healthy weight range. BMI differed significantly by county, with a range of 19.5% in Minidoka County to 52.8% in Blaine County of adults being in the healthy weight range.

Physical Activity – 2011, 2013, 2015, 2017
Statewide, 22.1% of adults aged 18 and older met aerobic and strength physical activity guidelines during the past month or week. Physical activity differed significantly by age of respondent, with 26.3% of persons aged 18–29, and 19.3% of persons aged 50–64, meeting guidelines. The percentage of adults meeting physical activity guidelines differed significantly by county, with a range of 7.6% in Oneida County to 31.1% in Blaine County.

Home Radon Testing – 2016, 2018
Statewide, 22.7% of adults have ever tested their house for radon. Radon test usage varied significantly by race/ethnicity, with 24.7% of white non-Hispanics, 5.3% of Hispanics, and 27.9% 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 8.0% in Cassia County to 58.0% in Blaine County.

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ONEIDA COUNTY CANCER PROFILE

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

Cancer Incidence 2013–2017
Cancer Mortality 2014–2018
BRFSS 2011–2018

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 are due to personal lifestyle factors, such as smoking and sedentary lifestyle, and are preventable. Additional cancers are 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. 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.

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://health.gov/dietaryguidelines/2015.

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
615 N. 7th Street
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/contact-center

American Cancer Society
2676 S. Vista Avenue
Boise, ID 83705
208-343-4609
https://www.cancer.org

CANCER INCIDENCE 2013–2017

Nearly one in two Idahoans are estimated to develop cancer during their lifetime. During 2013–2017, 40,996 cases of invasive cancer were diagnosed among Idaho residents, and 102 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, 2013–2017

Cancer Incidence 2013–2017	Oneida County	State of Idaho
All Sites/Types	**102**	**40,996**
Female Breast	**13**	**5,956**
Prostate	**13**	**5,027**
Lung & Bronchus	**9**	**4,657**
Colorectal	**5**	**3,235**

Table 3 (*Cancer Incidence 2013–2017, 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 rate of invasive cancer incidence in Oneida County was 476.7 cases per 100,000 person-years per year during 2013–2017. Comparing this crude rate with the crude rate for the remainder of Idaho (494.2) 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 392.6 cases per 100,000 persons per year during 2013–2017. There were statistically significantly fewer cases of cancer in Oneida County (102) than expected (128.4) based upon rates in the remainder of the state (p=.019).

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

CANCER MORTALITY 2014–2018

During 2014–2018, cancer was the second leading cause of death in Idaho; 14,585 Idaho residents and 32 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, 2014–2018

Mortality 2014–2018	Oneida County	State of Idaho
All Deaths	**220**	**67,280**
Cancer Deaths	**32**	**14,585**
% of All Deaths	*14.5%*	*21.7%*
Lung & Bronchus	**5**	**3,125**
Colorectal	**2**	**1,226**
Pancreas	**3**	**1,079**
Female Breast	**2**	**1,077**
Prostate	**2**	**935**

Table 4 (*Cancer Mortality 2014–2018, 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 113.1 deaths per 100,000 persons per year during 2014–2018, compared with 172.9 for the remainder of the state. There were statistically significantly fewer cancer deaths in Oneida County (32) than expected (48.9) based upon rates in the remainder of the state (p=.013).

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

TABLE 3: CANCER INCIDENCE 2013–2017
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	102	21,395	476.7	392.6	128.4	0.019 <<	40,894	8,274,971	494.2
	Male	55	10,735	512.3	404.4	69.4	0.088	21,142	4,145,260	510.0
	Female	47	10,660	440.9	376.7	59.7	0.107	19,752	4,129,711	478.3
Bladder	Total	6	21,395	28.0	21.5	6.8	0.971	2,009	8,274,971	24.3
	Male	6	10,735	55.9	41.5	5.5	0.929	1,564	4,145,260	37.7
	Female	-	10,660	-	-	1.4	0.471	445	4,129,711	10.8
Brain - malignant	Total	2	21,395	9.3	8.2	1.8	1.000	608	8,274,971	7.3
	Male	1	10,735	9.3	7.9	1.1	1.000	370	4,145,260	8.9
	Female	1	10,660	9.4	8.5	0.7	0.986	238	4,129,711	5.8
Brain and other CNS - non-malignant	Total	3	21,395	14.0	12.1	3.2	1.000	1,069	8,274,971	12.9
	Male	-	10,735	-	-	1.1	0.683	354	4,145,260	8.5
	Female	3	10,660	28.1	24.6	2.1	0.707	715	4,129,711	17.3
Breast	Total	13	21,395	60.8	51.9	18.1	0.272	5,988	8,274,971	72.4
	Male	-	10,735	-	-	0.2	1.000	45	4,145,260	1.1
	Female	13	10,660	122.0	106.8	17.5	0.338	5,943	4,129,711	143.9
Breast - in situ	Total	1	21,395	4.7	4.2	3.1	0.376	1,063	8,274,971	12.8
	Male	-	10,735	-	-	0.0	1.000	3	4,145,260	0.1
	Female	1	10,660	9.4	8.6	3.0	0.401	1,060	4,129,711	25.7
Cervix	Female	1	10,660	9.4	9.4	0.7	0.972	258	4,129,711	6.2
Colorectal	Total	5	21,395	23.4	19.0	10.3	0.114	3,230	8,274,971	39.0
	Male	2	10,735	18.6	14.8	5.6	0.160	1,733	4,145,260	41.8
	Female	3	10,660	28.1	23.2	4.7	0.625	1,497	4,129,711	36.2
Corpus Uteri	Female	1	10,660	9.4	8.3	3.5	0.269	1,208	4,129,711	29.3
Esophagus	Total	-	21,395	-	-	1.5	0.446	469	8,274,971	5.7
	Male	-	10,735	-	-	1.3	0.554	388	4,145,260	9.4
	Female	-	10,660	-	-	0.3	1.000	81	4,129,711	2.0
Hodgkin Lymphoma	Total	-	21,395	-	-	0.5	1.000	199	8,274,971	2.4
	Male	-	10,735	-	-	0.3	1.000	108	4,145,260	2.6
	Female	-	10,660	-	-	0.2	1.000	91	4,129,711	2.2
Kidney and Renal Pelvis	Total	4	21,395	18.7	15.5	4.8	0.940	1,550	8,274,971	18.7
	Male	2	10,735	18.6	15.2	3.2	0.779	993	4,145,260	24.0
	Female	2	10,660	18.8	15.8	1.7	1.000	557	4,129,711	13.5
Larynx	Total	-	21,395	-	-	0.7	1.000	209	8,274,971	2.5
	Male	-	10,735	-	-	0.6	1.000	168	4,145,260	4.1
	Female	-	10,660	-	-	0.1	1.000	41	4,129,711	1.0
Leukemia	Total	9	21,395	42.1	33.9	4.7	0.104	1,477	8,274,971	17.8
	Male	6	10,735	55.9	44.5	2.8	0.139	875	4,145,260	21.1
	Female	3	10,660	28.1	22.7	1.9	0.608	602	4,129,711	14.6
Liver and Bile Duct	Total	2	21,395	9.3	7.7	2.3	1.000	731	8,274,971	8.8
	Male	1	10,735	9.3	7.4	1.7	0.967	531	4,145,260	12.8
	Female	1	10,660	9.4	7.8	0.6	0.924	200	4,129,711	4.8
Lung and Bronchus	Total	9	21,395	42.1	32.8	15.4	0.115	4,648	8,274,971	56.2
	Male	8	10,735	74.5	56.2	8.2	1.000	2,394	4,145,260	57.8
	Female	1	10,660	9.4	7.5	7.2	0.012 <<	2,254	4,129,711	54.6
Melanoma of the Skin	Total	9	21,395	42.1	35.9	7.6	0.709	2,517	8,274,971	30.4
	Male	4	10,735	37.3	30.1	4.7	0.990	1,465	4,145,260	35.3
	Female	5	10,660	46.9	42.6	3.0	0.365	1,052	4,129,711	25.5
Myeloma	Total	1	21,395	4.7	3.6	2.0	0.806	607	8,274,971	7.3
	Male	-	10,735	-	-	1.2	0.604	357	4,145,260	8.6
	Female	1	10,660	9.4	7.3	0.8	1.000	250	4,129,711	6.1
Non-Hodgkin Lymphoma	Total	5	21,395	23.4	18.9	5.6	1.000	1,768	8,274,971	21.4
	Male	2	10,735	18.6	14.8	3.3	0.725	1,005	4,145,260	24.2
	Female	3	10,660	28.1	23.2	2.4	0.855	763	4,129,711	18.5
Oral Cavity and Pharynx	Total	2	21,395	9.3	7.9	3.6	0.610	1,166	8,274,971	14.1
	Male	2	10,735	18.6	15.1	2.6	1.000	824	4,145,260	19.9
	Female	-	10,660	-	-	1.0	0.721	342	4,129,711	8.3
Ovary	Female	2	10,660	18.8	16.2	1.6	0.918	517	4,129,711	12.5
Pancreas	Total	3	21,395	14.0	11.0	4.3	0.755	1,301	8,274,971	15.7
	Male	3	10,735	27.9	21.4	2.4	0.842	699	4,145,260	16.9
	Female	-	10,660	-	-	2.0	0.283	602	4,129,711	14.6
Prostate	Male	13	10,735	121.1	95.5	16.5	0.478	5,014	4,145,260	121.0
Stomach	Total	1	21,395	4.7	3.7	1.6	1.000	487	8,274,971	5.9
	Male	1	10,735	9.3	7.2	1.1	1.000	317	4,145,260	7.6
	Female	-	10,660	-	-	0.5	1.000	170	4,129,711	4.1
Testis	Male	1	10,735	9.3	11.2	0.6	0.870	266	4,145,260	6.4
Thyroid	Total	-	21,395	-	-	3.3	0.075	1,256	8,274,971	15.2
	Male	-	10,735	-	-	0.9	0.794	332	4,145,260	8.0
	Female	-	10,660	-	-	2.4	0.189	924	4,129,711	22.4
Pediatric Age 0 to 19	Total	2	6,595	30.3	30.8	1.2	0.656	433	2,393,927	18.1
	Male	-	3,401	-	-	0.6	1.000	234	1,222,501	19.1
	Female	2	3,194	62.6	63.1	0.5	0.204	199	1,171,426	17.0

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

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

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

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

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

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

TABLE 4: CANCER MORTALITY 2014–2018
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	220	21,628	1,017.2	747.0	234.6	0.357	67,060	8,417,416	796.7
	Male	126	10,847	1,161.6	864.3	121.2	0.686	35,060	4,217,033	831.4
	Female	94	10,781	871.9	628.5	113.9	0.063	32,000	4,200,383	761.8
All Malignant Cancers	Total	32	21,628	148.0	113.1	48.9	0.013 <<	14,553	8,417,416	172.9
	Male	18	10,847	165.9	124.0	27.1	0.084	7,883	4,217,033	186.9
	Female	14	10,781	129.9	101.3	21.9	0.098	6,670	4,200,383	158.8
Bladder	Total	3	21,628	13.9	9.8	1.5	0.405	423	8,417,416	5.0
	Male	3	10,847	27.7	19.0	1.2	0.233	316	4,217,033	7.5
	Female	-	10,781	-	-	0.4	1.000	107	4,200,383	2.5
Brain and Other Nervous System	Total	1	21,628	4.6	3.9	1.5	1.000	496	8,417,416	5.9
	Male	-	10,847	-	-	1.0	0.744	315	4,217,033	7.5
	Female	1	10,781	9.3	8.0	0.5	0.833	181	4,200,383	4.3
Breast	Total	2	21,628	9.2	7.3	3.6	0.623	1,085	8,417,416	12.9
	Male	-	10,847	-	-	0.0	1.000	10	4,217,033	0.2
	Female	2	10,781	18.6	14.9	3.4	0.668	1,075	4,200,383	25.6
Cervix	Female	-	10,781	-	-	0.2	1.000	80	4,200,383	1.9
Colorectal	Total	2	21,628	9.2	7.1	4.1	0.450	1,224	8,417,416	14.5
	Male	1	10,847	9.2	7.1	2.2	0.700	661	4,217,033	15.7
	Female	1	10,781	9.3	7.1	1.9	0.879	563	4,200,383	13.4
Corpus Uteri	Female	-	10,781	-	-	0.5	1.000	153	4,200,383	3.6
Esophagus	Total	-	21,628	-	-	1.6	0.423	471	8,417,416	5.6
	Male	-	10,847	-	-	1.3	0.554	380	4,217,033	9.0
	Female	-	10,781	-	-	0.3	1.000	91	4,200,383	2.2
Hodgkin Lymphoma	Total	-	21,628	-	-	0.1	1.000	21	8,417,416	0.2
	Male	-	10,847	-	-	0.0	1.000	8	4,217,033	0.2
	Female	-	10,781	-	-	0.0	1.000	13	4,200,383	0.3
Kidney	Total	2	21,628	9.2	7.1	1.2	0.702	368	8,417,416	4.4
	Male	2	10,847	18.4	14.1	0.8	0.390	240	4,217,033	5.7
	Female	-	10,781	-	-	0.4	1.000	128	4,200,383	3.0
Larynx	Total	-	21,628	-	-	0.2	1.000	63	8,417,416	0.7
	Male	-	10,847	-	-	0.2	1.000	53	4,217,033	1.3
	Female	-	10,781	-	-	0.0	1.000	10	4,200,383	0.2
Leukemia	Total	3	21,628	13.9	10.4	2.1	0.700	613	8,417,416	7.3
	Male	2	10,847	18.4	13.8	1.2	0.692	356	4,217,033	8.4
	Female	1	10,781	9.3	6.9	0.9	1.000	257	4,200,383	6.1
Liver and Bile Duct	Total	1	21,628	4.6	3.7	1.9	0.857	597	8,417,416	7.1
	Male	-	10,847	-	-	1.4	0.518	412	4,217,033	9.8
	Female	1	10,781	9.3	7.4	0.6	0.897	185	4,200,383	4.4
Lung and Bronchus	Total	5	21,628	23.1	17.7	10.5	0.103	3,120	8,417,416	37.1
	Male	4	10,847	36.9	27.6	5.7	0.652	1,663	4,217,033	39.4
	Female	1	10,781	9.3	7.2	4.8	0.095	1,457	4,200,383	34.7
Melanoma of the Skin	Total	1	21,628	4.6	3.7	0.9	1.000	279	8,417,416	3.3
	Male	1	10,847	9.2	7.1	0.6	0.924	186	4,217,033	4.4
	Female	-	10,781	-	-	0.3	1.000	93	4,200,383	2.2
Myeloma	Total	-	21,628	-	-	1.2	0.632	329	8,417,416	3.9
	Male	-	10,847	-	-	0.7	1.000	195	4,217,033	4.6
	Female	-	10,781	-	-	0.5	1.000	134	4,200,383	3.2
Non-Hodgkin Lymphoma	Total	3	21,628	13.9	10.1	2.0	0.642	567	8,417,416	6.7
	Male	-	10,847	-	-	1.1	0.656	319	4,217,033	7.6
	Female	3	10,781	27.8	20.0	0.9	0.121	248	4,200,383	5.9
Oral Cavity and Pharynx	Total	-	21,628	-	-	0.7	0.959	223	8,417,416	2.6
	Male	-	10,847	-	-	0.5	1.000	152	4,217,033	3.6
	Female	-	10,781	-	-	0.2	1.000	71	4,200,383	1.7
Ovary	Female	1	10,781	9.3	7.5	1.2	1.000	362	4,200,383	8.6
Pancreas	Total	3	21,628	13.9	10.8	3.6	1.000	1,076	8,417,416	12.8
	Male	2	10,847	18.4	14.2	2.0	1.000	590	4,217,033	14.0
	Female	1	10,781	9.3	7.2	1.6	1.000	486	4,200,383	11.6
Prostate	Male	2	10,847	18.4	12.6	3.5	0.640	933	4,217,033	22.1
Stomach	Total	-	21,628	-	-	0.7	0.996	210	8,417,416	2.5
	Male	-	10,847	-	-	0.4	1.000	122	4,217,033	2.9
	Female	-	10,781	-	-	0.3	1.000	88	4,200,383	2.1

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, 2019.

Cancer Screening and Risk Factors

The Bureau of Vital Records and Health Statistics (BVRHS), Division of Public Health, 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) with randomly selected adult Idahoans to measure population prevalences of risk factors for the major causes of death, including cancer, since 1984. BVRHS provided data sets containing Behavioral Risk Factor Surveillance System (BRFSS) data from 2011 through 2018 to CDRI staff, who performed the analyses reported in these *County Profiles*. Analysis weights were poststratified to 2018 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, 2011–2018

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 (2014–2018)	81.2%	80.6%	84.5%	74.6%	84.7%	75.5%	83.3%	83.8%	91.7%
Not See Doctor Due to Cost in Past Year (2014–2018)	14.3%	13.9%	12.2%	18.1%	13.6%	14.3%	12.5%	13.9%	16.0%
Cancer Screening									
Mammogram Past 2 Years, Age 50–74 (2014, 2016, 2018)	67.5%	66.8%	72.1%	63.2%	72.9%	61.0%	64.6%	66.8%	.
Pap Test Past 3 Years, Cervix Intact Age 21–65 (2016, 2018)	72.5%	74.8%	74.3%	72.1%	73.0%	71.7%	72.7%	68.6%	.
Colorectal Cancer Screening, Age 50–75 (2016, 2018)	65.4%	64.9%	71.3%	62.6%	68.9%	60.3%	62.1%	65.3%	.
Tobacco Use									
Current Smoker (2014–2018)	14.6%	17.1%	15.1%	16.8%	13.1%	16.2%	14.4%	10.4%	14.4%
Current Smokeless Tobacco User, Males (2014–2018)	9.5%	10.6%	14.0%	11.1%	8.4%	8.9%	8.4%	7.3%	13.1%
Other Cancer-Related									
Sunburn in Previous 12 Months (2018)	47.7%	42.3%	49.0%	41.6%	50.8%	42.8%	49.9%	56.6%	.
Artificial Tanning Appliance Use (2011, 2014, 2016)	4.4%	5.5%	3.3%	3.3%	3.4%	4.2%	5.7%	6.8%	0.6%
Healthy Weight by Body Mass Index, Age 20+ (2014–2018)	32.6%	34.2%	32.9%	27.0%	36.3%	31.1%	29.4%	32.4%	26.8%
Meet Physical Activity Guidelines (2011, 2013, 2015, 2017)	22.1%	22.1%	19.9%	20.6%	26.1%	18.8%	20.0%	20.1%	7.6%
Home Ever Tested for Radon (2016, 2018)	22.7%	29.7%	19.5%	16.3%	24.1%	20.2%	23.3%	22.7%	.

Access to Care

Have Health Insurance – 2014–2018
Statewide, 81.2% of adults aged 18–64 reported having health care coverage. Health care coverage differed significantly by race/ethnicity, with 84.5% of white non-Hispanics, compared to 59.8% of Hispanics and 79.9% of Native Americans, having health insurance. Spanish-speaking respondents were significantly less likely to be insured (33.1%) than English-speaking respondents (83.1%). Health care coverage differed significantly by age of respondent, with 76.4% of persons aged 30–39, and 86.5% of persons aged 50–64, having health insurance. Health care coverage differed significantly by county, with a range of 57.4% in Adams County to 91.7% in Oneida County having health insurance.

Not See Doctor Due to Cost in Past Year – 2014–2018
Statewide, 14.3% 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 (13.2% of white non-Hispanics, 21.4% of Hispanics, and 23.1% of Native Americans). Inability to see a doctor due to cost differed significantly by annual household income (27.4% for less than $15,000, 6.7% for greater than $50,000). Inability to see a doctor due to cost differed significantly by county, with a range of 7.0% in Caribou County to 20.2% in Jerome County.

Cancer Screening

Mammogram – 2014, 2016, 2018
Statewide, 67.5% 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 (70.7% versus 34.0%). Mammography rates differed significantly by county, with a range in screening of 47.3% in Gooding County to 77.5% in Nez Perce County. In 2018, Idaho ranked 49th among states and the District of Columbia for mammography screening rates among women aged 50–74 and 50th among ages 40+.

Pap Test – 2016, 2018
Statewide, 72.5% 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 (77.3% versus 54.2% screened in the past 3 years). Pap screening differed significantly by county, with a range of 60.5% in Idaho County to 79.2% in Latah County. In 2018, Idaho ranked 51st among states and the District of Columbia for Pap screening rate.

Colorectal Cancer Screening – 2016, 2018
Statewide, 65.4% of adults aged 50–75 reported receiving colorectal cancer screening based on the most recent guidelines.** Persons with health insurance were over twice as likely to be current for colorectal cancer screening. In 2018, Idaho ranked 41st 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 Smoking – 2014–2018
Statewide, 14.6% of adults aged 18 and older were current smokers. Smoking prevalence differed significantly by age of respondent, with 19.2% of persons aged 30–39, and 8.4% of persons aged 65 and older reporting current smoking. Smoking prevalence was lower among white non-Hispanics (14.7%) than among Native Americans (32.4%). Smoking prevalence differed significantly by county, with a range of 4.3% in Madison County to 32.7% in Adams County. Counties with higher rates of current smoking had higher rates of lung cancer.

Smokeless Tobacco Use, Males – 2014–2018
Statewide, 9.5% of males aged 18 and older were current users of smokeless tobacco. Smokeless tobacco use differed significantly by age group, ranging from 12.8% of males aged 30–39 to 4.0% of males aged 65 and older. Smokeless tobacco use differed significantly by county, with a range of 3.4% in Franklin County to 21.1% in Custer County. Counties with higher rates of smokeless tobacco use had higher rates of oral cavity & pharynx cancer.

Other Cancer-Related

Sun Exposure – 2018
Statewide, 47.7% of adults aged 18 and older reported having sunburn in the past 12 months. Sunburn rates were higher for white non-Hispanics (49.6%) and Native Americans (48.7%) than for Hispanics (35.2%). Sunburn rates differed significantly by age group, with 67.2% of persons aged 30–39 and 17.9% of persons aged 65 and older having sunburn in the past 12 months. Sunburn rates differed significantly by county, with a range of 36.7% in Idaho County to 72.9% in Madison County having sunburn in the past 12 months.

Artificial Tanning Appliance Use – 2011, 2014, 2016
Statewide, 4.4% of adults aged 18 and older reported using an artificial tanning appliance, such as a tanning bed, in the past 12 months. Females (6.8%) were significantly more likely than males (2.1%) to have used an artificial tanning appliance in the past 12 months. Tanning appliance use differed significantly by age group, with 8.7% of persons aged 18–29 and 0.9% of persons aged 65 and older, using an appliance in the past 12 months. Tanning appliance use differed by county, with a range of less than 1% in Oneida, Power, and Valley Counties to over 9% in Bear Lake and Fremont Counties using an artificial tanning appliance in the past 12 months.

Healthy Weight by Body Mass Index – 2014–2018
Statewide, 32.6% 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 33.3% of white non-Hispanics, compared to 26.0% of Hispanics and 26.8% of Native Americans, being in the healthy weight range. Males (25.7%) were significantly less likely to be in the healthy weight range than females (39.4%). BMI differed significantly by age of respondent, with 45.0% of persons aged 18–29, and 27.1% of persons aged 50–64, being in the healthy weight range. BMI differed significantly by county, with a range of 19.5% in Minidoka County to 52.8% in Blaine County of adults being in the healthy weight range.

Physical Activity – 2011, 2013, 2015, 2017
Statewide, 22.1% of adults aged 18 and older met aerobic and strength physical activity guidelines during the past month or week. Physical activity differed significantly by age of respondent, with 26.3% of persons aged 18–29, and 19.3% of persons aged 50–64, meeting guidelines. The percentage of adults meeting physical activity guidelines differed significantly by county, with a range of 7.6% in Oneida County to 31.1% in Blaine County.

Home Radon Testing – 2016, 2018
Statewide, 22.7% of adults have ever tested their house for radon. Radon test usage varied significantly by race/ethnicity, with 24.7% of white non-Hispanics, 5.3% of Hispanics, and 27.9% 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 8.0% in Cassia County to 58.0% in Blaine County.

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OWYHEE COUNTY CANCER PROFILE

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

Cancer Incidence 2013–2017
Cancer Mortality 2014–2018
BRFSS 2011–2018

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 are due to personal lifestyle factors, such as smoking and sedentary lifestyle, and are preventable. Additional cancers are 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. 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.

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://health.gov/dietaryguidelines/2015.

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
615 N. 7th Street
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/contact-center

American Cancer Society
2676 S. Vista Avenue
Boise, ID 83705
208-343-4609
https://www.cancer.org

CANCER INCIDENCE 2013–2017

Nearly one in two Idahoans are estimated to develop cancer during their lifetime. During 2013–2017, 40,996 cases of invasive cancer were diagnosed among Idaho residents, and 276 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, 2013–2017

Cancer Incidence 2013–2017	Owyhee County	State of Idaho
All Sites/Types	**276**	**40,996**
Female Breast	**58**	**5,956**
Prostate	**34**	**5,027**
Lung & Bronchus	**21**	**4,657**
Colorectal	**28**	**3,235**

Table 3 (*Cancer Incidence 2013–2017, 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 rate of invasive cancer incidence in Owyhee County was 484.4 cases per 100,000 person-years per year during 2013–2017. Comparing this crude rate with the crude rate for the remainder of Idaho (494.2) gives an estimate of the relative burden of disease in Owyhee County.

The age- and sex-adjusted incidence rate of invasive cancer in Owyhee County, all sites combined, was 442.2 cases per 100,000 persons per year during 2013–2017. There were fewer cases of cancer in Owyhee County (276) than expected (308.5) 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 2014–2018

During 2014–2018, cancer was the second leading cause of death in Idaho; 14,585 Idaho residents and 108 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, 2014–2018

Mortality 2014–2018	Owyhee County	State of Idaho
All Deaths	**483**	**67,280**
Cancer Deaths	**108**	**14,585**
% of All Deaths	*22.4%*	*21.7%*
Lung & Bronchus	**17**	**3,125**
Colorectal	**12**	**1,226**
Pancreas	**13**	**1,079**
Female Breast	**6**	**1,077**
Prostate	**5**	**935**

Table 4 (*Cancer Mortality 2014–2018, 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 170.0 deaths per 100,000 persons per year during 2014–2018, compared with 172.7 for the remainder of the state. There were fewer cancer deaths in Owyhee County (108) than expected (109.7) 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 2013–2017
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	276	56,983	484.4	442.2	308.5	0.065	40,720	8,239,383	494.2
	Male	142	29,114	487.7	425.7	170.2	0.030 <<	21,055	4,126,881	510.2
	Female	134	27,869	480.8	455.3	140.7	0.607	19,665	4,112,502	478.2
Bladder	Total	10	56,983	17.5	15.8	15.4	0.199	2,005	8,239,383	24.3
	Male	8	29,114	27.5	23.6	12.8	0.214	1,562	4,126,881	37.8
	Female	2	27,869	7.2	6.8	3.2	0.764	443	4,112,502	10.8
Brain - malignant	Total	1	56,983	1.8	1.7	4.5	0.124	609	8,239,383	7.4
	Male	1	29,114	3.4	3.1	2.9	0.442	370	4,126,881	9.0
	Female	-	27,869	-	-	1.7	0.376	239	4,112,502	5.8
Brain and other CNS - non-malignant	Total	7	56,983	12.3	11.5	7.9	0.948	1,065	8,239,383	12.9
	Male	3	29,114	10.3	9.5	2.7	1.000	351	4,126,881	8.5
	Female	4	27,869	14.4	13.8	5.0	0.867	714	4,112,502	17.4
Breast	Total	58	56,983	101.8	93.5	44.7	0.064	5,943	8,239,383	72.1
	Male	-	29,114	-	-	0.4	1.000	45	4,126,881	1.1
	Female	58	27,869	208.1	196.0	42.4	0.027 >>	5,898	4,112,502	143.4
Breast - in situ	Total	3	56,983	5.3	4.9	8.0	0.088	1,061	8,239,383	12.9
	Male	-	29,114	-	-	0.0	1.000	3	4,126,881	0.1
	Female	3	27,869	10.8	10.1	7.6	0.108	1,058	4,112,502	25.7
Cervix	Female	1	27,869	3.6	3.6	1.8	0.952	258	4,112,502	6.3
Colorectal	Total	28	56,983	49.1	44.8	24.3	0.506	3,207	8,239,383	38.9
	Male	19	29,114	65.3	57.2	13.8	0.215	1,716	4,126,881	41.6
	Female	9	27,869	32.3	30.5	10.7	0.752	1,491	4,112,502	36.3
Corpus Uteri	Female	5	27,869	17.9	16.8	8.7	0.272	1,204	4,112,502	29.3
Esophagus	Total	3	56,983	5.3	4.8	3.6	1.000	466	8,239,383	5.7
	Male	3	29,114	10.3	9.0	3.1	1.000	385	4,126,881	9.3
	Female	-	27,869	-	-	0.6	1.000	81	4,112,502	2.0
Hodgkin Lymphoma	Total	1	56,983	1.8	1.8	1.4	1.000	198	8,239,383	2.4
	Male	1	29,114	3.4	3.4	0.8	1.000	107	4,126,881	2.6
	Female	-	27,869	-	-	0.6	1.000	91	4,112,502	2.2
Kidney and Renal Pelvis	Total	10	56,983	17.5	16.0	11.7	0.750	1,544	8,239,383	18.7
	Male	7	29,114	24.0	21.1	8.0	0.917	988	4,126,881	23.9
	Female	3	27,869	10.8	10.2	4.0	0.869	556	4,112,502	13.5
Larynx	Total	-	56,983	-	-	1.6	0.401	209	8,239,383	2.5
	Male	-	29,114	-	-	1.4	0.502	168	4,126,881	4.1
	Female	-	27,869	-	-	0.3	1.000	41	4,112,502	1.0
Leukemia	Total	8	56,983	14.0	12.9	11.1	0.442	1,478	8,239,383	17.9
	Male	3	29,114	10.3	9.1	7.0	0.160	878	4,126,881	21.3
	Female	5	27,869	17.9	17.2	4.2	0.834	600	4,112,502	14.6
Liver and Bile Duct	Total	7	56,983	12.3	11.1	5.5	0.643	726	8,239,383	8.8
	Male	3	29,114	10.3	9.0	4.3	0.759	529	4,126,881	12.8
	Female	4	27,869	14.4	13.5	1.4	0.112	197	4,112,502	4.8
Lung and Bronchus	Total	21	56,983	36.9	32.9	35.9	0.010 <<	4,636	8,239,383	56.3
	Male	12	29,114	41.2	35.2	19.8	0.087	2,390	4,126,881	57.9
	Female	9	27,869	32.3	30.0	16.4	0.072	2,246	4,112,502	54.6
Melanoma of the Skin	Total	12	56,983	21.1	19.6	18.7	0.137	2,514	8,239,383	30.5
	Male	8	29,114	27.5	24.3	11.7	0.355	1,461	4,126,881	35.4
	Female	4	27,869	14.4	13.8	7.4	0.279	1,053	4,112,502	25.6
Myeloma	Total	2	56,983	3.5	3.1	4.7	0.309	606	8,239,383	7.4
	Male	2	29,114	6.9	5.9	2.9	0.875	355	4,126,881	8.6
	Female	-	27,869	-	-	1.8	0.331	251	4,112,502	6.1
Non-Hodgkin Lymphoma	Total	15	56,983	26.3	23.9	13.4	0.725	1,758	8,239,383	21.3
	Male	8	29,114	27.5	24.0	8.1	1.000	999	4,126,881	24.2
	Female	7	27,869	25.1	23.7	5.5	0.613	759	4,112,502	18.5
Oral Cavity and Pharynx	Total	3	56,983	5.3	4.8	8.8	0.048 <<	1,165	8,239,383	14.1
	Male	3	29,114	10.3	9.1	6.6	0.214	823	4,126,881	19.9
	Female	-	27,869	-	-	2.5	0.170	342	4,112,502	8.3
Ovary	Female	5	27,869	17.9	17.0	3.7	0.618	514	4,112,502	12.5
Pancreas	Total	11	56,983	19.3	17.4	9.9	0.814	1,293	8,239,383	15.7
	Male	8	29,114	27.5	23.7	5.7	0.427	694	4,126,881	16.8
	Female	3	27,869	10.8	10.1	4.3	0.751	599	4,112,502	14.6
Prostate	Male	34	29,114	116.8	101.1	40.7	0.332	4,993	4,126,881	121.0
Stomach	Total	7	56,983	12.3	11.2	3.7	0.157	481	8,239,383	5.8
	Male	7	29,114	24.0	20.8	2.5	0.030 >>	311	4,126,881	7.5
	Female	-	27,869	-	-	1.2	0.595	170	4,112,502	4.1
Testis	Male	-	29,114	-	-	1.7	0.355	267	4,126,881	6.5
Thyroid	Total	5	56,983	8.8	8.6	8.8	0.256	1,251	8,239,383	15.2
	Male	1	29,114	3.4	3.3	2.5	0.590	331	4,126,881	8.0
	Female	4	27,869	14.4	14.3	6.3	0.504	920	4,112,502	22.4
Pediatric Age 0 to 19	Total	2	16,799	11.9	11.9	3.0	0.828	433	2,383,723	18.2
	Male	2	8,620	23.2	23.1	1.6	0.980	232	1,217,282	19.1
	Female	-	8,179	-	-	1.4	0.492	201	1,166,441	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 2014–2018
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	483	57,277	843.3	778.0	494.7	0.617	66,797	8,381,767	796.9
	Male	260	29,245	889.0	772.2	280.1	0.240	34,926	4,198,635	831.8
	Female	223	28,032	795.5	775.3	219.2	0.813	31,871	4,183,132	761.9
All Malignant Cancers	Total	108	57,277	188.6	170.0	109.7	0.921	14,477	8,381,767	172.7
	Male	60	29,245	205.2	174.7	64.1	0.661	7,841	4,198,635	186.8
	Female	48	28,032	171.2	161.8	47.0	0.928	6,636	4,183,132	158.6
Bladder	Total	3	57,277	5.2	4.7	3.2	1.000	423	8,381,767	5.0
	Male	3	29,245	10.3	8.6	2.6	0.973	316	4,198,635	7.5
	Female	-	28,032	-	-	0.7	0.952	107	4,183,132	2.6
Brain and Other Nervous System	Total	1	57,277	1.7	1.6	3.7	0.233	496	8,381,767	5.9
	Male	-	29,245	-	-	2.5	0.170	315	4,198,635	7.5
	Female	1	28,032	3.6	3.4	1.3	1.000	181	4,183,132	4.3
Breast	Total	6	57,277	10.5	9.5	8.1	0.601	1,081	8,381,767	12.9
	Male	-	29,245	-	-	0.1	1.000	10	4,198,635	0.2
	Female	6	28,032	21.4	20.2	7.6	0.729	1,071	4,183,132	25.6
Cervix	Female	1	28,032	3.6	3.4	0.6	0.851	79	4,183,132	1.9
Colorectal	Total	12	57,277	21.0	19.0	9.1	0.421	1,214	8,381,767	14.5
	Male	11	29,245	37.6	32.3	5.3	0.039 **>>**	651	4,198,635	15.5
	Female	1	28,032	3.6	3.4	4.0	0.188	563	4,183,132	13.5
Corpus Uteri	Female	1	28,032	3.6	3.3	1.1	1.000	152	4,183,132	3.6
Esophagus	Total	2	57,277	3.5	3.1	3.6	0.618	469	8,381,767	5.6
	Male	2	29,245	6.8	5.9	3.1	0.822	378	4,198,635	9.0
	Female	-	28,032	-	-	0.6	1.000	91	4,183,132	2.2
Hodgkin Lymphoma	Total	-	57,277	-	-	0.2	1.000	21	8,381,767	0.3
	Male	-	29,245	-	-	0.1	1.000	8	4,198,635	0.2
	Female	-	28,032	-	-	0.1	1.000	13	4,183,132	0.3
Kidney	Total	5	57,277	8.7	7.8	2.8	0.299	365	8,381,767	4.4
	Male	2	29,245	6.8	5.8	2.0	1.000	240	4,198,635	5.7
	Female	3	28,032	10.7	10.2	0.9	0.119	125	4,183,132	3.0
Larynx	Total	-	57,277	-	-	0.5	1.000	63	8,381,767	0.8
	Male	-	29,245	-	-	0.4	1.000	53	4,198,635	1.3
	Female	-	28,032	-	-	0.1	1.000	10	4,183,132	0.2
Leukemia	Total	2	57,277	3.5	3.2	4.6	0.318	614	8,381,767	7.3
	Male	-	29,245	-	-	2.9	0.107	358	4,198,635	8.5
	Female	2	28,032	7.1	6.9	1.8	1.000	256	4,183,132	6.1
Liver and Bile Duct	Total	4	57,277	7.0	6.2	4.5	1.000	594	8,381,767	7.1
	Male	2	29,245	6.8	5.8	3.4	0.696	410	4,198,635	9.8
	Female	2	28,032	7.1	6.7	1.3	0.758	184	4,183,132	4.4
Lung and Bronchus	Total	17	57,277	29.7	26.5	23.8	0.186	3,108	8,381,767	37.1
	Male	9	29,245	30.8	26.0	13.7	0.253	1,658	4,198,635	39.5
	Female	8	28,032	28.5	26.7	10.4	0.582	1,450	4,183,132	34.7
Melanoma of the Skin	Total	1	57,277	1.7	1.6	2.1	0.762	279	8,381,767	3.3
	Male	1	29,245	3.4	3.0	1.5	1.000	186	4,198,635	4.4
	Female	-	28,032	-	-	0.7	1.000	93	4,183,132	2.2
Myeloma	Total	1	57,277	1.7	1.6	2.5	0.567	328	8,381,767	3.9
	Male	1	29,245	3.4	2.9	1.6	1.000	194	4,198,635	4.6
	Female	-	28,032	-	-	1.0	0.771	134	4,183,132	3.2
Non-Hodgkin Lymphoma	Total	7	57,277	12.2	11.0	4.3	0.283	563	8,381,767	6.7
	Male	3	29,245	10.3	8.7	2.6	0.961	316	4,198,635	7.5
	Female	4	28,032	14.3	13.6	1.7	0.197	247	4,183,132	5.9
Oral Cavity and Pharynx	Total	1	57,277	1.7	1.6	1.7	0.994	222	8,381,767	2.6
	Male	-	29,245	-	-	1.2	0.584	152	4,198,635	3.6
	Female	1	28,032	3.6	3.4	0.5	0.784	70	4,183,132	1.7
Ovary	Female	5	28,032	17.8	16.8	2.6	0.232	358	4,183,132	8.6
Pancreas	Total	13	57,277	22.7	20.3	8.1	0.141	1,066	8,381,767	12.7
	Male	7	29,245	23.9	20.4	4.8	0.413	585	4,198,635	13.9
	Female	6	28,032	21.4	20.1	3.4	0.266	481	4,183,132	11.5
Prostate	Male	5	29,245	17.1	14.3	7.7	0.436	930	4,198,635	22.2
Stomach	Total	6	57,277	10.5	9.5	1.5	0.010 **>>**	204	8,381,767	2.4
	Male	6	29,245	20.5	17.4	1.0	0.001 **>>**	116	4,198,635	2.8
	Female	-	28,032	-	-	0.6	1.000	88	4,183,132	2.1

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, 2019.

Cancer Screening and Risk Factors

The Bureau of Vital Records and Health Statistics (BVRHS), Division of Public Health, 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) with randomly selected adult Idahoans to measure population prevalences of risk factors for the major causes of death, including cancer, since 1984. BVRHS provided data sets containing Behavioral Risk Factor Surveillance System (BRFSS) data from 2011 through 2018 to CDRI staff, who performed the analyses reported in these *County Profiles*. Analysis weights were poststratified to 2018 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, 2011–2018

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 (2014–2018)	81.2%	80.6%	84.5%	74.6%	84.7%	75.5%	83.3%	83.8%	64.7%
Not See Doctor Due to Cost in Past Year (2014–2018)	14.3%	13.9%	12.2%	18.1%	13.6%	14.3%	12.5%	13.9%	14.1%
Cancer Screening									
Mammogram Past 2 Years, Age 50–74 (2014, 2016, 2018)	67.5%	66.8%	72.1%	63.2%	72.9%	61.0%	64.6%	66.8%	.
Pap Test Past 3 Years, Cervix Intact Age 21–65 (2016, 2018)	72.5%	74.8%	74.3%	72.1%	73.0%	71.7%	72.7%	68.6%	.
Colorectal Cancer Screening, Age 50–75 (2016, 2018)	65.4%	64.9%	71.3%	62.6%	68.9%	60.3%	62.1%	65.3%	.
Tobacco Use									
Current Smoker (2014–2018)	14.6%	17.1%	15.1%	16.8%	13.1%	16.2%	14.4%	10.4%	16.5%
Current Smokeless Tobacco User, Males (2014–2018)	9.5%	10.6%	14.0%	11.1%	8.4%	8.9%	8.4%	7.3%	12.3%
Other Cancer-Related									
Sunburn in Previous 12 Months (2018)	47.7%	42.3%	49.0%	41.6%	50.8%	42.8%	49.9%	56.6%	.
Artificial Tanning Appliance Use (2011, 2014, 2016)	4.4%	5.5%	3.3%	3.3%	3.4%	4.2%	5.7%	6.8%	7.1%
Healthy Weight by Body Mass Index, Age 20+ (2014–2018)	32.6%	34.2%	32.9%	27.0%	36.3%	31.1%	29.4%	32.4%	19.9%
Meet Physical Activity Guidelines (2011, 2013, 2015, 2017)	22.1%	22.1%	19.9%	20.6%	26.1%	18.8%	20.0%	20.1%	24.8%
Home Ever Tested for Radon (2016, 2018)	22.7%	29.7%	19.5%	16.3%	24.1%	20.2%	23.3%	22.7%	22.3%

Access to Care

Have Health Insurance – 2014–2018
Statewide, 81.2% of adults aged 18–64 reported having health care coverage. Health care coverage differed significantly by race/ethnicity, with 84.5% of white non-Hispanics, compared to 59.8% of Hispanics and 79.9% of Native Americans, having health insurance. Spanish-speaking respondents were significantly less likely to be insured (33.1%) than English-speaking respondents (83.1%). Health care coverage differed significantly by age of respondent, with 76.4% of persons aged 30–39, and 86.5% of persons aged 50–64, having health insurance. Health care coverage differed significantly by county, with a range of 57.4% in Adams County to 91.7% in Oneida County having health insurance.

Not See Doctor Due to Cost in Past Year – 2014–2018
Statewide, 14.3% 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 (13.2% of white non-Hispanics, 21.4% of Hispanics, and 23.1% of Native Americans). Inability to see a doctor due to cost differed significantly by annual household income (27.4% for less than $15,000, 6.7% for greater than $50,000). Inability to see a doctor due to cost differed significantly by county, with a range of 7.0% in Caribou County to 20.2% in Jerome County.

Cancer Screening

Mammogram – 2014, 2016, 2018
Statewide, 67.5% 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 (70.7% versus 34.0%). Mammography rates differed significantly by county, with a range in screening of 47.3% in Gooding County to 77.5% in Nez Perce County. In 2018, Idaho ranked 49th among states and the District of Columbia for mammography screening rates among women aged 50–74 and 50th among ages 40+.

Pap Test – 2016, 2018
Statewide, 72.5% 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 (77.3% versus 54.2% screened in the past 3 years). Pap screening differed significantly by county, with a range of 60.5% in Idaho County to 79.2% in Latah County. In 2018, Idaho ranked 51st among states and the District of Columbia for Pap screening rate.

Colorectal Cancer Screening – 2016, 2018
Statewide, 65.4% of adults aged 50–75 reported receiving colorectal cancer screening based on the most recent guidelines.** Persons with health insurance were over twice as likely to be current for colorectal cancer screening. In 2018, Idaho ranked 41st 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 Smoking – 2014–2018
Statewide, 14.6% of adults aged 18 and older were current smokers. Smoking prevalence differed significantly by age of respondent, with 19.2% of persons aged 30–39, and 8.4% of persons aged 65 and older reporting current smoking. Smoking prevalence was lower among white non-Hispanics (14.7%) than among Native Americans (32.4%). Smoking prevalence differed significantly by county, with a range of 4.3% in Madison County to 32.7% in Adams County. Counties with higher rates of current smoking had higher rates of lung cancer.

Smokeless Tobacco Use, Males – 2014–2018
Statewide, 9.5% of males aged 18 and older were current users of smokeless tobacco. Smokeless tobacco use differed significantly by age group, ranging from 12.8% of males aged 30–39 to 4.0% of males aged 65 and older. Smokeless tobacco use differed significantly by county, with a range of 3.4% in Franklin County to 21.1% in Custer County. Counties with higher rates of smokeless tobacco use had higher rates of oral cavity & pharynx cancer.

Other Cancer-Related

Sun Exposure – 2018
Statewide, 47.7% of adults aged 18 and older reported having sunburn in the past 12 months. Sunburn rates were higher for white non-Hispanics (49.6%) and Native Americans (48.7%) than for Hispanics (35.2%). Sunburn rates differed significantly by age group, with 67.2% of persons aged 30–39 and 17.9% of persons aged 65 and older having sunburn in the past 12 months. Sunburn rates differed significantly by county, with a range of 36.7% in Idaho County to 72.9% in Madison County having sunburn in the past 12 months.

Artificial Tanning Appliance Use – 2011, 2014, 2016
Statewide, 4.4% of adults aged 18 and older reported using an artificial tanning appliance, such as a tanning bed, in the past 12 months. Females (6.8%) were significantly more likely than males (2.1%) to have used an artificial tanning appliance in the past 12 months. Tanning appliance use differed significantly by age group, with 8.7% of persons aged 18–29 and 0.9% of persons aged 65 and older, using an appliance in the past 12 months. Tanning appliance use differed by county, with a range of less than 1% in Oneida, Power, and Valley Counties to over 9% in Bear Lake and Fremont Counties using an artificial tanning appliance in the past 12 months.

Healthy Weight by Body Mass Index – 2014–2018
Statewide, 32.6% 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 33.3% of white non-Hispanics, compared to 26.0% of Hispanics and 26.8% of Native Americans, being in the healthy weight range. Males (25.7%) were significantly less likely to be in the healthy weight range than females (39.4%). BMI differed significantly by age of respondent, with 45.0% of persons aged 18–29, and 27.1% of persons aged 50–64, being in the healthy weight range. BMI differed significantly by county, with a range of 19.5% in Minidoka County to 52.8% in Blaine County of adults being in the healthy weight range.

Physical Activity – 2011, 2013, 2015, 2017
Statewide, 22.1% of adults aged 18 and older met aerobic and strength physical activity guidelines during the past month or week. Physical activity differed significantly by age of respondent, with 26.3% of persons aged 18–29, and 19.3% of persons aged 50–64, meeting guidelines. The percentage of adults meeting physical activity guidelines differed significantly by county, with a range of 7.6% in Oneida County to 31.1% in Blaine County.

Home Radon Testing – 2016, 2018
Statewide, 22.7% of adults have ever tested their house for radon. Radon test usage varied significantly by race/ethnicity, with 24.7% of white non-Hispanics, 5.3% of Hispanics, and 27.9% 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 8.0% in Cassia County to 58.0% in Blaine County.

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PAYETTE COUNTY CANCER PROFILE

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

Cancer Incidence 2013–2017
Cancer Mortality 2014–2018
BRFSS 2011–2018

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 are due to personal lifestyle factors, such as smoking and sedentary lifestyle, and are preventable. Additional cancers are 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. 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.

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://health.gov/dietaryguidelines/2015.

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
615 N. 7th Street
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/contact-center

American Cancer Society
2676 S. Vista Avenue
Boise, ID 83705
208-343-4609
https://www.cancer.org

CANCER INCIDENCE 2013–2017

Nearly one in two Idahoans are estimated to develop cancer during their lifetime. During 2013–2017, 40,996 cases of invasive cancer were diagnosed among Idaho residents, and 690 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, 2013–2017

Cancer Incidence 2013–2017	Payette County	State of Idaho
All Sites/Types	**690**	**40,996**
Female Breast	**87**	**5,956**
Prostate	**69**	**5,027**
Lung & Bronchus	**104**	**4,657**
Colorectal	**71**	**3,235**

Table 3 (*Cancer Incidence 2013–2017, 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 rate of invasive cancer incidence in Payette County was 604.2 cases per 100,000 person-years per year during 2013–2017. Comparing this crude rate with the crude rate for the remainder of Idaho (492.6) 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 538.6 cases per 100,000 persons per year during 2013–2017. There were statistically significantly more cases of cancer in Payette County (690) than expected (631.0) based upon rates in the remainder of the state (p=.022).

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 2014–2018

During 2014–2018, cancer was the second leading cause of death in Idaho; 14,585 Idaho residents and 245 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, 2014–2018

Mortality 2014–2018	Payette County	State of Idaho
All Deaths	**1,112**	**67,280**
Cancer Deaths	**245**	**14,585**
% of All Deaths	*22.0%*	*21.7%*
Lung & Bronchus	**69**	**3,125**
Colorectal	**21**	**1,226**
Pancreas	**19**	**1,079**
Female Breast	**15**	**1,077**
Prostate	**9**	**935**

Table 4 (*Cancer Mortality 2014–2018, 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 184.8 deaths per 100,000 persons per year during 2014–2018, compared with 172.3 for the remainder of the state. There were more cancer deaths in Payette County (245) than expected (228.4) 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 2013–2017
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	690	114,199	604.2	538.6	631.0	0.022 >>	40,306	8,182,167	492.6
	Male	379	56,818	667.0	578.3	332.8	0.014 >>	20,818	4,099,177	507.9
	Female	311	57,381	542.0	493.5	300.8	0.572	19,488	4,082,990	477.3
Bladder	Total	35	114,199	30.6	26.4	32.1	0.651	1,980	8,182,167	24.2
	Male	27	56,818	47.5	39.5	25.7	0.855	1,543	4,099,177	37.6
	Female	8	57,381	13.9	12.5	6.9	0.760	437	4,082,990	10.7
Brain - malignant	Total	12	114,199	10.5	9.7	9.0	0.394	598	8,182,167	7.3
	Male	6	56,818	10.6	9.6	5.6	0.962	365	4,099,177	8.9
	Female	6	57,381	10.5	9.9	3.5	0.273	233	4,082,990	5.7
Brain and other CNS - non-malignant	Total	11	114,199	9.6	8.9	16.1	0.247	1,061	8,182,167	13.0
	Male	4	56,818	7.0	6.4	5.3	0.770	350	4,099,177	8.5
	Female	7	57,381	12.2	11.3	10.8	0.319	711	4,082,990	17.4
Breast	Total	88	114,199	77.1	69.8	91.1	0.801	5,913	8,182,167	72.3
	Male	1	56,818	1.8	1.5	0.7	1.000	44	4,099,177	1.1
	Female	87	57,381	151.6	138.1	90.5	0.761	5,869	4,082,990	143.7
Breast - in situ	Total	19	114,199	16.6	15.2	15.9	0.501	1,045	8,182,167	12.8
	Male	-	56,818	-	-	0.0	1.000	3	4,099,177	0.1
	Female	19	57,381	33.1	30.2	16.0	0.520	1,042	4,082,990	25.5
Cervix	Female	5	57,381	8.7	8.6	3.6	0.600	254	4,082,990	6.2
Colorectal	Total	71	114,199	62.2	55.2	49.7	0.005 >>	3,164	8,182,167	38.7
	Male	46	56,818	81.0	70.7	26.8	0.001 >>	1,689	4,099,177	41.2
	Female	25	57,381	43.6	39.3	23.0	0.726	1,475	4,082,990	36.1
Corpus Uteri	Female	25	57,381	43.6	40.1	18.1	0.141	1,184	4,082,990	29.0
Esophagus	Total	5	114,199	4.4	3.8	7.4	0.511	464	8,182,167	5.7
	Male	4	56,818	7.0	6.1	6.1	0.531	384	4,099,177	9.4
	Female	1	57,381	1.7	1.6	1.3	1.000	80	4,082,990	2.0
Hodgkin Lymphoma	Total	2	114,199	1.8	1.8	2.7	0.965	197	8,182,167	2.4
	Male	1	56,818	1.8	1.8	1.5	1.000	107	4,099,177	2.6
	Female	1	57,381	1.7	1.7	1.3	1.000	90	4,082,990	2.2
Kidney and Renal Pelvis	Total	22	114,199	19.3	17.1	24.0	0.778	1,532	8,182,167	18.7
	Male	17	56,818	29.9	26.3	15.4	0.758	978	4,099,177	23.9
	Female	5	57,381	8.7	7.9	8.6	0.281	554	4,082,990	13.6
Larynx	Total	6	114,199	5.3	4.7	3.2	0.209	203	8,182,167	2.5
	Male	6	56,818	10.6	9.2	2.6	0.097	162	4,099,177	4.0
	Female	-	57,381	-	-	0.6	1.000	41	4,082,990	1.0
Leukemia	Total	22	114,199	19.3	17.1	23.1	0.933	1,464	8,182,167	17.9
	Male	16	56,818	28.2	24.3	13.9	0.635	865	4,099,177	21.1
	Female	6	57,381	10.5	9.5	9.3	0.368	599	4,082,990	14.7
Liver and Bile Duct	Total	14	114,199	12.3	11.0	11.1	0.464	719	8,182,167	8.8
	Male	12	56,818	21.1	18.9	8.1	0.232	520	4,099,177	12.7
	Female	2	57,381	3.5	3.2	3.1	0.805	199	4,082,990	4.9
Lung and Bronchus	Total	104	114,199	91.1	78.1	74.1	0.001 >>	4,553	8,182,167	55.6
	Male	62	56,818	109.1	91.1	38.9	0.001 >>	2,340	4,099,177	57.1
	Female	42	57,381	73.2	64.1	35.5	0.314	2,213	4,082,990	54.2
Melanoma of the Skin	Total	21	114,199	18.4	16.8	38.3	0.003 <<	2,505	8,182,167	30.6
	Male	11	56,818	19.4	17.1	22.9	0.009 <<	1,458	4,099,177	35.6
	Female	10	57,381	17.4	16.3	15.7	0.174	1,047	4,082,990	25.6
Myeloma	Total	13	114,199	11.4	9.8	9.6	0.353	595	8,182,167	7.3
	Male	11	56,818	19.4	16.2	5.7	0.065	346	4,099,177	8.4
	Female	2	57,381	3.5	3.1	3.9	0.498	249	4,082,990	6.1
Non-Hodgkin Lymphoma	Total	30	114,199	26.3	23.2	27.6	0.697	1,743	8,182,167	21.3
	Male	14	56,818	24.6	21.3	16.0	0.743	993	4,099,177	24.2
	Female	16	57,381	27.9	25.1	11.7	0.272	750	4,082,990	18.4
Oral Cavity and Pharynx	Total	24	114,199	21.0	19.0	17.7	0.174	1,144	8,182,167	14.0
	Male	19	56,818	33.4	29.9	12.5	0.103	807	4,099,177	19.7
	Female	5	57,381	8.7	7.9	5.2	1.000	337	4,082,990	8.3
Ovary	Female	7	57,381	12.2	11.2	7.9	0.943	512	4,082,990	12.5
Pancreas	Total	20	114,199	17.5	15.2	20.6	1.000	1,284	8,182,167	15.7
	Male	8	56,818	14.1	11.9	11.3	0.405	694	4,099,177	16.9
	Female	12	57,381	20.9	18.7	9.3	0.448	590	4,082,990	14.5
Prostate	Male	69	56,818	121.4	105.8	78.9	0.288	4,958	4,099,177	121.0
Stomach	Total	6	114,199	5.3	4.6	7.6	0.721	482	8,182,167	5.9
	Male	3	56,818	5.3	4.5	5.1	0.509	315	4,099,177	7.7
	Female	3	57,381	5.2	4.7	2.6	0.960	167	4,082,990	4.1
Testis	Male	4	56,818	7.0	7.8	3.3	0.843	263	4,099,177	6.4
Thyroid	Total	24	114,199	21.0	20.6	17.5	0.162	1,232	8,182,167	15.1
	Male	7	56,818	12.3	11.9	4.7	0.385	325	4,099,177	7.9
	Female	17	57,381	29.6	29.0	13.0	0.331	907	4,082,990	22.2
Pediatric Age 0 to 19	Total	9	33,461	26.9	27.1	6.0	0.303	426	2,367,061	18.0
	Male	3	17,356	17.3	17.4	3.3	1.000	231	1,208,546	19.1
	Female	6	16,105	37.3	37.4	2.7	0.113	195	1,158,515	16.8

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 2014–2018
COMPARISON BETWEEN PAYETTE COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cause of Death Cancer Site/Type	Sex	Payette 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	1,112	115,206	965.2	851.3	1,038.3	0.024 >>	66,168	8,323,838	794.9
	Male	593	57,384	1,033.4	867.7	566.9	0.282	34,593	4,170,496	829.5
	Female	519	57,822	897.6	832.6	473.9	0.043 >>	31,575	4,153,342	760.2
All Malignant Cancers	Total	245	115,206	212.7	184.8	228.4	0.286	14,340	8,323,838	172.3
	Male	139	57,384	242.2	201.9	128.2	0.360	7,762	4,170,496	186.1
	Female	106	57,822	183.3	164.7	102.0	0.715	6,578	4,153,342	158.4
Bladder	Total	5	115,206	4.3	3.7	6.8	0.657	421	8,323,838	5.1
	Male	5	57,384	8.7	7.0	5.4	1.000	314	4,170,496	7.5
	Female	-	57,822	-	-	1.6	0.394	107	4,153,342	2.6
Brain and Other Nervous System	Total	6	115,206	5.2	4.7	7.5	0.755	491	8,323,838	5.9
	Male	2	57,384	3.5	3.1	4.8	0.279	313	4,170,496	7.5
	Female	4	57,822	6.9	6.4	2.7	0.568	178	4,153,342	4.3
Breast	Total	16	115,206	13.9	12.3	16.7	0.989	1,071	8,323,838	12.9
	Male	1	57,384	1.7	1.4	0.1	0.277	9	4,170,496	0.2
	Female	15	57,822	25.9	23.5	16.3	0.873	1,062	4,153,342	25.6
Cervix	Female	-	57,822	-	-	1.2	0.607	80	4,153,342	1.9
Colorectal	Total	21	115,206	18.2	16.0	19.0	0.702	1,205	8,323,838	14.5
	Male	13	57,384	22.7	19.3	10.5	0.516	649	4,170,496	15.6
	Female	8	57,822	13.8	12.6	8.5	1.000	556	4,153,342	13.4
Corpus Uteri	Female	2	57,822	3.5	3.1	2.3	1.000	151	4,153,342	3.6
Esophagus	Total	9	115,206	7.8	6.8	7.3	0.631	462	8,323,838	5.6
	Male	7	57,384	12.2	10.4	6.0	0.802	373	4,170,496	8.9
	Female	2	57,822	3.5	3.1	1.4	0.800	89	4,153,342	2.1
Hodgkin Lymphoma	Total	-	115,206	-	-	0.3	1.000	21	8,323,838	0.3
	Male	-	57,384	-	-	0.1	1.000	8	4,170,496	0.2
	Female	-	57,822	-	-	0.2	1.000	13	4,153,342	0.3
Kidney	Total	3	115,206	2.6	2.3	5.8	0.332	367	8,323,838	4.4
	Male	2	57,384	3.5	2.9	3.9	0.499	240	4,170,496	5.8
	Female	1	57,822	1.7	1.6	2.0	0.835	127	4,153,342	3.1
Larynx	Total	2	115,206	1.7	1.6	0.9	0.481	61	8,323,838	0.7
	Male	2	57,384	3.5	3.0	0.8	0.388	51	4,170,496	1.2
	Female	-	57,822	-	-	0.2	1.000	10	4,153,342	0.2
Leukemia	Total	11	115,206	9.5	8.2	9.7	0.771	605	8,323,838	7.3
	Male	7	57,384	12.2	10.0	5.9	0.746	351	4,170,496	8.4
	Female	4	57,822	6.9	6.2	4.0	1.000	254	4,153,342	6.1
Liver and Bile Duct	Total	9	115,206	7.8	6.9	9.3	1.000	589	8,323,838	7.1
	Male	9	57,384	15.7	13.6	6.4	0.397	403	4,170,496	9.7
	Female	-	57,822	-	-	2.9	0.109	186	4,153,342	4.5
Lung and Bronchus	Total	69	115,206	59.9	51.3	49.4	0.010 >>	3,056	8,323,838	36.7
	Male	40	57,384	69.7	57.7	27.0	0.023 >>	1,627	4,170,496	39.0
	Female	29	57,822	50.2	44.2	22.6	0.219	1,429	4,153,342	34.4
Melanoma of the Skin	Total	-	115,206	-	-	4.4	0.026 <<	280	8,323,838	3.4
	Male	-	57,384	-	-	3.0	0.103	187	4,170,496	4.5
	Female	-	57,822	-	-	1.4	0.479	93	4,153,342	2.2
Myeloma	Total	8	115,206	6.9	5.8	5.3	0.328	321	8,323,838	3.9
	Male	7	57,384	12.2	9.8	3.2	0.091	188	4,170,496	4.5
	Female	1	57,822	1.7	1.5	2.1	0.745	133	4,153,342	3.2
Non-Hodgkin Lymphoma	Total	13	115,206	11.3	9.6	9.0	0.251	557	8,323,838	6.7
	Male	6	57,384	10.5	8.6	5.3	0.858	313	4,170,496	7.5
	Female	7	57,822	12.1	10.8	3.8	0.181	244	4,153,342	5.9
Oral Cavity and Pharynx	Total	7	115,206	6.1	5.3	3.4	0.117	216	8,323,838	2.6
	Male	4	57,384	7.0	6.0	2.4	0.428	148	4,170,496	3.5
	Female	3	57,822	5.2	4.6	1.1	0.184	68	4,153,342	1.6
Ovary	Female	7	57,822	12.1	10.9	5.5	0.626	356	4,153,342	8.6
Pancreas	Total	19	115,206	16.5	14.2	17.0	0.690	1,060	8,323,838	12.7
	Male	8	57,384	13.9	11.8	9.5	0.780	584	4,170,496	14.0
	Female	11	57,822	19.0	16.9	7.5	0.271	476	4,153,342	11.5
Prostate	Male	9	57,384	15.7	12.4	16.1	0.084	926	4,170,496	22.2
Stomach	Total	-	115,206	-	-	3.3	0.073	210	8,323,838	2.5
	Male	-	57,384	-	-	2.0	0.276	122	4,170,496	2.9
	Female	-	57,822	-	-	1.4	0.516	88	4,153,342	2.1

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, 2019.

Cancer Screening and Risk Factors

The Bureau of Vital Records and Health Statistics (BVRHS), Division of Public Health, 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) with randomly selected adult Idahoans to measure population prevalences of risk factors for the major causes of death, including cancer, since 1984. BVRHS provided data sets containing Behavioral Risk Factor Surveillance System (BRFSS) data from 2011 through 2018 to CDRI staff, who performed the analyses reported in these *County Profiles*. Analysis weights were poststratified to 2018 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, 2011–2018

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 (2014–2018)	81.2%	80.6%	84.5%	74.6%	84.7%	75.5%	83.3%	83.8%	78.8%
Not See Doctor Due to Cost in Past Year (2014–2018)	14.3%	13.9%	12.2%	18.1%	13.6%	14.3%	12.5%	13.9%	17.9%
Cancer Screening									
Mammogram Past 2 Years, Age 50–74 (2014, 2016, 2018)	67.5%	66.8%	72.1%	63.2%	72.9%	61.0%	64.6%	66.8%	73.0%
Pap Test Past 3 Years, Cervix Intact Age 21–65 (2016, 2018)	72.5%	74.8%	74.3%	72.1%	73.0%	71.7%	72.7%	68.6%	.
Colorectal Cancer Screening, Age 50–75 (2016, 2018)	65.4%	64.9%	71.3%	62.6%	68.9%	60.3%	62.1%	65.3%	80.6%
Tobacco Use									
Current Smoker (2014–2018)	14.6%	17.1%	15.1%	16.8%	13.1%	16.2%	14.4%	10.4%	20.5%
Current Smokeless Tobacco User, Males (2014–2018)	9.5%	10.6%	14.0%	11.1%	8.4%	8.9%	8.4%	7.3%	12.2%
Other Cancer-Related									
Sunburn in Previous 12 Months (2018)	47.7%	42.3%	49.0%	41.6%	50.8%	42.8%	49.9%	56.6%	46.1%
Artificial Tanning Appliance Use (2011, 2014, 2016)	4.4%	5.5%	3.3%	3.3%	3.4%	4.2%	5.7%	6.8%	2.2%
Healthy Weight by Body Mass Index, Age 20+ (2014–2018)	32.6%	34.2%	32.9%	27.0%	36.3%	31.1%	29.4%	32.4%	27.8%
Meet Physical Activity Guidelines (2011, 2013, 2015, 2017)	22.1%	22.1%	19.9%	20.6%	26.1%	18.8%	20.0%	20.1%	12.6%
Home Ever Tested for Radon (2016, 2018)	22.7%	29.7%	19.5%	16.3%	24.1%	20.2%	23.3%	22.7%	15.7%

Access to Care

Have Health Insurance – 2014–2018
Statewide, 81.2% of adults aged 18–64 reported having health care coverage. Health care coverage differed significantly by race/ethnicity, with 84.5% of white non-Hispanics, compared to 59.8% of Hispanics and 79.9% of Native Americans, having health insurance. Spanish-speaking respondents were significantly less likely to be insured (33.1%) than English-speaking respondents (83.1%). Health care coverage differed significantly by age of respondent, with 76.4% of persons aged 30–39, and 86.5% of persons aged 50–64, having health insurance. Health care coverage differed significantly by county, with a range of 57.4% in Adams County to 91.7% in Oneida County having health insurance.

Not See Doctor Due to Cost in Past Year – 2014–2018
Statewide, 14.3% 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 (13.2% of white non-Hispanics, 21.4% of Hispanics, and 23.1% of Native Americans). Inability to see a doctor due to cost differed significantly by annual household income (27.4% for less than $15,000, 6.7% for greater than $50,000). Inability to see a doctor due to cost differed significantly by county, with a range of 7.0% in Caribou County to 20.2% in Jerome County.

Cancer Screening

Mammogram – 2014, 2016, 2018
Statewide, 67.5% 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 (70.7% versus 34.0%). Mammography rates differed significantly by county, with a range in screening of 47.3% in Gooding County to 77.5% in Nez Perce County. In 2018, Idaho ranked 49th among states and the District of Columbia for mammography screening rates among women aged 50–74 and 50th among ages 40+.

Pap Test – 2016, 2018
Statewide, 72.5% 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 (77.3% versus 54.2% screened in the past 3 years). Pap screening differed significantly by county, with a range of 60.5% in Idaho County to 79.2% in Latah County. In 2018, Idaho ranked 51st among states and the District of Columbia for Pap screening rate.

Colorectal Cancer Screening – 2016, 2018
Statewide, 65.4% of adults aged 50–75 reported receiving colorectal cancer screening based on the most recent guidelines.** Persons with health insurance were over twice as likely to be current for colorectal cancer screening. In 2018, Idaho ranked 41st 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 Smoking – 2014–2018
Statewide, 14.6% of adults aged 18 and older were current smokers. Smoking prevalence differed significantly by age of respondent, with 19.2% of persons aged 30–39, and 8.4% of persons aged 65 and older reporting current smoking. Smoking prevalence was lower among white non-Hispanics (14.7%) than among Native Americans (32.4%). Smoking prevalence differed significantly by county, with a range of 4.3% in Madison County to 32.7% in Adams County. Counties with higher rates of current smoking had higher rates of lung cancer.

Smokeless Tobacco Use, Males – 2014–2018
Statewide, 9.5% of males aged 18 and older were current users of smokeless tobacco. Smokeless tobacco use differed significantly by age group, ranging from 12.8% of males aged 30–39 to 4.0% of males aged 65 and older. Smokeless tobacco use differed significantly by county, with a range of 3.4% in Franklin County to 21.1% in Custer County. Counties with higher rates of smokeless tobacco use had higher rates of oral cavity & pharynx cancer.

Other Cancer-Related

Sun Exposure – 2018
Statewide, 47.7% of adults aged 18 and older reported having sunburn in the past 12 months. Sunburn rates were higher for white non-Hispanics (49.6%) and Native Americans (48.7%) than for Hispanics (35.2%). Sunburn rates differed significantly by age group, with 67.2% of persons aged 30–39 and 17.9% of persons aged 65 and older having sunburn in the past 12 months. Sunburn rates differed significantly by county, with a range of 36.7% in Idaho County to 72.9% in Madison County having sunburn in the past 12 months.

Artificial Tanning Appliance Use – 2011, 2014, 2016
Statewide, 4.4% of adults aged 18 and older reported using an artificial tanning appliance, such as a tanning bed, in the past 12 months. Females (6.8%) were significantly more likely than males (2.1%) to have used an artificial tanning appliance in the past 12 months. Tanning appliance use differed significantly by age group, with 8.7% of persons aged 18–29 and 0.9% of persons aged 65 and older, using an appliance in the past 12 months. Tanning appliance use differed by county, with a range of less than 1% in Oneida, Power, and Valley Counties to over 9% in Bear Lake and Fremont Counties using an artificial tanning appliance in the past 12 months.

Healthy Weight by Body Mass Index – 2014–2018
Statewide, 32.6% 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 33.3% of white non-Hispanics, compared to 26.0% of Hispanics and 26.8% of Native Americans, being in the healthy weight range. Males (25.7%) were significantly less likely to be in the healthy weight range than females (39.4%). BMI differed significantly by age of respondent, with 45.0% of persons aged 18–29, and 27.1% of persons aged 50–64, being in the healthy weight range. BMI differed significantly by county, with a range of 19.5% in Minidoka County to 52.8% in Blaine County of adults being in the healthy weight range.

Physical Activity – 2011, 2013, 2015, 2017
Statewide, 22.1% of adults aged 18 and older met aerobic and strength physical activity guidelines during the past month or week. Physical activity differed significantly by age of respondent, with 26.3% of persons aged 18–29, and 19.3% of persons aged 50–64, meeting guidelines. The percentage of adults meeting physical activity guidelines differed significantly by county, with a range of 7.6% in Oneida County to 31.1% in Blaine County.

Home Radon Testing – 2016, 2018
Statewide, 22.7% of adults have ever tested their house for radon. Radon test usage varied significantly by race/ethnicity, with 24.7% of white non-Hispanics, 5.3% of Hispanics, and 27.9% 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 8.0% in Cassia County to 58.0% in Blaine County.

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POWER COUNTY CANCER PROFILE

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

Cancer Incidence 2013–2017
Cancer Mortality 2014–2018
BRFSS 2011–2018

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 are due to personal lifestyle factors, such as smoking and sedentary lifestyle, and are preventable. Additional cancers are 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. 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.

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://health.gov/dietaryguidelines/2015.

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
615 N. 7th Street
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/contact-center

American Cancer Society
2676 S. Vista Avenue
Boise, ID 83705
208-343-4609
https://www.cancer.org

CANCER INCIDENCE 2013–2017

Nearly one in two Idahoans are estimated to develop cancer during their lifetime. During 2013–2017, 40,996 cases of invasive cancer were diagnosed among Idaho residents, and 161 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, 2013–2017

Cancer Incidence 2013–2017	Power County	State of Idaho
All Sites/Types	**161**	**40,996**
Female Breast	**26**	**5,956**
Prostate	**18**	**5,027**
Lung & Bronchus	**17**	**4,657**
Colorectal	**13**	**3,235**

Table 3 (*Cancer Incidence 2013–2017, 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 rate of invasive cancer incidence in Power County was 417.2 cases per 100,000 person-years per year during 2013–2017. Comparing this crude rate with the crude rate for the remainder of Idaho (494.5) 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 425.8 cases per 100,000 persons per year during 2013–2017. There were fewer cases of cancer in Power County (161) than expected (187.0) 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 2014–2018

During 2014–2018, cancer was the second leading cause of death in Idaho; 14,585 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, 2014–2018

Mortality 2014–2018	Power County	State of Idaho
All Deaths	**324**	**67,280**
Cancer Deaths	**58**	**14,585**
% of All Deaths	*17.9%*	*21.7%*
Lung & Bronchus	**15**	**3,125**
Colorectal	**8**	**1,226**
Pancreas	**4**	**1,079**
Female Breast	**4**	**1,077**
Prostate	**6**	**935**

Table 4 (*Cancer Mortality 2014–2018, 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 153.9 deaths per 100,000 persons per year during 2014–2018, compared with 172.9 for the remainder of the state. There were fewer cancer deaths in Power County (58) than expected (65.2) 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 2013–2017
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	161	38,595	417.2	425.8	187.0	0.058	40,835	8,257,771	494.5
	Male	88	19,690	446.9	443.0	101.4	0.197	21,109	4,136,305	510.3
	Female	73	18,905	386.1	404.2	86.4	0.158	19,726	4,121,466	478.6
Bladder	Total	4	38,595	10.4	10.6	9.2	0.097	2,011	8,257,771	24.4
	Male	2	19,690	10.2	10.1	7.5	0.041 <<	1,568	4,136,305	37.9
	Female	2	18,905	10.6	11.1	1.9	1.000	443	4,121,466	10.7
Brain - malignant	Total	-	38,595	-	-	2.8	0.118	610	8,257,771	7.4
	Male	-	19,690	-	-	1.8	0.338	371	4,136,305	9.0
	Female	-	18,905	-	-	1.1	0.677	239	4,121,466	5.8
Brain and other CNS - non-malignant	Total	4	38,595	10.4	10.7	4.8	0.945	1,068	8,257,771	12.9
	Male	1	19,690	5.1	5.2	1.6	1.000	353	4,136,305	8.5
	Female	3	18,905	15.9	16.7	3.1	1.000	715	4,121,466	17.3
Breast	Total	26	38,595	67.4	69.1	27.2	0.917	5,975	8,257,771	72.4
	Male	-	19,690	-	-	0.2	1.000	45	4,136,305	1.1
	Female	26	18,905	137.5	144.1	26.0	1.000	5,930	4,121,466	143.9
Breast - in situ	Total	3	38,595	7.8	8.0	4.8	0.587	1,061	8,257,771	12.8
	Male	-	19,690	-	-	0.0	1.000	3	4,136,305	0.1
	Female	3	18,905	15.9	16.7	4.6	0.645	1,058	4,121,466	25.7
Cervix	Female	-	18,905	-	-	1.1	0.671	259	4,121,466	6.3
Colorectal	Total	13	38,595	33.7	34.4	14.7	0.778	3,222	8,257,771	39.0
	Male	8	19,690	40.6	40.4	8.3	1.000	1,727	4,136,305	41.8
	Female	5	18,905	26.4	27.7	6.6	0.722	1,495	4,121,466	36.3
Corpus Uteri	Female	3	18,905	15.9	16.5	5.3	0.448	1,206	4,121,466	29.3
Esophagus	Total	3	38,595	7.8	7.9	2.1	0.724	466	8,257,771	5.6
	Male	3	19,690	15.2	15.1	1.8	0.564	385	4,136,305	9.3
	Female	-	18,905	-	-	0.4	1.000	81	4,121,466	2.0
Hodgkin Lymphoma	Total	1	38,595	2.6	2.7	0.9	1.000	198	8,257,771	2.4
	Male	1	19,690	5.1	5.3	0.5	0.768	107	4,136,305	2.6
	Female	-	18,905	-	-	0.4	1.000	91	4,121,466	2.2
Kidney and Renal Pelvis	Total	3	38,595	7.8	7.9	7.1	0.151	1,551	8,257,771	18.8
	Male	3	19,690	15.2	15.1	4.8	0.603	992	4,136,305	24.0
	Female	-	18,905	-	-	2.5	0.170	559	4,121,466	13.6
Larynx	Total	1	38,595	2.6	2.6	1.0	1.000	208	8,257,771	2.5
	Male	1	19,690	5.1	4.9	0.8	1.000	167	4,136,305	4.0
	Female	-	18,905	-	-	0.2	1.000	41	4,121,466	1.0
Leukemia	Total	10	38,595	25.9	26.2	6.8	0.305	1,476	8,257,771	17.9
	Male	5	19,690	25.4	25.0	4.2	0.833	876	4,136,305	21.2
	Female	5	18,905	26.4	27.3	2.7	0.264	600	4,121,466	14.6
Liver and Bile Duct	Total	1	38,595	2.6	2.6	3.4	0.293	732	8,257,771	8.9
	Male	1	19,690	5.1	4.9	2.6	0.532	531	4,136,305	12.8
	Female	-	18,905	-	-	0.9	0.824	201	4,121,466	4.9
Lung and Bronchus	Total	17	38,595	44.0	44.6	21.4	0.404	4,640	8,257,771	56.2
	Male	10	19,690	50.8	50.1	11.6	0.792	2,392	4,136,305	57.8
	Female	7	18,905	37.0	38.5	9.9	0.455	2,248	4,121,466	54.5
Melanoma of the Skin	Total	12	38,595	31.1	32.1	11.4	0.933	2,514	8,257,771	30.4
	Male	7	19,690	35.6	35.6	7.0	1.000	1,462	4,136,305	35.3
	Female	5	18,905	26.4	28.0	4.6	0.958	1,052	4,121,466	25.5
Myeloma	Total	-	38,595	-	-	2.8	0.122	608	8,257,771	7.4
	Male	-	19,690	-	-	1.7	0.356	357	4,136,305	8.6
	Female	-	18,905	-	-	1.1	0.662	251	4,121,466	6.1
Non-Hodgkin Lymphoma	Total	7	38,595	18.1	18.5	8.1	0.879	1,766	8,257,771	21.4
	Male	5	19,690	25.4	25.2	4.8	1.000	1,002	4,136,305	24.2
	Female	2	18,905	10.6	11.1	3.4	0.698	764	4,121,466	18.5
Oral Cavity and Pharynx	Total	4	38,595	10.4	10.6	5.3	0.765	1,164	8,257,771	14.1
	Male	2	19,690	10.2	10.1	4.0	0.488	824	4,136,305	19.9
	Female	2	18,905	10.6	11.1	1.5	0.878	340	4,121,466	8.2
Ovary	Female	5	18,905	26.4	27.5	2.3	0.159	514	4,121,466	12.5
Pancreas	Total	5	38,595	13.0	13.2	6.0	0.902	1,299	8,257,771	15.7
	Male	3	19,690	15.2	15.0	3.4	1.000	699	4,136,305	16.9
	Female	2	18,905	10.6	11.1	2.6	1.000	600	4,121,466	14.6
Prostate	Male	18	19,690	91.4	90.0	24.2	0.239	5,009	4,136,305	121.1
Stomach	Total	4	38,595	10.4	10.6	2.2	0.367	484	8,257,771	5.9
	Male	2	19,690	10.2	10.1	1.5	0.894	316	4,136,305	7.6
	Female	2	18,905	10.6	11.1	0.7	0.335	168	4,121,466	4.1
Testis	Male	1	19,690	5.1	5.6	1.1	1.000	266	4,136,305	6.4
Thyroid	Total	1	38,595	2.6	2.8	5.5	0.052	1,255	8,257,771	15.2
	Male	-	19,690	-	-	1.5	0.436	332	4,136,305	8.0
	Female	1	18,905	5.3	5.7	3.9	0.193	923	4,121,466	22.4
Pediatric Age 0 to 19	Total	4	13,037	30.7	30.8	2.3	0.421	431	2,387,485	18.1
	Male	1	6,697	14.9	14.9	1.3	1.000	233	1,219,205	19.1
	Female	3	6,340	47.3	47.4	1.1	0.188	198	1,168,280	16.9

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

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

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

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

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

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

TABLE 4: CANCER MORTALITY 2014–2018
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	324	38,565	840.1	874.9	295.2	0.102	66,956	8,400,479	797.0
	Male	180	19,660	915.6	929.6	161.1	0.150	35,006	4,208,220	831.8
	Female	144	18,905	761.7	808.2	135.8	0.503	31,950	4,192,259	762.1
All Malignant Cancers	Total	58	38,565	150.4	153.9	65.2	0.413	14,527	8,400,479	172.9
	Male	37	19,660	188.2	187.4	36.9	1.000	7,864	4,208,220	186.9
	Female	21	18,905	111.1	116.4	28.7	0.171	6,663	4,192,259	158.9
Bladder	Total	1	38,565	2.6	2.7	1.9	0.879	425	8,400,479	5.1
	Male	1	19,660	5.1	5.1	1.5	1.000	318	4,208,220	7.6
	Female	-	18,905	-	-	0.5	1.000	107	4,192,259	2.6
Brain and Other Nervous System	Total	-	38,565	-	-	2.2	0.213	497	8,400,479	5.9
	Male	-	19,660	-	-	1.5	0.459	315	4,208,220	7.5
	Female	-	18,905	-	-	0.8	0.906	182	4,192,259	4.3
Breast	Total	4	38,565	10.4	10.7	4.8	0.944	1,083	8,400,479	12.9
	Male	-	19,660	-	-	0.0	1.000	10	4,208,220	0.2
	Female	4	18,905	21.2	22.2	4.6	1.000	1,073	4,192,259	25.6
Cervix	Female	-	18,905	-	-	0.3	1.000	80	4,192,259	1.9
Colorectal	Total	8	38,565	20.7	21.3	5.4	0.366	1,218	8,400,479	14.5
	Male	4	19,660	20.3	20.2	3.1	0.745	658	4,208,220	15.6
	Female	4	18,905	21.2	22.3	2.4	0.441	560	4,192,259	13.4
Corpus Uteri	Female	1	18,905	5.3	5.5	0.7	0.963	152	4,192,259	3.6
Esophagus	Total	1	38,565	2.6	2.6	2.1	0.750	470	8,400,479	5.6
	Male	1	19,660	5.1	5.1	1.8	0.940	379	4,208,220	9.0
	Female	-	18,905	-	-	0.4	1.000	91	4,192,259	2.2
Hodgkin Lymphoma	Total	-	38,565	-	-	0.1	1.000	21	8,400,479	0.2
	Male	-	19,660	-	-	0.0	1.000	8	4,208,220	0.2
	Female	-	18,905	-	-	0.1	1.000	13	4,192,259	0.3
Kidney	Total	1	38,565	2.6	2.6	1.7	1.000	369	8,400,479	4.4
	Male	1	19,660	5.1	5.0	1.1	1.000	241	4,208,220	5.7
	Female	-	18,905	-	-	0.6	1.000	128	4,192,259	3.1
Larynx	Total	-	38,565	-	-	0.3	1.000	63	8,400,479	0.7
	Male	-	19,660	-	-	0.3	1.000	53	4,208,220	1.3
	Female	-	18,905	-	-	0.0	1.000	10	4,192,259	0.2
Leukemia	Total	3	38,565	7.8	8.0	2.7	1.000	613	8,400,479	7.3
	Male	3	19,660	15.3	15.2	1.7	0.465	355	4,208,220	8.4
	Female	-	18,905	-	-	1.1	0.662	258	4,192,259	6.2
Liver and Bile Duct	Total	2	38,565	5.2	5.2	2.7	0.982	596	8,400,479	7.1
	Male	-	19,660	-	-	2.0	0.278	412	4,208,220	9.8
	Female	2	18,905	10.6	11.0	0.8	0.382	184	4,192,259	4.4
Lung and Bronchus	Total	15	38,565	38.9	39.5	14.0	0.870	3,110	8,400,479	37.0
	Male	10	19,660	50.9	50.2	7.8	0.528	1,657	4,208,220	39.4
	Female	5	18,905	26.4	27.6	6.3	0.801	1,453	4,192,259	34.7
Melanoma of the Skin	Total	1	38,565	2.6	2.7	1.3	1.000	279	8,400,479	3.3
	Male	-	19,660	-	-	0.9	0.827	187	4,208,220	4.4
	Female	1	18,905	5.3	5.6	0.4	0.651	92	4,192,259	2.2
Myeloma	Total	-	38,565	-	-	1.5	0.451	329	8,400,479	3.9
	Male	-	19,660	-	-	0.9	0.791	195	4,208,220	4.6
	Female	-	18,905	-	-	0.6	1.000	134	4,192,259	3.2
Non-Hodgkin Lymphoma	Total	2	38,565	5.2	5.3	2.5	1.000	568	8,400,479	6.8
	Male	1	19,660	5.1	5.1	1.5	1.000	318	4,208,220	7.6
	Female	1	18,905	5.3	5.6	1.1	1.000	250	4,192,259	6.0
Oral Cavity and Pharynx	Total	2	38,565	5.2	5.3	1.0	0.528	221	8,400,479	2.6
	Male	1	19,660	5.1	5.0	0.7	1.000	151	4,208,220	3.6
	Female	1	18,905	5.3	5.5	0.3	0.523	70	4,192,259	1.7
Ovary	Female	1	18,905	5.3	5.5	1.6	1.000	362	4,192,259	8.6
Pancreas	Total	4	38,565	10.4	10.6	4.8	0.935	1,075	8,400,479	12.8
	Male	4	19,660	20.3	20.0	2.8	0.613	588	4,208,220	14.0
	Female	-	18,905	-	-	2.1	0.246	487	4,192,259	11.6
Prostate	Male	6	19,660	30.5	31.0	4.3	0.516	929	4,208,220	22.1
Stomach	Total	-	38,565	-	-	0.9	0.784	210	8,400,479	2.5
	Male	-	19,660	-	-	0.6	1.000	122	4,208,220	2.9
	Female	-	18,905	-	-	0.4	1.000	88	4,192,259	2.1

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, 2019.

Cancer Screening and Risk Factors

The Bureau of Vital Records and Health Statistics (BVRHS), Division of Public Health, 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) with randomly selected adult Idahoans to measure population prevalences of risk factors for the major causes of death, including cancer, since 1984. BVRHS provided data sets containing Behavioral Risk Factor Surveillance System (BRFSS) data from 2011 through 2018 to CDRI staff, who performed the analyses reported in these *County Profiles*. Analysis weights were poststratified to 2018 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, 2011–2018

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 (2014–2018)	81.2%	80.6%	84.5%	74.6%	84.7%	75.5%	83.3%	83.8%	69.8%
Not See Doctor Due to Cost in Past Year (2014–2018)	14.3%	13.9%	12.2%	18.1%	13.6%	14.3%	12.5%	13.9%	19.6%
Cancer Screening									
Mammogram Past 2 Years, Age 50–74 (2014, 2016, 2018)	67.5%	66.8%	72.1%	63.2%	72.9%	61.0%	64.6%	66.8%	.
Pap Test Past 3 Years, Cervix Intact Age 21–65 (2016, 2018)	72.5%	74.8%	74.3%	72.1%	73.0%	71.7%	72.7%	68.6%	.
Colorectal Cancer Screening, Age 50–75 (2016, 2018)	65.4%	64.9%	71.3%	62.6%	68.9%	60.3%	62.1%	65.3%	.
Tobacco Use									
Current Smoker (2014–2018)	14.6%	17.1%	15.1%	16.8%	13.1%	16.2%	14.4%	10.4%	16.9%
Current Smokeless Tobacco User, Males (2014–2018)	9.5%	10.6%	14.0%	11.1%	8.4%	8.9%	8.4%	7.3%	3.9%
Other Cancer-Related									
Sunburn in Previous 12 Months (2018)	47.7%	42.3%	49.0%	41.6%	50.8%	42.8%	49.9%	56.6%	.
Artificial Tanning Appliance Use (2011, 2014, 2016)	4.4%	5.5%	3.3%	3.3%	3.4%	4.2%	5.7%	6.8%	0.1%
Healthy Weight by Body Mass Index, Age 20+ (2014–2018)	32.6%	34.2%	32.9%	27.0%	36.3%	31.1%	29.4%	32.4%	24.6%
Meet Physical Activity Guidelines (2011, 2013, 2015, 2017)	22.1%	22.1%	19.9%	20.6%	26.1%	18.8%	20.0%	20.1%	11.9%
Home Ever Tested for Radon (2016, 2018)	22.7%	29.7%	19.5%	16.3%	24.1%	20.2%	23.3%	22.7%	17.9%

Access to Care

Have Health Insurance – 2014–2018
Statewide, 81.2% of adults aged 18–64 reported having health care coverage. Health care coverage differed significantly by race/ethnicity, with 84.5% of white non-Hispanics, compared to 59.8% of Hispanics and 79.9% of Native Americans, having health insurance. Spanish-speaking respondents were significantly less likely to be insured (33.1%) than English-speaking respondents (83.1%). Health care coverage differed significantly by age of respondent, with 76.4% of persons aged 30–39, and 86.5% of persons aged 50–64, having health insurance. Health care coverage differed significantly by county, with a range of 57.4% in Adams County to 91.7% in Oneida County having health insurance.

Not See Doctor Due to Cost in Past Year – 2014–2018
Statewide, 14.3% 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 (13.2% of white non-Hispanics, 21.4% of Hispanics, and 23.1% of Native Americans). Inability to see a doctor due to cost differed significantly by annual household income (27.4% for less than $15,000, 6.7% for greater than $50,000). Inability to see a doctor due to cost differed significantly by county, with a range of 7.0% in Caribou County to 20.2% in Jerome County.

Cancer Screening

Mammogram – 2014, 2016, 2018
Statewide, 67.5% 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 (70.7% versus 34.0%). Mammography rates differed significantly by county, with a range in screening of 47.3% in Gooding County to 77.5% in Nez Perce County. In 2018, Idaho ranked 49th among states and the District of Columbia for mammography screening rates among women aged 50–74 and 50th among ages 40+.

Pap Test – 2016, 2018
Statewide, 72.5% 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 (77.3% versus 54.2% screened in the past 3 years). Pap screening differed significantly by county, with a range of 60.5% in Idaho County to 79.2% in Latah County. In 2018, Idaho ranked 51st among states and the District of Columbia for Pap screening rate.

Colorectal Cancer Screening – 2016, 2018
Statewide, 65.4% of adults aged 50–75 reported receiving colorectal cancer screening based on the most recent guidelines.** Persons with health insurance were over twice as likely to be current for colorectal cancer screening. In 2018, Idaho ranked 41st 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 Smoking – 2014–2018
Statewide, 14.6% of adults aged 18 and older were current smokers. Smoking prevalence differed significantly by age of respondent, with 19.2% of persons aged 30–39, and 8.4% of persons aged 65 and older reporting current smoking. Smoking prevalence was lower among white non-Hispanics (14.7%) than among Native Americans (32.4%). Smoking prevalence differed significantly by county, with a range of 4.3% in Madison County to 32.7% in Adams County. Counties with higher rates of current smoking had higher rates of lung cancer.

Smokeless Tobacco Use, Males – 2014–2018
Statewide, 9.5% of males aged 18 and older were current users of smokeless tobacco. Smokeless tobacco use differed significantly by age group, ranging from 12.8% of males aged 30–39 to 4.0% of males aged 65 and older. Smokeless tobacco use differed significantly by county, with a range of 3.4% in Franklin County to 21.1% in Custer County. Counties with higher rates of smokeless tobacco use had higher rates of oral cavity & pharynx cancer.

Other Cancer-Related

Sun Exposure – 2018
Statewide, 47.7% of adults aged 18 and older reported having sunburn in the past 12 months. Sunburn rates were higher for white non-Hispanics (49.6%) and Native Americans (48.7%) than for Hispanics (35.2%). Sunburn rates differed significantly by age group, with 67.2% of persons aged 30–39 and 17.9% of persons aged 65 and older having sunburn in the past 12 months. Sunburn rates differed significantly by county, with a range of 36.7% in Idaho County to 72.9% in Madison County having sunburn in the past 12 months.

Artificial Tanning Appliance Use – 2011, 2014, 2016
Statewide, 4.4% of adults aged 18 and older reported using an artificial tanning appliance, such as a tanning bed, in the past 12 months. Females (6.8%) were significantly more likely than males (2.1%) to have used an artificial tanning appliance in the past 12 months. Tanning appliance use differed significantly by age group, with 8.7% of persons aged 18–29 and 0.9% of persons aged 65 and older, using an appliance in the past 12 months. Tanning appliance use differed by county, with a range of less than 1% in Oneida, Power, and Valley Counties to over 9% in Bear Lake and Fremont Counties using an artificial tanning appliance in the past 12 months.

Healthy Weight by Body Mass Index – 2014–2018
Statewide, 32.6% 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 33.3% of white non-Hispanics, compared to 26.0% of Hispanics and 26.8% of Native Americans, being in the healthy weight range. Males (25.7%) were significantly less likely to be in the healthy weight range than females (39.4%). BMI differed significantly by age of respondent, with 45.0% of persons aged 18–29, and 27.1% of persons aged 50–64, being in the healthy weight range. BMI differed significantly by county, with a range of 19.5% in Minidoka County to 52.8% in Blaine County of adults being in the healthy weight range.

Physical Activity – 2011, 2013, 2015, 2017
Statewide, 22.1% of adults aged 18 and older met aerobic and strength physical activity guidelines during the past month or week. Physical activity differed significantly by age of respondent, with 26.3% of persons aged 18–29, and 19.3% of persons aged 50–64, meeting guidelines. The percentage of adults meeting physical activity guidelines differed significantly by county, with a range of 7.6% in Oneida County to 31.1% in Blaine County.

Home Radon Testing – 2016, 2018
Statewide, 22.7% of adults have ever tested their house for radon. Radon test usage varied significantly by race/ethnicity, with 24.7% of white non-Hispanics, 5.3% of Hispanics, and 27.9% 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 8.0% in Cassia County to 58.0% in Blaine County.

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SHOSHONE COUNTY CANCER PROFILE

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

Cancer Incidence 2013–2017
Cancer Mortality 2014–2018
BRFSS 2011–2018

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 are due to personal lifestyle factors, such as smoking and sedentary lifestyle, and are preventable. Additional cancers are 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. 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.

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://health.gov/dietaryguidelines/2015.

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
615 N. 7th Street
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/contact-center

American Cancer Society
2676 S. Vista Avenue
Boise, ID 83705
208-343-4609
https://www.cancer.org

CANCER INCIDENCE 2013–2017

Nearly one in two Idahoans are estimated to develop cancer during their lifetime. During 2013–2017, 40,996 cases of invasive cancer were diagnosed among Idaho residents, and 466 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, 2013–2017

Cancer Incidence 2013–2017	Shoshone County	State of Idaho
All Sites/Types	**466**	**40,996**
Female Breast	**46**	**5,956**
Prostate	**55**	**5,027**
Lung & Bronchus	**85**	**4,657**
Colorectal	**47**	**3,235**

Table 3 (*Cancer Incidence 2013–2017, 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 rate of invasive cancer incidence in Shoshone County was 745.3 cases per 100,000 person-years per year during 2013–2017. Comparing this crude rate with the crude rate for the remainder of Idaho (492.2) 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 535.9 cases per 100,000 persons per year during 2013–2017. There were more cases of cancer in Shoshone County (466) than expected (428.0) 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 2014–2018

During 2014–2018, cancer was the second leading cause of death in Idaho; 14,585 Idaho residents and 202 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, 2014–2018

Mortality 2014–2018	Shoshone County	State of Idaho
All Deaths	**915**	**67,280**
Cancer Deaths	**202**	**14,585**
% of All Deaths	*22.1%*	*21.7%*
Lung & Bronchus	**65**	**3,125**
Colorectal	**22**	**1,226**
Pancreas	**6**	**1,079**
Female Breast	**11**	**1,077**
Prostate	**14**	**935**

Table 4 (*Cancer Mortality 2014–2018, 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 224.5 deaths per 100,000 persons per year during 2014–2018, compared with 171.7 for the remainder of the state. There were statistically significantly more cancer deaths in Shoshone County (202) than expected (154.5) 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 2013–2017
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	466	62,525	745.3	535.9	428.0	0.073	40,530	8,233,841	492.2
	Male	263	31,363	838.6	586.0	227.8	0.024 >>	20,934	4,124,632	507.5
	Female	203	31,162	651.4	482.5	200.6	0.886	19,596	4,109,209	476.9
Bladder	Total	26	62,525	41.6	28.4	22.1	0.464	1,989	8,233,841	24.2
	Male	22	31,363	70.1	47.4	17.4	0.327	1,548	4,124,632	37.5
	Female	4	31,162	12.8	8.9	4.8	0.949	441	4,109,209	10.7
Brain - malignant	Total	10	62,525	16.0	12.8	5.7	0.129	600	8,233,841	7.3
	Male	5	31,363	15.9	12.4	3.6	0.581	366	4,124,632	8.9
	Female	5	31,162	16.0	13.4	2.1	0.130	234	4,109,209	5.7
Brain and other CNS - non-malignant	Total	12	62,525	19.2	14.8	10.4	0.704	1,060	8,233,841	12.9
	Male	5	31,363	15.9	12.5	3.4	0.505	349	4,124,632	8.5
	Female	7	31,162	22.5	17.3	7.0	1.000	711	4,109,209	17.3
Breast	Total	46	62,525	73.6	54.2	61.4	0.049 <<	5,955	8,233,841	72.3
	Male	-	31,363	-	-	0.5	1.000	45	4,124,632	1.1
	Female	46	31,162	147.6	110.1	60.1	0.071	5,910	4,109,209	143.8
Breast - in situ	Total	11	62,525	17.6	13.3	10.6	0.981	1,053	8,233,841	12.8
	Male	-	31,363	-	-	0.0	1.000	3	4,124,632	0.1
	Female	11	31,162	35.3	27.0	10.4	0.933	1,050	4,109,209	25.6
Cervix	Female	4	31,162	12.8	11.7	2.1	0.328	255	4,109,209	6.2
Colorectal	Total	47	62,525	75.2	53.8	33.9	0.037 >>	3,188	8,233,841	38.7
	Male	26	31,363	82.9	58.7	18.4	0.108	1,709	4,124,632	41.4
	Female	21	31,162	67.4	48.6	15.5	0.215	1,479	4,109,209	36.0
Corpus Uteri	Female	13	31,162	41.7	30.9	12.2	0.901	1,196	4,109,209	29.1
Esophagus	Total	5	62,525	8.0	5.6	5.1	1.000	464	8,233,841	5.6
	Male	4	31,363	12.8	8.8	4.2	1.000	384	4,124,632	9.3
	Female	1	31,162	3.2	2.2	0.9	1.000	80	4,109,209	1.9
Hodgkin Lymphoma	Total	-	62,525	-	-	1.6	0.415	199	8,233,841	2.4
	Male	-	31,363	-	-	0.8	0.857	108	4,124,632	2.6
	Female	-	31,162	-	-	0.7	0.969	91	4,109,209	2.2
Kidney and Renal Pelvis	Total	19	62,525	30.4	21.8	16.3	0.559	1,535	8,233,841	18.6
	Male	9	31,363	28.7	20.3	10.6	0.770	986	4,124,632	23.9
	Female	10	31,162	32.1	23.3	5.7	0.134	549	4,109,209	13.4
Larynx	Total	4	62,525	6.4	4.5	2.2	0.376	205	8,233,841	2.5
	Male	2	31,363	6.4	4.3	1.9	1.000	166	4,124,632	4.0
	Female	2	31,162	6.4	4.8	0.4	0.121	39	4,109,209	0.9
Leukemia	Total	15	62,525	24.0	17.6	15.2	1.000	1,471	8,233,841	17.9
	Male	9	31,363	28.7	20.9	9.1	1.000	872	4,124,632	21.1
	Female	6	31,162	19.3	14.2	6.1	1.000	599	4,109,209	14.6
Liver and Bile Duct	Total	14	62,525	22.4	15.7	7.8	0.057	719	8,233,841	8.7
	Male	10	31,363	31.9	22.0	5.8	0.136	522	4,124,632	12.7
	Female	4	31,162	12.8	9.1	2.1	0.324	197	4,109,209	4.8
Lung and Bronchus	Total	85	62,525	135.9	92.5	51.0	0.000 >>	4,572	8,233,841	55.5
	Male	46	31,363	146.7	98.5	26.7	0.001 >>	2,356	4,124,632	57.1
	Female	39	31,162	125.2	86.3	24.4	0.008 >>	2,216	4,109,209	53.9
Melanoma of the Skin	Total	13	62,525	20.8	15.6	25.5	0.010 <<	2,513	8,233,841	30.5
	Male	9	31,363	28.7	20.7	15.4	0.115	1,460	4,124,632	35.4
	Female	4	31,162	12.8	10.2	10.1	0.056	1,053	4,109,209	25.6
Myeloma	Total	8	62,525	12.8	8.8	6.6	0.694	600	8,233,841	7.3
	Male	5	31,363	15.9	10.8	4.0	0.725	352	4,124,632	8.5
	Female	3	31,162	9.6	6.7	2.7	1.000	248	4,109,209	6.0
Non-Hodgkin Lymphoma	Total	19	62,525	30.4	21.7	18.7	0.999	1,754	8,233,841	21.3
	Male	10	31,363	31.9	22.6	10.7	0.988	997	4,124,632	24.2
	Female	9	31,162	28.9	20.8	8.0	0.810	757	4,109,209	18.4
Oral Cavity and Pharynx	Total	11	62,525	17.6	12.7	12.2	0.877	1,157	8,233,841	14.1
	Male	9	31,363	28.7	20.3	8.8	1.000	817	4,124,632	19.8
	Female	2	31,162	6.4	4.7	3.5	0.639	340	4,109,209	8.3
Ovary	Female	5	31,162	16.0	11.9	5.2	1.000	514	4,109,209	12.5
Pancreas	Total	8	62,525	12.8	8.8	14.3	0.109	1,296	8,233,841	15.7
	Male	6	31,363	19.1	13.0	7.8	0.686	696	4,124,632	16.9
	Female	2	31,162	6.4	4.5	6.5	0.085	600	4,109,209	14.6
Prostate	Male	55	31,363	175.4	118.6	55.9	0.973	4,972	4,124,632	120.5
Stomach	Total	6	62,525	9.6	6.8	5.2	0.835	482	8,233,841	5.9
	Male	5	31,363	15.9	11.1	3.4	0.520	313	4,124,632	7.6
	Female	1	31,162	3.2	2.3	1.8	0.937	169	4,109,209	4.1
Testis	Male	3	31,363	9.6	10.7	1.8	0.533	264	4,124,632	6.4
Thyroid	Total	12	62,525	19.2	16.8	10.8	0.797	1,244	8,233,841	15.1
	Male	4	31,363	12.8	10.5	3.0	0.722	328	4,124,632	8.0
	Female	8	31,162	25.7	23.1	7.7	1.000	916	4,109,209	22.3
Pediatric Age 0 to 19	Total	4	13,762	29.1	28.8	2.5	0.487	431	2,386,760	18.1
	Male	2	7,061	28.3	28.0	1.4	0.789	232	1,218,841	19.0
	Female	2	6,701	29.8	29.7	1.1	0.636	199	1,167,919	17.0

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

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

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

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

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

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

TABLE 4: CANCER MORTALITY 2014–2018
COMPARISON BETWEEN SHOSHONE COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cause of Death Cancer Site/Type	Sex	Shoshone 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	915	62,628	1,461.0	1,044.1	694.4	0.000 >>	66,365	8,376,416	792.3
	Male	520	31,449	1,653.5	1,201.8	357.4	0.000 >>	34,666	4,196,431	826.1
	Female	395	31,179	1,266.9	887.5	337.5	0.002 >>	31,699	4,179,985	758.4
All Malignant Cancers	Total	202	62,628	322.5	224.5	154.5	0.000 >>	14,383	8,376,416	171.7
	Male	118	31,449	375.2	260.0	84.2	0.001 >>	7,783	4,196,431	185.5
	Female	84	31,179	269.4	189.1	70.1	0.117	6,600	4,179,985	157.9
Bladder	Total	5	62,628	8.0	5.5	4.6	0.977	421	8,376,416	5.0
	Male	5	31,449	15.9	11.0	3.4	0.513	314	4,196,431	7.5
	Female	-	31,179	-	-	1.2	0.625	107	4,179,985	2.6
Brain and Other Nervous System	Total	5	62,628	8.0	5.9	5.0	1.000	492	8,376,416	5.9
	Male	1	31,449	3.2	2.3	3.2	0.338	314	4,196,431	7.5
	Female	4	31,179	12.8	9.5	1.8	0.213	178	4,179,985	4.3
Breast	Total	12	62,628	19.2	13.7	11.3	0.903	1,075	8,376,416	12.8
	Male	1	31,449	3.2	2.2	0.1	0.183	9	4,196,431	0.2
	Female	11	31,179	35.3	25.3	11.1	1.000	1,066	4,179,985	25.5
Cervix	Female	1	31,179	3.2	2.6	0.7	1.000	79	4,179,985	1.9
Colorectal	Total	22	62,628	35.1	24.7	12.8	0.024 >>	1,204	8,376,416	14.4
	Male	10	31,449	31.8	22.4	6.9	0.326	652	4,196,431	15.5
	Female	12	31,179	38.5	27.0	5.9	0.034 >>	552	4,179,985	13.2
Corpus Uteri	Female	2	31,179	6.4	4.5	1.6	0.960	151	4,179,985	3.6
Esophagus	Total	7	62,628	11.2	7.8	5.0	0.474	464	8,376,416	5.5
	Male	5	31,449	15.9	11.0	4.1	0.767	375	4,196,431	8.9
	Female	2	31,179	6.4	4.4	1.0	0.499	89	4,179,985	2.1
Hodgkin Lymphoma	Total	-	62,628	-	-	0.2	1.000	21	8,376,416	0.3
	Male	-	31,449	-	-	0.1	1.000	8	4,196,431	0.2
	Female	-	31,179	-	-	0.1	1.000	13	4,179,985	0.3
Kidney	Total	5	62,628	8.0	5.5	4.0	0.725	365	8,376,416	4.4
	Male	4	31,449	12.7	8.8	2.6	0.520	238	4,196,431	5.7
	Female	1	31,179	3.2	2.2	1.4	1.000	127	4,179,985	3.0
Larynx	Total	1	62,628	1.6	1.1	0.7	0.979	62	8,376,416	0.7
	Male	1	31,449	3.2	2.2	0.6	0.853	52	4,196,431	1.2
	Female	-	31,179	-	-	0.1	1.000	10	4,179,985	0.2
Leukemia	Total	4	62,628	6.4	4.5	6.5	0.444	612	8,376,416	7.3
	Male	2	31,449	6.4	4.5	3.8	0.538	356	4,196,431	8.5
	Female	2	31,179	6.4	4.5	2.7	0.978	256	4,179,985	6.1
Liver and Bile Duct	Total	12	62,628	19.2	13.3	6.3	0.057	586	8,376,416	7.0
	Male	9	31,449	28.6	19.5	4.4	0.073	403	4,196,431	9.6
	Female	3	31,179	9.6	6.7	1.9	0.619	183	4,179,985	4.4
Lung and Bronchus	Total	65	62,628	103.8	70.9	33.5	0.000 >>	3,060	8,376,416	36.5
	Male	36	31,449	114.5	77.6	18.0	0.000 >>	1,631	4,196,431	38.9
	Female	29	31,179	93.0	64.1	15.5	0.003 >>	1,429	4,179,985	34.2
Melanoma of the Skin	Total	3	62,628	4.8	3.4	2.9	1.000	277	8,376,416	3.3
	Male	2	31,449	6.4	4.5	2.0	1.000	185	4,196,431	4.4
	Female	1	31,179	3.2	2.3	1.0	1.000	92	4,179,985	2.2
Myeloma	Total	3	62,628	4.8	3.2	3.6	1.000	326	8,376,416	3.9
	Male	2	31,449	6.4	4.3	2.1	1.000	193	4,196,431	4.6
	Female	1	31,179	3.2	2.2	1.5	1.000	133	4,179,985	3.2
Non-Hodgkin Lymphoma	Total	6	62,628	9.6	6.6	6.2	1.000	564	8,376,416	6.7
	Male	5	31,449	15.9	11.0	3.4	0.512	314	4,196,431	7.5
	Female	1	31,179	3.2	2.2	2.8	0.474	250	4,179,985	6.0
Oral Cavity and Pharynx	Total	1	62,628	1.6	1.1	2.4	0.623	222	8,376,416	2.7
	Male	1	31,449	3.2	2.2	1.6	1.000	151	4,196,431	3.6
	Female	-	31,179	-	-	0.8	0.928	71	4,179,985	1.7
Ovary	Female	3	31,179	9.6	6.8	3.8	0.943	360	4,179,985	8.6
Pancreas	Total	6	62,628	9.6	6.6	11.6	0.112	1,073	8,376,416	12.8
	Male	4	31,449	12.7	8.7	6.4	0.463	588	4,196,431	14.0
	Female	2	31,179	6.4	4.4	5.2	0.214	485	4,179,985	11.6
Prostate	Male	14	31,449	44.5	30.7	10.0	0.272	921	4,196,431	21.9
Stomach	Total	3	62,628	4.8	3.4	2.2	0.741	207	8,376,416	2.5
	Male	3	31,449	9.5	6.8	1.3	0.266	119	4,196,431	2.8
	Female	-	31,179	-	-	0.9	0.798	88	4,179,985	2.1

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, 2019.

Cancer Screening and Risk Factors

The Bureau of Vital Records and Health Statistics (BVRHS), Division of Public Health, 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) with randomly selected adult Idahoans to measure population prevalences of risk factors for the major causes of death, including cancer, since 1984. BVRHS provided data sets containing Behavioral Risk Factor Surveillance System (BRFSS) data from 2011 through 2018 to CDRI staff, who performed the analyses reported in these *County Profiles*. Analysis weights were poststratified to 2018 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, 2011–2018

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 (2014–2018)	81.2%	80.6%	84.5%	74.6%	84.7%	75.5%	83.3%	83.8%	79.4%
Not See Doctor Due to Cost in Past Year (2014–2018)	14.3%	13.9%	12.2%	18.1%	13.6%	14.3%	12.5%	13.9%	12.0%
Cancer Screening									
Mammogram Past 2 Years, Age 50–74 (2014, 2016, 2018)	67.5%	66.8%	72.1%	63.2%	72.9%	61.0%	64.6%	66.8%	.
Pap Test Past 3 Years, Cervix Intact Age 21–65 (2016, 2018)	72.5%	74.8%	74.3%	72.1%	73.0%	71.7%	72.7%	68.6%	.
Colorectal Cancer Screening, Age 50–75 (2016, 2018)	65.4%	64.9%	71.3%	62.6%	68.9%	60.3%	62.1%	65.3%	.
Tobacco Use									
Current Smoker (2014–2018)	14.6%	17.1%	15.1%	16.8%	13.1%	16.2%	14.4%	10.4%	20.4%
Current Smokeless Tobacco User, Males (2014–2018)	9.5%	10.6%	14.0%	11.1%	8.4%	8.9%	8.4%	7.3%	18.5%
Other Cancer-Related									
Sunburn in Previous 12 Months (2018)	47.7%	42.3%	49.0%	41.6%	50.8%	42.8%	49.9%	56.6%	.
Artificial Tanning Appliance Use (2011, 2014, 2016)	4.4%	5.5%	3.3%	3.3%	3.4%	4.2%	5.7%	6.8%	5.3%
Healthy Weight by Body Mass Index, Age 20+ (2014–2018)	32.6%	34.2%	32.9%	27.0%	36.3%	31.1%	29.4%	32.4%	29.6%
Meet Physical Activity Guidelines (2011, 2013, 2015, 2017)	22.1%	22.1%	19.9%	20.6%	26.1%	18.8%	20.0%	20.1%	19.5%
Home Ever Tested for Radon (2016, 2018)	22.7%	29.7%	19.5%	16.3%	24.1%	20.2%	23.3%	22.7%	33.1%

Access to Care

Have Health Insurance – 2014–2018
Statewide, 81.2% of adults aged 18–64 reported having health care coverage. Health care coverage differed significantly by race/ethnicity, with 84.5% of white non-Hispanics, compared to 59.8% of Hispanics and 79.9% of Native Americans, having health insurance. Spanish-speaking respondents were significantly less likely to be insured (33.1%) than English-speaking respondents (83.1%). Health care coverage differed significantly by age of respondent, with 76.4% of persons aged 30–39, and 86.5% of persons aged 50–64, having health insurance. Health care coverage differed significantly by county, with a range of 57.4% in Adams County to 91.7% in Oneida County having health insurance.

Not See Doctor Due to Cost in Past Year – 2014–2018
Statewide, 14.3% 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 (13.2% of white non-Hispanics, 21.4% of Hispanics, and 23.1% of Native Americans). Inability to see a doctor due to cost differed significantly by annual household income (27.4% for less than $15,000, 6.7% for greater than $50,000). Inability to see a doctor due to cost differed significantly by county, with a range of 7.0% in Caribou County to 20.2% in Jerome County.

Cancer Screening

Mammogram – 2014, 2016, 2018
Statewide, 67.5% 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 (70.7% versus 34.0%). Mammography rates differed significantly by county, with a range in screening of 47.3% in Gooding County to 77.5% in Nez Perce County. In 2018, Idaho ranked 49th among states and the District of Columbia for mammography screening rates among women aged 50–74 and 50th among ages 40+.

Pap Test – 2016, 2018
Statewide, 72.5% 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 (77.3% versus 54.2% screened in the past 3 years). Pap screening differed significantly by county, with a range of 60.5% in Idaho County to 79.2% in Latah County. In 2018, Idaho ranked 51st among states and the District of Columbia for Pap screening rate.

Colorectal Cancer Screening – 2016, 2018
Statewide, 65.4% of adults aged 50–75 reported receiving colorectal cancer screening based on the most recent guidelines.** Persons with health insurance were over twice as likely to be current for colorectal cancer screening. In 2018, Idaho ranked 41st 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 Smoking – 2014–2018
Statewide, 14.6% of adults aged 18 and older were current smokers. Smoking prevalence differed significantly by age of respondent, with 19.2% of persons aged 30–39, and 8.4% of persons aged 65 and older reporting current smoking. Smoking prevalence was lower among white non-Hispanics (14.7%) than among Native Americans (32.4%). Smoking prevalence differed significantly by county, with a range of 4.3% in Madison County to 32.7% in Adams County. Counties with higher rates of current smoking had higher rates of lung cancer.

Smokeless Tobacco Use, Males – 2014–2018
Statewide, 9.5% of males aged 18 and older were current users of smokeless tobacco. Smokeless tobacco use differed significantly by age group, ranging from 12.8% of males aged 30–39 to 4.0% of males aged 65 and older. Smokeless tobacco use differed significantly by county, with a range of 3.4% in Franklin County to 21.1% in Custer County. Counties with higher rates of smokeless tobacco use had higher rates of oral cavity & pharynx cancer.

Other Cancer-Related

Sun Exposure – 2018
Statewide, 47.7% of adults aged 18 and older reported having sunburn in the past 12 months. Sunburn rates were higher for white non-Hispanics (49.6%) and Native Americans (48.7%) than for Hispanics (35.2%). Sunburn rates differed significantly by age group, with 67.2% of persons aged 30–39 and 17.9% of persons aged 65 and older having sunburn in the past 12 months. Sunburn rates differed significantly by county, with a range of 36.7% in Idaho County to 72.9% in Madison County having sunburn in the past 12 months.

Artificial Tanning Appliance Use – 2011, 2014, 2016
Statewide, 4.4% of adults aged 18 and older reported using an artificial tanning appliance, such as a tanning bed, in the past 12 months. Females (6.8%) were significantly more likely than males (2.1%) to have used an artificial tanning appliance in the past 12 months. Tanning appliance use differed significantly by age group, with 8.7% of persons aged 18–29 and 0.9% of persons aged 65 and older, using an appliance in the past 12 months. Tanning appliance use differed by county, with a range of less than 1% in Oneida, Power, and Valley Counties to over 9% in Bear Lake and Fremont Counties using an artificial tanning appliance in the past 12 months.

Healthy Weight by Body Mass Index – 2014–2018
Statewide, 32.6% 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 33.3% of white non-Hispanics, compared to 26.0% of Hispanics and 26.8% of Native Americans, being in the healthy weight range. Males (25.7%) were significantly less likely to be in the healthy weight range than females (39.4%). BMI differed significantly by age of respondent, with 45.0% of persons aged 18–29, and 27.1% of persons aged 50–64, being in the healthy weight range. BMI differed significantly by county, with a range of 19.5% in Minidoka County to 52.8% in Blaine County of adults being in the healthy weight range.

Physical Activity – 2011, 2013, 2015, 2017
Statewide, 22.1% of adults aged 18 and older met aerobic and strength physical activity guidelines during the past month or week. Physical activity differed significantly by age of respondent, with 26.3% of persons aged 18–29, and 19.3% of persons aged 50–64, meeting guidelines. The percentage of adults meeting physical activity guidelines differed significantly by county, with a range of 7.6% in Oneida County to 31.1% in Blaine County.

Home Radon Testing – 2016, 2018
Statewide, 22.7% of adults have ever tested their house for radon. Radon test usage varied significantly by race/ethnicity, with 24.7% of white non-Hispanics, 5.3% of Hispanics, and 27.9% 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 8.0% in Cassia County to 58.0% in Blaine County.

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TETON COUNTY CANCER PROFILE

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

Cancer Incidence 2013–2017
Cancer Mortality 2014–2018
BRFSS 2011–2018

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 are due to personal lifestyle factors, such as smoking and sedentary lifestyle, and are preventable. Additional cancers are 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. 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.

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://health.gov/dietaryguidelines/2015.

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
615 N. 7th Street
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/contact-center

American Cancer Society
2676 S. Vista Avenue
Boise, ID 83705
208-343-4609
https://www.cancer.org

CANCER INCIDENCE 2013–2017

Nearly one in two Idahoans are estimated to develop cancer during their lifetime. During 2013–2017, 40,996 cases of invasive cancer were diagnosed among Idaho residents, and 187 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, 2013–2017

Cancer Incidence 2013–2017	Teton County	State of Idaho
All Sites/Types	**187**	**40,996**
Female Breast	**36**	**5,956**
Prostate	**29**	**5,027**
Lung & Bronchus	**14**	**4,657**
Colorectal	**12**	**3,235**

Table 3 (*Cancer Incidence 2013–2017, 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 rate of invasive cancer incidence in Teton County was 345.2 cases per 100,000 person-years per year during 2013–2017. Comparing this crude rate with the crude rate for the remainder of Idaho (495.1) 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 420.9 cases per 100,000 persons per year during 2013–2017. There were statistically significantly fewer cases of cancer in Teton County (187) than expected (220.0) based upon rates in the remainder of the state (p=.025).

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 2014–2018

During 2014–2018, cancer was the second leading cause of death in Idaho; 14,585 Idaho residents and 47 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, 2014–2018

Mortality 2014–2018	Teton County	State of Idaho
All Deaths	**213**	**67,280**
Cancer Deaths	**47**	**14,585**
% of All Deaths	*22.1%*	*21.7%*
Lung & Bronchus	**7**	**3,125**
Colorectal	**7**	**1,226**
Pancreas	**3**	**1,079**
Female Breast	**2**	**1,077**
Prostate	**3**	**935**

Table 4 (*Cancer Mortality 2014–2018, 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 112.9 deaths per 100,000 persons per year during 2014–2018, compared with 173.4 for the remainder of the state. There were statistically significantly fewer cancer deaths in Teton County (47) than expected (72.2) 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 2013–2017
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	187	54,166	345.2	420.9	220.0	0.025 <<	40,809	8,242,200	495.1
	Male	107	28,307	378.0	463.8	117.9	0.340	21,090	4,127,688	510.9
	Female	80	25,859	309.4	371.9	103.1	0.022 <<	19,719	4,114,512	479.3
Bladder	Total	3	54,166	5.5	7.7	9.6	0.028 <<	2,012	8,242,200	24.4
	Male	3	28,307	10.6	14.4	7.9	0.090	1,567	4,127,688	38.0
	Female	-	25,859	-	-	2.0	0.260	445	4,114,512	10.8
Brain - malignant	Total	5	54,166	9.2	10.2	3.6	0.580	605	8,242,200	7.3
	Male	2	28,307	7.1	7.8	2.3	1.000	369	4,127,688	8.9
	Female	3	25,859	11.6	12.7	1.4	0.313	236	4,114,512	5.7
Brain and other CNS - non-malignant	Total	5	54,166	9.2	10.5	6.2	0.835	1,067	8,242,200	12.9
	Male	3	28,307	10.6	11.9	2.1	0.726	351	4,127,688	8.5
	Female	2	25,859	7.7	8.9	3.9	0.504	716	4,114,512	17.4
Breast	Total	37	54,166	68.3	77.1	34.7	0.741	5,964	8,242,200	72.4
	Male	1	28,307	3.5	4.8	0.2	0.397	44	4,127,688	1.1
	Female	36	25,859	139.2	160.4	32.3	0.559	5,920	4,114,512	143.9
Breast - in situ	Total	4	54,166	7.4	7.8	6.6	0.419	1,060	8,242,200	12.9
	Male	-	28,307	-	-	0.0	1.000	3	4,127,688	0.1
	Female	4	25,859	15.5	16.6	6.2	0.522	1,057	4,114,512	25.7
Cervix	Female	1	25,859	3.9	3.5	1.8	0.920	258	4,114,512	6.3
Colorectal	Total	12	54,166	22.2	27.1	17.3	0.239	3,223	8,242,200	39.1
	Male	5	28,307	17.7	21.0	10.0	0.134	1,730	4,127,688	41.9
	Female	7	25,859	27.1	34.1	7.5	1.000	1,493	4,114,512	36.3
Corpus Uteri	Female	2	25,859	7.7	8.8	6.7	0.075	1,207	4,114,512	29.3
Esophagus	Total	4	54,166	7.4	9.4	2.4	0.445	465	8,242,200	5.6
	Male	4	28,307	14.1	17.3	2.2	0.344	384	4,127,688	9.3
	Female	-	25,859	-	-	0.4	1.000	81	4,114,512	2.0
Hodgkin Lymphoma	Total	-	54,166	-	-	1.3	0.570	199	8,242,200	2.4
	Male	-	28,307	-	-	0.7	0.958	108	4,127,688	2.6
	Female	-	25,859	-	-	0.5	1.000	91	4,114,512	2.2
Kidney and Renal Pelvis	Total	3	54,166	5.5	6.6	8.5	0.060	1,551	8,242,200	18.8
	Male	1	28,307	3.5	4.1	5.9	0.039 <<	994	4,127,688	24.1
	Female	2	25,859	7.7	9.5	2.8	0.920	557	4,114,512	13.5
Larynx	Total	1	54,166	1.8	2.3	1.1	1.000	208	8,242,200	2.5
	Male	1	28,307	3.5	4.4	0.9	1.000	167	4,127,688	4.0
	Female	-	25,859	-	-	0.2	1.000	41	4,114,512	1.0
Leukemia	Total	8	54,166	14.8	18.7	7.7	0.998	1,478	8,242,200	17.9
	Male	6	28,307	21.2	26.2	4.9	0.719	875	4,127,688	21.2
	Female	2	25,859	7.7	10.0	2.9	0.881	603	4,114,512	14.7
Liver and Bile Duct	Total	3	54,166	5.5	6.7	4.0	0.881	730	8,242,200	8.9
	Male	1	28,307	3.5	4.1	3.1	0.362	531	4,127,688	12.9
	Female	2	25,859	7.7	9.9	1.0	0.513	199	4,114,512	4.8
Lung and Bronchus	Total	14	54,166	25.8	35.3	22.3	0.083	4,643	8,242,200	56.3
	Male	9	28,307	31.8	42.4	12.3	0.435	2,393	4,127,688	58.0
	Female	5	25,859	19.3	27.0	10.1	0.125	2,250	4,114,512	54.7
Melanoma of the Skin	Total	16	54,166	29.5	33.7	14.5	0.752	2,510	8,242,200	30.5
	Male	10	28,307	35.3	41.4	8.5	0.704	1,459	4,127,688	35.3
	Female	6	25,859	23.2	25.3	6.0	1.000	1,051	4,114,512	25.5
Myeloma	Total	1	54,166	1.8	2.5	2.9	0.416	607	8,242,200	7.4
	Male	1	28,307	3.5	4.6	1.9	0.884	356	4,127,688	8.6
	Female	-	25,859	-	-	1.1	0.646	251	4,114,512	6.1
Non-Hodgkin Lymphoma	Total	11	54,166	20.3	25.6	9.2	0.635	1,762	8,242,200	21.4
	Male	7	28,307	24.7	30.4	5.6	0.655	1,000	4,127,688	24.2
	Female	4	25,859	15.5	19.9	3.7	1.000	762	4,114,512	18.5
Oral Cavity and Pharynx	Total	10	54,166	18.5	21.7	6.5	0.239	1,158	8,242,200	14.0
	Male	10	28,307	35.3	40.5	4.9	0.056	816	4,127,688	19.8
	Female	-	25,859	-	-	1.8	0.340	342	4,114,512	8.3
Ovary	Female	-	25,859	-	-	2.7	0.130	519	4,114,512	12.6
Pancreas	Total	5	54,166	9.2	12.2	6.4	0.755	1,299	8,242,200	15.8
	Male	4	28,307	14.1	17.9	3.8	1.000	698	4,127,688	16.9
	Female	1	25,859	3.9	5.3	2.7	0.482	601	4,114,512	14.6
Prostate	Male	29	28,307	102.4	125.6	27.9	0.892	4,998	4,127,688	121.1
Stomach	Total	2	54,166	3.7	4.7	2.5	1.000	486	8,242,200	5.9
	Male	1	28,307	3.5	4.4	1.7	0.957	317	4,127,688	7.7
	Female	1	25,859	3.9	4.9	0.8	1.000	169	4,114,512	4.1
Testis	Male	2	28,307	7.1	6.6	1.9	1.000	265	4,127,688	6.4
Thyroid	Total	10	54,166	18.5	18.0	8.4	0.667	1,246	8,242,200	15.1
	Male	4	28,307	14.1	14.3	2.2	0.369	328	4,127,688	7.9
	Female	6	25,859	23.2	22.3	6.0	1.000	918	4,114,512	22.3
Pediatric Age 0 to 19	Total	4	15,651	25.6	25.8	2.8	0.615	431	2,384,871	18.1
	Male	2	8,073	24.8	25.1	1.5	0.895	232	1,217,829	19.1
	Female	2	7,578	26.4	26.6	1.3	0.735	199	1,167,042	17.1

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

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

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

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

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

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

TABLE 4: CANCER MORTALITY 2014–2018
COMPARISON BETWEEN TETON COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cause of Death Cancer Site/Type	Sex	Teton 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	213	55,402	384.5	532.7	319.9	0.000 <<	67,067	8,383,642	800.0
	Male	115	28,999	396.6	523.3	183.6	0.000 <<	35,071	4,198,881	835.2
	Female	98	26,403	371.2	535.7	139.9	0.000 <<	31,996	4,184,761	764.6
All Malignant Cancers	Total	47	55,402	84.8	112.9	72.2	0.002 <<	14,538	8,383,642	173.4
	Male	27	28,999	93.1	121.8	41.6	0.021 <<	7,874	4,198,881	187.5
	Female	20	26,403	75.7	102.0	31.2	0.043 <<	6,664	4,184,761	159.2
Bladder	Total	1	55,402	1.8	2.7	1.9	0.893	425	8,383,642	5.1
	Male	1	28,999	3.4	5.2	1.5	1.000	318	4,198,881	7.6
	Female	-	26,403	-	-	0.5	1.000	107	4,184,761	2.6
Brain and Other Nervous System	Total	3	55,402	5.4	6.2	2.8	1.000	494	8,383,642	5.9
	Male	2	28,999	6.9	7.8	1.9	1.000	313	4,198,881	7.5
	Female	1	26,403	3.8	4.4	1.0	1.000	181	4,184,761	4.3
Breast	Total	3	55,402	5.4	6.7	5.8	0.347	1,084	8,383,642	12.9
	Male	1	28,999	3.4	4.9	0.0	0.086	9	4,198,881	0.2
	Female	2	26,403	7.6	9.6	5.4	0.195	1,075	4,184,761	25.7
Cervix	Female	-	26,403	-	-	0.5	1.000	80	4,184,761	1.9
Colorectal	Total	7	55,402	12.6	16.2	6.3	0.873	1,219	8,383,642	14.5
	Male	1	28,999	3.4	4.2	3.7	0.232	661	4,198,881	15.7
	Female	6	26,403	22.7	30.3	2.6	0.104	558	4,184,761	13.3
Corpus Uteri	Female	-	26,403	-	-	0.7	0.967	153	4,184,761	3.7
Esophagus	Total	1	55,402	1.8	2.3	2.4	0.620	470	8,383,642	5.6
	Male	1	28,999	3.4	4.3	2.1	0.763	379	4,198,881	9.0
	Female	-	26,403	-	-	0.4	1.000	91	4,184,761	2.2
Hodgkin Lymphoma	Total	1	55,402	1.8	2.3	0.1	0.200	20	8,383,642	0.2
	Male	-	28,999	-	-	0.0	1.000	8	4,198,881	0.2
	Female	1	26,403	3.8	4.9	0.1	0.113	12	4,184,761	0.3
Kidney	Total	1	55,402	1.8	2.4	1.8	0.907	369	8,383,642	4.4
	Male	-	28,999	-	-	1.3	0.536	242	4,198,881	5.8
	Female	1	26,403	3.8	5.3	0.6	0.869	127	4,184,761	3.0
Larynx	Total	-	55,402	-	-	0.3	1.000	63	8,383,642	0.8
	Male	-	28,999	-	-	0.3	1.000	53	4,198,881	1.3
	Female	-	26,403	-	-	0.0	1.000	10	4,184,761	0.2
Leukemia	Total	1	55,402	1.8	2.5	2.9	0.429	615	8,383,642	7.3
	Male	1	28,999	3.4	4.7	1.8	0.913	357	4,198,881	8.5
	Female	-	26,403	-	-	1.1	0.645	258	4,184,761	6.2
Liver and Bile Duct	Total	4	55,402	7.2	9.1	3.1	0.764	594	8,383,642	7.1
	Male	1	28,999	3.4	4.1	2.4	0.627	411	4,198,881	9.8
	Female	3	26,403	11.4	15.1	0.9	0.115	183	4,184,761	4.4
Lung and Bronchus	Total	7	55,402	12.6	17.2	15.2	0.033 <<	3,118	8,383,642	37.2
	Male	5	28,999	17.2	22.7	8.7	0.267	1,662	4,198,881	39.6
	Female	2	26,403	7.6	10.6	6.6	0.082	1,456	4,184,761	34.8
Melanoma of the Skin	Total	-	55,402	-	-	1.5	0.449	280	8,383,642	3.3
	Male	-	28,999	-	-	1.1	0.688	187	4,198,881	4.5
	Female	-	26,403	-	-	0.5	1.000	93	4,184,761	2.2
Myeloma	Total	2	55,402	3.6	5.3	1.5	0.874	327	8,383,642	3.9
	Male	-	28,999	-	-	1.0	0.764	195	4,198,881	4.6
	Female	2	26,403	7.6	11.6	0.5	0.208	132	4,184,761	3.2
Non-Hodgkin Lymphoma	Total	1	55,402	1.8	2.6	2.6	0.541	569	8,383,642	6.8
	Male	-	28,999	-	-	1.6	0.401	319	4,198,881	7.6
	Female	1	26,403	3.8	5.8	1.0	1.000	250	4,184,761	6.0
Oral Cavity and Pharynx	Total	1	55,402	1.8	2.3	1.2	1.000	222	8,383,642	2.6
	Male	1	28,999	3.4	4.2	0.9	1.000	151	4,198,881	3.6
	Female	-	26,403	-	-	0.3	1.000	71	4,184,761	1.7
Ovary	Female	-	26,403	-	-	1.8	0.340	363	4,184,761	8.7
Pancreas	Total	3	55,402	5.4	7.1	5.4	0.430	1,076	8,383,642	12.8
	Male	3	28,999	10.3	12.9	3.3	1.000	589	4,198,881	14.0
	Female	-	26,403	-	-	2.2	0.223	487	4,184,761	11.6
Prostate	Male	3	28,999	10.3	15.9	4.2	0.796	932	4,198,881	22.2
Stomach	Total	-	55,402	-	-	1.1	0.677	210	8,383,642	2.5
	Male	-	28,999	-	-	0.7	1.000	122	4,198,881	2.9
	Female	-	26,403	-	-	0.4	1.000	88	4,184,761	2.1

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, 2019.

Cancer Screening and Risk Factors

The Bureau of Vital Records and Health Statistics (BVRHS), Division of Public Health, 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) with randomly selected adult Idahoans to measure population prevalences of risk factors for the major causes of death, including cancer, since 1984. BVRHS provided data sets containing Behavioral Risk Factor Surveillance System (BRFSS) data from 2011 through 2018 to CDRI staff, who performed the analyses reported in these *County Profiles*. Analysis weights were poststratified to 2018 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, 2011–2018

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 (2014–2018)	81.2%	80.6%	84.5%	74.6%	84.7%	75.5%	83.3%	83.8%	76.7%
Not See Doctor Due to Cost in Past Year (2014–2018)	14.3%	13.9%	12.2%	18.1%	13.6%	14.3%	12.5%	13.9%	15.8%
Cancer Screening									
Mammogram Past 2 Years, Age 50–74 (2014, 2016, 2018)	67.5%	66.8%	72.1%	63.2%	72.9%	61.0%	64.6%	66.8%	.
Pap Test Past 3 Years, Cervix Intact Age 21–65 (2016, 2018)	72.5%	74.8%	74.3%	72.1%	73.0%	71.7%	72.7%	68.6%	.
Colorectal Cancer Screening, Age 50–75 (2016, 2018)	65.4%	64.9%	71.3%	62.6%	68.9%	60.3%	62.1%	65.3%	.
Tobacco Use									
Current Smoker (2014–2018)	14.6%	17.1%	15.1%	16.8%	13.1%	16.2%	14.4%	10.4%	10.8%
Current Smokeless Tobacco User, Males (2014–2018)	9.5%	10.6%	14.0%	11.1%	8.4%	8.9%	8.4%	7.3%	10.6%
Other Cancer-Related									
Sunburn in Previous 12 Months (2018)	47.7%	42.3%	49.0%	41.6%	50.8%	42.8%	49.9%	56.6%	.
Artificial Tanning Appliance Use (2011, 2014, 2016)	4.4%	5.5%	3.3%	3.3%	3.4%	4.2%	5.7%	6.8%	2.9%
Healthy Weight by Body Mass Index, Age 20+ (2014–2018)	32.6%	34.2%	32.9%	27.0%	36.3%	31.1%	29.4%	32.4%	47.1%
Meet Physical Activity Guidelines (2011, 2013, 2015, 2017)	22.1%	22.1%	19.9%	20.6%	26.1%	18.8%	20.0%	20.1%	22.5%
Home Ever Tested for Radon (2016, 2018)	22.7%	29.7%	19.5%	16.3%	24.1%	20.2%	23.3%	22.7%	.

Access to Care

Have Health Insurance – 2014–2018
Statewide, 81.2% of adults aged 18–64 reported having health care coverage. Health care coverage differed significantly by race/ethnicity, with 84.5% of white non-Hispanics, compared to 59.8% of Hispanics and 79.9% of Native Americans, having health insurance. Spanish-speaking respondents were significantly less likely to be insured (33.1%) than English-speaking respondents (83.1%). Health care coverage differed significantly by age of respondent, with 76.4% of persons aged 30–39, and 86.5% of persons aged 50–64, having health insurance. Health care coverage differed significantly by county, with a range of 57.4% in Adams County to 91.7% in Oneida County having health insurance.

Not See Doctor Due to Cost in Past Year – 2014–2018
Statewide, 14.3% 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 (13.2% of white non-Hispanics, 21.4% of Hispanics, and 23.1% of Native Americans). Inability to see a doctor due to cost differed significantly by annual household income (27.4% for less than $15,000, 6.7% for greater than $50,000). Inability to see a doctor due to cost differed significantly by county, with a range of 7.0% in Caribou County to 20.2% in Jerome County.

Cancer Screening

Mammogram – 2014, 2016, 2018
Statewide, 67.5% 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 (70.7% versus 34.0%). Mammography rates differed significantly by county, with a range in screening of 47.3% in Gooding County to 77.5% in Nez Perce County. In 2018, Idaho ranked 49th among states and the District of Columbia for mammography screening rates among women aged 50–74 and 50th among ages 40+.

Pap Test – 2016, 2018
Statewide, 72.5% 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 (77.3% versus 54.2% screened in the past 3 years). Pap screening differed significantly by county, with a range of 60.5% in Idaho County to 79.2% in Latah County. In 2018, Idaho ranked 51st among states and the District of Columbia for Pap screening rate.

Colorectal Cancer Screening – 2016, 2018
Statewide, 65.4% of adults aged 50–75 reported receiving colorectal cancer screening based on the most recent guidelines.** Persons with health insurance were over twice as likely to be current for colorectal cancer screening. In 2018, Idaho ranked 41st 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 Smoking – 2014–2018
Statewide, 14.6% of adults aged 18 and older were current smokers. Smoking prevalence differed significantly by age of respondent, with 19.2% of persons aged 30–39, and 8.4% of persons aged 65 and older reporting current smoking. Smoking prevalence was lower among white non-Hispanics (14.7%) than among Native Americans (32.4%). Smoking prevalence differed significantly by county, with a range of 4.3% in Madison County to 32.7% in Adams County. Counties with higher rates of current smoking had higher rates of lung cancer.

Smokeless Tobacco Use, Males – 2014–2018
Statewide, 9.5% of males aged 18 and older were current users of smokeless tobacco. Smokeless tobacco use differed significantly by age group, ranging from 12.8% of males aged 30–39 to 4.0% of males aged 65 and older. Smokeless tobacco use differed significantly by county, with a range of 3.4% in Franklin County to 21.1% in Custer County. Counties with higher rates of smokeless tobacco use had higher rates of oral cavity & pharynx cancer.

Other Cancer-Related

Sun Exposure – 2018
Statewide, 47.7% of adults aged 18 and older reported having sunburn in the past 12 months. Sunburn rates were higher for white non-Hispanics (49.6%) and Native Americans (48.7%) than for Hispanics (35.2%). Sunburn rates differed significantly by age group, with 67.2% of persons aged 30–39 and 17.9% of persons aged 65 and older having sunburn in the past 12 months. Sunburn rates differed significantly by county, with a range of 36.7% in Idaho County to 72.9% in Madison County having sunburn in the past 12 months.

Artificial Tanning Appliance Use – 2011, 2014, 2016
Statewide, 4.4% of adults aged 18 and older reported using an artificial tanning appliance, such as a tanning bed, in the past 12 months. Females (6.8%) were significantly more likely than males (2.1%) to have used an artificial tanning appliance in the past 12 months. Tanning appliance use differed significantly by age group, with 8.7% of persons aged 18–29 and 0.9% of persons aged 65 and older, using an appliance in the past 12 months. Tanning appliance use differed by county, with a range of less than 1% in Oneida, Power, and Valley Counties to over 9% in Bear Lake and Fremont Counties using an artificial tanning appliance in the past 12 months.

Healthy Weight by Body Mass Index – 2014–2018
Statewide, 32.6% 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 33.3% of white non-Hispanics, compared to 26.0% of Hispanics and 26.8% of Native Americans, being in the healthy weight range. Males (25.7%) were significantly less likely to be in the healthy weight range than females (39.4%). BMI differed significantly by age of respondent, with 45.0% of persons aged 18–29, and 27.1% of persons aged 50–64, being in the healthy weight range. BMI differed significantly by county, with a range of 19.5% in Minidoka County to 52.8% in Blaine County of adults being in the healthy weight range.

Physical Activity – 2011, 2013, 2015, 2017
Statewide, 22.1% of adults aged 18 and older met aerobic and strength physical activity guidelines during the past month or week. Physical activity differed significantly by age of respondent, with 26.3% of persons aged 18–29, and 19.3% of persons aged 50–64, meeting guidelines. The percentage of adults meeting physical activity guidelines differed significantly by county, with a range of 7.6% in Oneida County to 31.1% in Blaine County.

Home Radon Testing – 2016, 2018
Statewide, 22.7% of adults have ever tested their house for radon. Radon test usage varied significantly by race/ethnicity, with 24.7% of white non-Hispanics, 5.3% of Hispanics, and 27.9% 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 8.0% in Cassia County to 58.0% in Blaine County.

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TWIN FALLS COUNTY CANCER PROFILE

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

Cancer Incidence 2013–2017
Cancer Mortality 2014–2018
BRFSS 2011–2018

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 are due to personal lifestyle factors, such as smoking and sedentary lifestyle, and are preventable. Additional cancers are 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. 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.

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://health.gov/dietaryguidelines/2015.

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
615 N. 7th Street
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/contact-center

American Cancer Society
2676 S. Vista Avenue
Boise, ID 83705
208-343-4609
https://www.cancer.org

CANCER INCIDENCE 2013–2017

Nearly one in two Idahoans are estimated to develop cancer during their lifetime. During 2013–2017, 40,996 cases of invasive cancer were diagnosed among Idaho residents, and 1,918 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, 2013–2017

Cancer Incidence 2013–2017	Twin Falls County	State of Idaho
All Sites/Types	**1,918**	**40,996**
Female Breast	**248**	**5,956**
Prostate	**216**	**5,027**
Lung & Bronchus	**218**	**4,657**
Colorectal	**158**	**3,235**

Table 3 (*Cancer Incidence 2013–2017, 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 rate of invasive cancer incidence in Twin Falls County was 465.4 cases per 100,000 person-years per year during 2013–2017. Comparing this crude rate with the crude rate for the remainder of Idaho (495.6) 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 469.4 cases per 100,000 persons per year during 2013–2017. There were statistically significantly fewer cases of cancer in Twin Falls County (1,918) than expected (2,025.1) based upon rates in the remainder of the state (p=.017).

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 2014–2018

During 2014–2018, cancer was the second leading cause of death in Idaho; 14,585 Idaho residents and 771 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, 2014–2018

Mortality 2014–2018	Twin Falls County	State of Idaho
All Deaths	**3,800**	**67,280**
Cancer Deaths	**771**	**14,585**
% of All Deaths	*20.3%*	*21.7%*
Lung & Bronchus	**155**	**3,125**
Colorectal	**65**	**1,226**
Pancreas	**47**	**1,079**
Female Breast	**59**	**1,077**
Prostate	**46**	**935**

Table 4 (*Cancer Mortality 2014–2018, 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 182.5 deaths per 100,000 persons per year during 2014–2018, compared with 172.2 for the remainder of the state. There were more cancer deaths in Twin Falls County (771) than expected (727.4) 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 2013–2017
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	1,918	412,149	465.4	469.4	2,025.1	0.017 <<	39,078	7,884,217	495.6
	Male	998	203,252	491.0	502.7	1,014.6	0.617	20,199	3,952,743	511.0
	Female	920	208,897	440.4	441.4	1,001.0	0.010 <<	18,879	3,931,474	480.2
Bladder	Total	120	412,149	29.1	28.7	100.4	0.062	1,895	7,884,217	24.0
	Male	98	203,252	48.2	48.6	75.1	0.013 >>	1,472	3,952,743	37.2
	Female	22	208,897	10.5	10.3	23.0	0.940	423	3,931,474	10.8
Brain - malignant	Total	26	412,149	6.3	6.3	30.3	0.495	584	7,884,217	7.4
	Male	16	203,252	7.9	8.0	17.9	0.760	355	3,952,743	9.0
	Female	10	208,897	4.8	4.8	12.2	0.657	229	3,931,474	5.8
Brain and other CNS - non-malignant	Total	57	412,149	13.8	13.9	52.7	0.586	1,015	7,884,217	12.9
	Male	18	203,252	8.9	9.0	17.1	0.887	336	3,952,743	8.5
	Female	39	208,897	18.7	18.7	35.9	0.654	679	3,931,474	17.3
Breast	Total	249	412,149	60.4	61.9	293.4	0.009 <<	5,752	7,884,217	73.0
	Male	1	203,252	0.5	0.5	2.2	0.690	44	3,952,743	1.1
	Female	248	208,897	118.7	121.1	297.3	0.004 <<	5,708	3,931,474	145.2
Breast - in situ	Total	39	412,149	9.5	9.9	51.2	0.092	1,025	7,884,217	13.0
	Male	-	203,252	-	-	0.1	1.000	3	3,952,743	0.1
	Female	39	208,897	18.7	19.5	52.0	0.075	1,022	3,931,474	26.0
Cervix	Female	11	208,897	5.3	5.5	12.7	0.763	248	3,931,474	6.3
Colorectal	Total	158	412,149	38.3	38.5	160.1	0.909	3,077	7,884,217	39.0
	Male	82	203,252	40.3	41.3	83.0	0.967	1,653	3,952,743	41.8
	Female	76	208,897	36.4	36.0	76.5	1.000	1,424	3,931,474	36.2
Corpus Uteri	Female	73	208,897	34.9	36.2	58.3	0.071	1,136	3,931,474	28.9
Esophagus	Total	16	412,149	3.9	3.9	23.4	0.142	453	7,884,217	5.7
	Male	13	203,252	6.4	6.6	18.7	0.217	375	3,952,743	9.5
	Female	3	208,897	1.4	1.4	4.2	0.796	78	3,931,474	2.0
Hodgkin Lymphoma	Total	9	412,149	2.2	2.2	9.8	0.964	190	7,884,217	2.4
	Male	6	203,252	3.0	3.0	5.2	0.829	102	3,952,743	2.6
	Female	3	208,897	1.4	1.4	4.7	0.634	88	3,931,474	2.2
Kidney and Renal Pelvis	Total	64	412,149	15.5	15.7	76.8	0.155	1,490	7,884,217	18.9
	Male	42	203,252	20.7	21.3	47.5	0.471	953	3,952,743	24.1
	Female	22	208,897	10.5	10.5	28.6	0.248	537	3,931,474	13.7
Larynx	Total	10	412,149	2.4	2.5	10.3	1.000	199	7,884,217	2.5
	Male	9	203,252	4.4	4.6	7.9	0.794	159	3,952,743	4.0
	Female	1	208,897	0.5	0.5	2.1	0.753	40	3,931,474	1.0
Leukemia	Total	81	412,149	19.7	19.4	74.5	0.483	1,405	7,884,217	17.8
	Male	44	203,252	21.6	21.8	42.7	0.887	837	3,952,743	21.2
	Female	37	208,897	17.7	17.1	31.2	0.344	568	3,931,474	14.4
Liver and Bile Duct	Total	29	412,149	7.0	7.2	35.9	0.280	704	7,884,217	8.9
	Male	19	203,252	9.3	9.8	25.3	0.247	513	3,952,743	13.0
	Female	10	208,897	4.8	4.8	10.2	1.000	191	3,931,474	4.9
Lung and Bronchus	Total	218	412,149	52.9	52.5	233.7	0.320	4,439	7,884,217	56.3
	Male	103	203,252	50.7	51.4	116.5	0.224	2,299	3,952,743	58.2
	Female	115	208,897	55.1	53.9	116.2	0.959	2,140	3,931,474	54.4
Melanoma of the Skin	Total	106	412,149	25.7	26.0	125.1	0.091	2,420	7,884,217	30.7
	Male	75	203,252	36.9	37.7	70.2	0.597	1,394	3,952,743	35.3
	Female	31	208,897	14.8	15.0	53.8	0.001 <<	1,026	3,931,474	26.1
Myeloma	Total	33	412,149	8.0	7.9	30.4	0.681	575	7,884,217	7.3
	Male	20	203,252	9.8	10.0	17.1	0.538	337	3,952,743	8.5
	Female	13	208,897	6.2	6.0	13.1	1.000	238	3,931,474	6.1
Non-Hodgkin Lymphoma	Total	82	412,149	19.9	19.9	88.4	0.539	1,691	7,884,217	21.4
	Male	44	203,252	21.6	22.1	48.6	0.569	963	3,952,743	24.4
	Female	38	208,897	18.2	17.9	39.2	0.926	728	3,931,474	18.5
Oral Cavity and Pharynx	Total	60	412,149	14.6	14.9	56.5	0.676	1,108	7,884,217	14.1
	Male	39	203,252	19.2	19.9	38.9	1.000	787	3,952,743	19.9
	Female	21	208,897	10.1	10.1	16.9	0.378	321	3,931,474	8.2
Ovary	Female	27	208,897	12.9	13.0	25.9	0.882	492	3,931,474	12.5
Pancreas	Total	63	412,149	15.3	15.2	65.3	0.843	1,241	7,884,217	15.7
	Male	41	203,252	20.2	20.6	33.3	0.218	661	3,952,743	16.7
	Female	22	208,897	10.5	10.2	31.7	0.090	580	3,931,474	14.8
Prostate	Male	216	203,252	106.3	110.7	237.6	0.169	4,811	3,952,743	121.7
Stomach	Total	29	412,149	7.0	7.0	24.1	0.361	459	7,884,217	5.8
	Male	14	203,252	6.9	7.0	15.3	0.861	304	3,952,743	7.7
	Female	15	208,897	7.2	7.0	8.4	0.050	155	3,931,474	3.9
Testis	Male	13	203,252	6.4	6.5	12.9	1.000	254	3,952,743	6.4
Thyroid	Total	46	412,149	11.2	11.5	61.5	0.048 <<	1,210	7,884,217	15.3
	Male	12	203,252	5.9	6.1	15.9	0.394	320	3,952,743	8.1
	Female	34	208,897	16.3	16.8	45.9	0.084	890	3,931,474	22.6
Pediatric Age 0 to 19	Total	20	124,723	16.0	16.1	22.6	0.681	415	2,275,799	18.2
	Male	10	63,391	15.8	15.9	12.1	0.667	224	1,162,511	19.3
	Female	10	61,332	16.3	16.4	10.5	1.000	191	1,113,288	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 2014–2018
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	3,800	418,332	908.4	873.9	3,441.4	0.000 >>	63,480	8,020,712	791.5
	Male	1,960	206,340	949.9	947.7	1,708.7	0.000 >>	33,226	4,021,540	826.2
	Female	1,840	211,992	868.0	810.3	1,717.8	0.004 >>	30,254	3,999,172	756.5
All Malignant Cancers	Total	771	418,332	184.3	182.5	727.4	0.112	13,814	8,020,712	172.2
	Male	424	206,340	205.5	208.6	378.0	0.021 >>	7,477	4,021,540	185.9
	Female	347	211,992	163.7	159.6	344.4	0.905	6,337	3,999,172	158.5
Bladder	Total	27	418,332	6.5	6.1	21.8	0.318	399	8,020,712	5.0
	Male	22	206,340	10.7	10.5	15.5	0.138	297	4,021,540	7.4
	Female	5	211,992	2.4	2.2	5.8	0.963	102	3,999,172	2.6
Brain and Other Nervous System	Total	29	418,332	6.9	7.1	23.9	0.343	468	8,020,712	5.8
	Male	14	206,340	6.8	7.0	14.9	0.943	301	4,021,540	7.5
	Female	15	211,992	7.1	7.2	8.7	0.065	167	3,999,172	4.2
Breast	Total	59	418,332	14.1	14.1	53.6	0.497	1,028	8,020,712	12.8
	Male	-	206,340	-	-	0.5	1.000	10	4,021,540	0.2
	Female	59	211,992	27.8	27.5	54.6	0.583	1,018	3,999,172	25.5
Cervix	Female	5	211,992	2.4	2.5	3.8	0.672	75	3,999,172	1.9
Colorectal	Total	65	418,332	15.5	15.4	61.0	0.644	1,161	8,020,712	14.5
	Male	36	206,340	17.4	17.8	31.5	0.467	626	4,021,540	15.6
	Female	29	211,992	13.7	13.3	29.2	1.000	535	3,999,172	13.4
Corpus Uteri	Female	7	211,992	3.3	3.3	7.8	0.961	146	3,999,172	3.7
Esophagus	Total	23	418,332	5.5	5.5	23.2	1.000	448	8,020,712	5.6
	Male	14	206,340	6.8	7.0	18.3	0.382	366	4,021,540	9.1
	Female	9	211,992	4.2	4.2	4.4	0.075	82	3,999,172	2.1
Hodgkin Lymphoma	Total	-	418,332	-	-	1.1	0.654	21	8,020,712	0.3
	Male	-	206,340	-	-	0.4	1.000	8	4,021,540	0.2
	Female	-	211,992	-	-	0.7	0.995	13	3,999,172	0.3
Kidney	Total	19	418,332	4.5	4.5	18.4	0.955	351	8,020,712	4.4
	Male	15	206,340	7.3	7.4	11.4	0.349	227	4,021,540	5.6
	Female	4	211,992	1.9	1.8	6.8	0.375	124	3,999,172	3.1
Larynx	Total	3	418,332	0.7	0.7	3.1	1.000	60	8,020,712	0.7
	Male	2	206,340	1.0	1.0	2.6	1.000	51	4,021,540	1.3
	Female	1	211,992	0.5	0.5	0.5	0.782	9	3,999,172	0.2
Leukemia	Total	38	418,332	9.1	8.8	31.0	0.247	578	8,020,712	7.2
	Male	26	206,340	12.6	12.7	16.9	0.048 >>	332	4,021,540	8.3
	Female	12	211,992	5.7	5.3	13.8	0.754	246	3,999,172	6.2
Liver and Bile Duct	Total	24	418,332	5.7	5.8	29.4	0.369	574	8,020,712	7.2
	Male	19	206,340	9.2	9.6	19.3	1.000	393	4,021,540	9.8
	Female	5	211,992	2.4	2.3	9.7	0.158	181	3,999,172	4.5
Lung and Bronchus	Total	155	418,332	37.1	36.9	155.7	1.000	2,970	8,020,712	37.0
	Male	80	206,340	38.8	39.6	79.7	1.000	1,587	4,021,540	39.5
	Female	75	211,992	35.4	34.5	75.1	1.000	1,383	3,999,172	34.6
Melanoma of the Skin	Total	22	418,332	5.3	5.3	13.4	0.039 >>	258	8,020,712	3.2
	Male	16	206,340	7.8	7.9	8.6	0.029 >>	171	4,021,540	4.3
	Female	6	211,992	2.8	2.8	4.7	0.659	87	3,999,172	2.2
Myeloma	Total	15	418,332	3.6	3.5	16.9	0.760	314	8,020,712	3.9
	Male	8	206,340	3.9	3.9	9.6	0.757	187	4,021,540	4.6
	Female	7	211,992	3.3	3.1	7.1	1.000	127	3,999,172	3.2
Non-Hodgkin Lymphoma	Total	33	418,332	7.9	7.7	28.8	0.483	537	8,020,712	6.7
	Male	20	206,340	9.7	9.8	15.2	0.272	299	4,021,540	7.4
	Female	13	211,992	6.1	5.8	13.4	1.000	238	3,999,172	6.0
Oral Cavity and Pharynx	Total	17	418,332	4.1	4.1	10.7	0.094	206	8,020,712	2.6
	Male	11	206,340	5.3	5.5	7.0	0.200	141	4,021,540	3.5
	Female	6	211,992	2.8	2.7	3.6	0.307	65	3,999,172	1.6
Ovary	Female	13	211,992	6.1	6.1	18.6	0.227	350	3,999,172	8.8
Pancreas	Total	47	418,332	11.2	11.2	53.8	0.394	1,032	8,020,712	12.9
	Male	33	206,340	16.0	16.5	27.8	0.371	559	4,021,540	13.9
	Female	14	211,992	6.6	6.4	25.8	0.017 <<	473	3,999,172	11.8
Prostate	Male	46	206,340	22.3	21.9	46.4	1.000	889	4,021,540	22.1
Stomach	Total	12	418,332	2.9	2.8	10.5	0.711	198	8,020,712	2.5
	Male	6	206,340	2.9	3.0	5.9	1.000	116	4,021,540	2.9
	Female	6	211,992	2.8	2.7	4.5	0.599	82	3,999,172	2.1

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, 2019.

Cancer Screening and Risk Factors

The Bureau of Vital Records and Health Statistics (BVRHS), Division of Public Health, 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) with randomly selected adult Idahoans to measure population prevalences of risk factors for the major causes of death, including cancer, since 1984. BVRHS provided data sets containing Behavioral Risk Factor Surveillance System (BRFSS) data from 2011 through 2018 to CDRI staff, who performed the analyses reported in these *County Profiles*. Analysis weights were poststratified to 2018 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, 2011–2018

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 (2014–2018)	81.2%	80.6%	84.5%	74.6%	84.7%	75.5%	83.3%	83.8%	77.8%
Not See Doctor Due to Cost in Past Year (2014–2018)	14.3%	13.9%	12.2%	18.1%	13.6%	14.3%	12.5%	13.9%	12.7%
Cancer Screening									
Mammogram Past 2 Years, Age 50–74 (2014, 2016, 2018)	67.5%	66.8%	72.1%	63.2%	72.9%	61.0%	64.6%	66.8%	63.6%
Pap Test Past 3 Years, Cervix Intact Age 21–65 (2016, 2018)	72.5%	74.8%	74.3%	72.1%	73.0%	71.7%	72.7%	68.6%	66.8%
Colorectal Cancer Screening, Age 50–75 (2016, 2018)	65.4%	64.9%	71.3%	62.6%	68.9%	60.3%	62.1%	65.3%	64.6%
Tobacco Use									
Current Smoker (2014–2018)	14.6%	17.1%	15.1%	16.8%	13.1%	16.2%	14.4%	10.4%	17.6%
Current Smokeless Tobacco User, Males (2014–2018)	9.5%	10.6%	14.0%	11.1%	8.4%	8.9%	8.4%	7.3%	8.0%
Other Cancer-Related									
Sunburn in Previous 12 Months (2018)	47.7%	42.3%	49.0%	41.6%	50.8%	42.8%	49.9%	56.6%	46.8%
Artificial Tanning Appliance Use (2011, 2014, 2016)	4.4%	5.5%	3.3%	3.3%	3.4%	4.2%	5.7%	6.8%	4.3%
Healthy Weight by Body Mass Index, Age 20+ (2014–2018)	32.6%	34.2%	32.9%	27.0%	36.3%	31.1%	29.4%	32.4%	28.8%
Meet Physical Activity Guidelines (2011, 2013, 2015, 2017)	22.1%	22.1%	19.9%	20.6%	26.1%	18.8%	20.0%	20.1%	19.3%
Home Ever Tested for Radon (2016, 2018)	22.7%	29.7%	19.5%	16.3%	24.1%	20.2%	23.3%	22.7%	16.5%

Access to Care

Have Health Insurance – 2014–2018
Statewide, 81.2% of adults aged 18–64 reported having health care coverage. Health care coverage differed significantly by race/ethnicity, with 84.5% of white non-Hispanics, compared to 59.8% of Hispanics and 79.9% of Native Americans, having health insurance. Spanish-speaking respondents were significantly less likely to be insured (33.1%) than English-speaking respondents (83.1%). Health care coverage differed significantly by age of respondent, with 76.4% of persons aged 30–39, and 86.5% of persons aged 50–64, having health insurance. Health care coverage differed significantly by county, with a range of 57.4% in Adams County to 91.7% in Oneida County having health insurance.

Not See Doctor Due to Cost in Past Year – 2014–2018
Statewide, 14.3% 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 (13.2% of white non-Hispanics, 21.4% of Hispanics, and 23.1% of Native Americans). Inability to see a doctor due to cost differed significantly by annual household income (27.4% for less than $15,000, 6.7% for greater than $50,000). Inability to see a doctor due to cost differed significantly by county, with a range of 7.0% in Caribou County to 20.2% in Jerome County.

Cancer Screening

Mammogram – 2014, 2016, 2018
Statewide, 67.5% 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 (70.7% versus 34.0%). Mammography rates differed significantly by county, with a range in screening of 47.3% in Gooding County to 77.5% in Nez Perce County. In 2018, Idaho ranked 49th among states and the District of Columbia for mammography screening rates among women aged 50–74 and 50th among ages 40+.

Pap Test – 2016, 2018
Statewide, 72.5% 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 (77.3% versus 54.2% screened in the past 3 years). Pap screening differed significantly by county, with a range of 60.5% in Idaho County to 79.2% in Latah County. In 2018, Idaho ranked 51st among states and the District of Columbia for Pap screening rate.

Colorectal Cancer Screening – 2016, 2018
Statewide, 65.4% of adults aged 50–75 reported receiving colorectal cancer screening based on the most recent guidelines.** Persons with health insurance were over twice as likely to be current for colorectal cancer screening. In 2018, Idaho ranked 41st 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 Smoking – 2014–2018
Statewide, 14.6% of adults aged 18 and older were current smokers. Smoking prevalence differed significantly by age of respondent, with 19.2% of persons aged 30–39, and 8.4% of persons aged 65 and older reporting current smoking. Smoking prevalence was lower among white non-Hispanics (14.7%) than among Native Americans (32.4%). Smoking prevalence differed significantly by county, with a range of 4.3% in Madison County to 32.7% in Adams County. Counties with higher rates of current smoking had higher rates of lung cancer.

Smokeless Tobacco Use, Males – 2014–2018
Statewide, 9.5% of males aged 18 and older were current users of smokeless tobacco. Smokeless tobacco use differed significantly by age group, ranging from 12.8% of males aged 30–39 to 4.0% of males aged 65 and older. Smokeless tobacco use differed significantly by county, with a range of 3.4% in Franklin County to 21.1% in Custer County. Counties with higher rates of smokeless tobacco use had higher rates of oral cavity & pharynx cancer.

Other Cancer-Related

Sun Exposure – 2018
Statewide, 47.7% of adults aged 18 and older reported having sunburn in the past 12 months. Sunburn rates were higher for white non-Hispanics (49.6%) and Native Americans (48.7%) than for Hispanics (35.2%). Sunburn rates differed significantly by age group, with 67.2% of persons aged 30–39 and 17.9% of persons aged 65 and older having sunburn in the past 12 months. Sunburn rates differed significantly by county, with a range of 36.7% in Idaho County to 72.9% in Madison County having sunburn in the past 12 months.

Artificial Tanning Appliance Use – 2011, 2014, 2016
Statewide, 4.4% of adults aged 18 and older reported using an artificial tanning appliance, such as a tanning bed, in the past 12 months. Females (6.8%) were significantly more likely than males (2.1%) to have used an artificial tanning appliance in the past 12 months. Tanning appliance use differed significantly by age group, with 8.7% of persons aged 18–29 and 0.9% of persons aged 65 and older, using an appliance in the past 12 months. Tanning appliance use differed by county, with a range of less than 1% in Oneida, Power, and Valley Counties to over 9% in Bear Lake and Fremont Counties using an artificial tanning appliance in the past 12 months.

Healthy Weight by Body Mass Index – 2014–2018
Statewide, 32.6% 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 33.3% of white non-Hispanics, compared to 26.0% of Hispanics and 26.8% of Native Americans, being in the healthy weight range. Males (25.7%) were significantly less likely to be in the healthy weight range than females (39.4%). BMI differed significantly by age of respondent, with 45.0% of persons aged 18–29, and 27.1% of persons aged 50–64, being in the healthy weight range. BMI differed significantly by county, with a range of 19.5% in Minidoka County to 52.8% in Blaine County of adults being in the healthy weight range.

Physical Activity – 2011, 2013, 2015, 2017
Statewide, 22.1% of adults aged 18 and older met aerobic and strength physical activity guidelines during the past month or week. Physical activity differed significantly by age of respondent, with 26.3% of persons aged 18–29, and 19.3% of persons aged 50–64, meeting guidelines. The percentage of adults meeting physical activity guidelines differed significantly by county, with a range of 7.6% in Oneida County to 31.1% in Blaine County.

Home Radon Testing – 2016, 2018
Statewide, 22.7% of adults have ever tested their house for radon. Radon test usage varied significantly by race/ethnicity, with 24.7% of white non-Hispanics, 5.3% of Hispanics, and 27.9% 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 8.0% in Cassia County to 58.0% in Blaine County.

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VALLEY COUNTY CANCER PROFILE

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

Cancer Incidence 2013–2017
Cancer Mortality 2014–2018
BRFSS 2011–2018

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 are due to personal lifestyle factors, such as smoking and sedentary lifestyle, and are preventable. Additional cancers are 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. 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.

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://health.gov/dietaryguidelines/2015.

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
615 N. 7th Street
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/contact-center

American Cancer Society
2676 S. Vista Avenue
Boise, ID 83705
208-343-4609
https://www.cancer.org

CANCER INCIDENCE 2013–2017

Nearly one in two Idahoans are estimated to develop cancer during their lifetime. During 2013–2017, 40,996 cases of invasive cancer were diagnosed among Idaho residents, and 336 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, 2013–2017

Cancer Incidence 2013–2017	Valley County	State of Idaho
All Sites/Types	**336**	**40,996**
Female Breast	**42**	**5,956**
Prostate	**56**	**5,027**
Lung & Bronchus	**31**	**4,657**
Colorectal	**21**	**3,235**

Table 3 (*Cancer Incidence 2013–2017, 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 rate of invasive cancer incidence in Valley County was 664.8 cases per 100,000 person-years per year during 2013–2017. Comparing this crude rate with the crude rate for the remainder of Idaho (493.1) 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 463.6 cases per 100,000 persons per year during 2013–2017. There were fewer cases of cancer in Valley County (336) than expected (357.4) 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 2014–2018

During 2014–2018, cancer was the second leading cause of death in Idaho; 14,585 Idaho residents and 102 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, 2014–2018

Mortality 2014–2018	Valley County	State of Idaho
All Deaths	**388**	**67,280**
Cancer Deaths	**102**	**14,585**
% of All Deaths	*26.3%*	*21.7%*
Lung & Bronchus	**18**	**3,125**
Colorectal	**4**	**1,226**
Pancreas	**5**	**1,079**
Female Breast	**8**	**1,077**
Prostate	**9**	**935**

Table 4 (*Cancer Mortality 2014–2018, 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 139.1 deaths per 100,000 persons per year during 2014–2018, compared with 172.7 for the remainder of the state. There were statistically significantly fewer cancer deaths in Valley County (102) than expected (126.7) based upon rates in the remainder of the state (p=.027).

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

TABLE 3: CANCER INCIDENCE 2013–2017
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	336	50,540	664.8	463.6	357.4	0.268	40,660	8,245,826	493.1
	Male	196	26,245	746.8	479.8	207.7	0.439	21,001	4,129,750	508.5
	Female	140	24,295	576.3	431.3	155.0	0.241	19,659	4,116,076	477.6
Bladder	Total	21	50,540	41.6	28.4	17.9	0.517	1,994	8,245,826	24.2
	Male	15	26,245	57.2	36.1	15.6	1.000	1,555	4,129,750	37.7
	Female	6	24,295	24.7	18.3	3.5	0.286	439	4,116,076	10.7
Brain - malignant	Total	5	50,540	9.9	7.7	4.8	1.000	605	8,245,826	7.3
	Male	4	26,245	15.2	11.0	3.2	0.808	367	4,129,750	8.9
	Female	1	24,295	4.1	3.4	1.7	0.992	238	4,116,076	5.8
Brain and other CNS - non-malignant	Total	3	50,540	5.9	4.5	8.7	0.054	1,069	8,245,826	13.0
	Male	-	26,245	-	-	3.1	0.095	354	4,129,750	8.6
	Female	3	24,295	12.3	9.7	5.4	0.427	715	4,116,076	17.4
Breast	Total	42	50,540	83.1	58.2	52.2	0.174	5,959	8,245,826	72.3
	Male	-	26,245	-	-	0.5	1.000	45	4,129,750	1.1
	Female	42	24,295	172.9	125.8	48.0	0.436	5,914	4,116,076	143.7
Breast - in situ	Total	5	50,540	9.9	7.0	9.2	0.207	1,059	8,245,826	12.8
	Male	-	26,245	-	-	0.0	1.000	3	4,129,750	0.1
	Female	5	24,295	20.6	15.0	8.6	0.287	1,056	4,116,076	25.7
Cervix	Female	3	24,295	12.3	10.5	1.8	0.526	256	4,116,076	6.2
Colorectal	Total	21	50,540	41.6	29.3	27.9	0.219	3,214	8,245,826	39.0
	Male	13	26,245	49.5	32.6	16.6	0.452	1,722	4,129,750	41.7
	Female	8	24,295	32.9	25.0	11.6	0.369	1,492	4,116,076	36.2
Corpus Uteri	Female	6	24,295	24.7	17.2	10.2	0.234	1,203	4,116,076	29.2
Esophagus	Total	4	50,540	7.9	5.3	4.3	1.000	465	8,245,826	5.6
	Male	2	26,245	7.6	4.8	3.9	0.514	386	4,129,750	9.3
	Female	2	24,295	8.2	5.8	0.7	0.282	79	4,116,076	1.9
Hodgkin Lymphoma	Total	2	50,540	4.0	3.8	1.3	0.716	197	8,245,826	2.4
	Male	2	26,245	7.6	7.2	0.7	0.320	106	4,129,750	2.6
	Female	-	24,295	-	-	0.6	1.000	91	4,116,076	2.2
Kidney and Renal Pelvis	Total	14	50,540	27.7	19.2	13.6	0.995	1,540	8,245,826	18.7
	Male	9	26,245	34.3	22.3	9.6	1.000	986	4,129,750	23.9
	Female	5	24,295	20.6	15.2	4.4	0.903	554	4,116,076	13.5
Larynx	Total	-	50,540	-	-	1.9	0.288	209	8,245,826	2.5
	Male	-	26,245	-	-	1.7	0.350	168	4,129,750	4.1
	Female	-	24,295	-	-	0.3	1.000	41	4,116,076	1.0
Leukemia	Total	9	50,540	17.8	13.3	12.1	0.464	1,477	8,245,826	17.9
	Male	4	26,245	15.2	10.5	8.1	0.187	877	4,129,750	21.2
	Female	5	24,295	20.6	16.9	4.3	0.863	600	4,116,076	14.6
Liver and Bile Duct	Total	7	50,540	13.9	9.1	6.8	1.000	726	8,245,826	8.8
	Male	7	26,245	26.7	16.4	5.4	0.602	525	4,129,750	12.7
	Female	-	24,295	-	-	1.6	0.386	201	4,116,076	4.9
Lung and Bronchus	Total	31	50,540	61.3	41.2	42.2	0.090	4,626	8,245,826	56.1
	Male	18	26,245	68.6	42.5	24.4	0.223	2,384	4,129,750	57.7
	Female	13	24,295	53.5	38.8	18.3	0.259	2,242	4,116,076	54.5
Melanoma of the Skin	Total	27	50,540	53.4	38.8	21.1	0.242	2,499	8,245,826	30.3
	Male	17	26,245	64.8	43.3	13.8	0.452	1,452	4,129,750	35.2
	Female	10	24,295	41.2	32.1	7.9	0.545	1,047	4,116,076	25.4
Myeloma	Total	8	50,540	15.8	10.9	5.4	0.346	600	8,245,826	7.3
	Male	5	26,245	19.1	11.9	3.6	0.583	352	4,129,750	8.5
	Female	3	24,295	12.3	9.4	1.9	0.600	248	4,116,076	6.0
Non-Hodgkin Lymphoma	Total	14	50,540	27.7	19.6	15.3	0.876	1,759	8,245,826	21.3
	Male	9	26,245	34.3	22.6	9.6	1.000	998	4,129,750	24.2
	Female	5	24,295	20.6	15.5	6.0	0.907	761	4,116,076	18.5
Oral Cavity and Pharynx	Total	12	50,540	23.7	16.2	10.4	0.702	1,156	8,245,826	14.0
	Male	11	26,245	41.9	27.0	8.0	0.375	815	4,129,750	19.7
	Female	1	24,295	4.1	3.0	2.8	0.478	341	4,116,076	8.3
Ovary	Female	6	24,295	24.7	18.5	4.0	0.444	513	4,116,076	12.5
Pancreas	Total	9	50,540	17.8	12.2	11.6	0.558	1,295	8,245,826	15.7
	Male	5	26,245	19.1	12.1	7.0	0.601	697	4,129,750	16.9
	Female	4	24,295	16.5	12.2	4.8	0.970	598	4,116,076	14.5
Prostate	Male	56	26,245	213.4	128.3	52.5	0.670	4,971	4,129,750	120.4
Stomach	Total	2	50,540	4.0	2.8	4.2	0.415	486	8,245,826	5.9
	Male	2	26,245	7.6	4.9	3.1	0.803	316	4,129,750	7.7
	Female	-	24,295	-	-	1.3	0.552	170	4,116,076	4.1
Testis	Male	2	26,245	7.6	8.7	1.5	0.864	265	4,129,750	6.4
Thyroid	Total	5	50,540	9.9	8.1	9.3	0.196	1,251	8,245,826	15.2
	Male	2	26,245	7.6	5.8	2.8	0.950	330	4,129,750	8.0
	Female	3	24,295	12.3	10.5	6.4	0.238	921	4,116,076	22.4
Pediatric Age 0 to 19	Total	2	10,033	19.9	20.0	1.8	1.000	433	2,390,489	18.1
	Male	1	5,235	19.1	19.1	1.0	1.000	233	1,220,667	19.1
	Female	1	4,798	20.8	20.9	0.8	1.000	200	1,169,822	17.1

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

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

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

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

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

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

TABLE 4: CANCER MORTALITY 2014–2018
COMPARISON BETWEEN VALLEY COUNTY AND THE REMAINDER OF THE STATE OF IDAHO

Cause of Death Cancer Site/Type	Sex	Valley 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	388	52,005	746.1	582.5	531.2	0.000 <<	66,892	8,387,039	797.6
	Male	221	26,993	818.7	577.1	318.7	0.000 <<	34,965	4,200,887	832.3
	Female	167	25,012	667.7	578.0	220.4	0.000 <<	31,927	4,186,152	762.7
All Malignant Cancers	Total	102	52,005	196.1	139.1	126.7	0.027 <<	14,483	8,387,039	172.7
	Male	57	26,993	211.2	137.2	77.6	0.018 <<	7,844	4,200,887	186.7
	Female	45	25,012	179.9	138.0	51.7	0.392	6,639	4,186,152	158.6
Bladder	Total	6	52,005	11.5	8.7	3.4	0.269	420	8,387,039	5.0
	Male	4	26,993	14.8	10.1	3.0	0.697	315	4,200,887	7.5
	Female	2	25,012	8.0	6.7	0.7	0.345	105	4,186,152	2.5
Brain and Other Nervous System	Total	4	52,005	7.7	5.4	4.4	1.000	493	8,387,039	5.9
	Male	4	26,993	14.8	9.9	3.0	0.700	311	4,200,887	7.4
	Female	-	25,012	-	-	1.5	0.449	182	4,186,152	4.3
Breast	Total	8	52,005	15.4	11.0	9.3	0.825	1,079	8,387,039	12.9
	Male	-	26,993	-	-	0.1	1.000	10	4,200,887	0.2
	Female	8	25,012	32.0	24.3	8.4	1.000	1,069	4,186,152	25.5
Cervix	Female	-	25,012	-	-	0.6	1.000	80	4,186,152	1.9
Colorectal	Total	4	52,005	7.7	5.5	10.5	0.042 <<	1,222	8,387,039	14.6
	Male	2	26,993	7.4	4.9	6.4	0.090	660	4,200,887	15.7
	Female	2	25,012	8.0	6.3	4.2	0.408	562	4,186,152	13.4
Corpus Uteri	Female	1	25,012	4.0	2.9	1.3	1.000	152	4,186,152	3.6
Esophagus	Total	3	52,005	5.8	4.0	4.2	0.786	468	8,387,039	5.6
	Male	2	26,993	7.4	4.7	3.8	0.540	378	4,200,887	9.0
	Female	1	25,012	4.0	3.0	0.7	1.000	90	4,186,152	2.1
Hodgkin Lymphoma	Total	-	52,005	-	-	0.2	1.000	21	8,387,039	0.3
	Male	-	26,993	-	-	0.1	1.000	8	4,200,887	0.2
	Female	-	25,012	-	-	0.1	1.000	13	4,186,152	0.3
Kidney	Total	4	52,005	7.7	5.4	3.2	0.817	366	8,387,039	4.4
	Male	2	26,993	7.4	4.8	2.4	1.000	240	4,200,887	5.7
	Female	2	25,012	8.0	6.2	1.0	0.511	126	4,186,152	3.0
Larynx	Total	1	52,005	1.9	1.3	0.6	0.854	62	8,387,039	0.7
	Male	1	26,993	3.7	2.4	0.5	0.806	52	4,200,887	1.2
	Female	-	25,012	-	-	0.1	1.000	10	4,186,152	0.2
Leukemia	Total	3	52,005	5.8	4.3	5.1	0.509	613	8,387,039	7.3
	Male	3	26,993	11.1	7.5	3.4	1.000	355	4,200,887	8.5
	Female	-	25,012	-	-	1.8	0.320	258	4,186,152	6.2
Liver and Bile Duct	Total	4	52,005	7.7	5.1	5.5	0.701	594	8,387,039	7.1
	Male	3	26,993	11.1	6.8	4.3	0.760	409	4,200,887	9.7
	Female	1	25,012	4.0	3.0	1.5	1.000	185	4,186,152	4.4
Lung and Bronchus	Total	18	52,005	34.6	23.7	28.1	0.058	3,107	8,387,039	37.0
	Male	11	26,993	40.8	25.5	17.0	0.171	1,656	4,200,887	39.4
	Female	7	25,012	28.0	20.9	11.6	0.216	1,451	4,186,152	34.7
Melanoma of the Skin	Total	1	52,005	1.9	1.4	2.4	0.603	279	8,387,039	3.3
	Male	1	26,993	3.7	2.4	1.8	0.912	186	4,200,887	4.4
	Female	-	25,012	-	-	0.7	0.986	93	4,186,152	2.2
Myeloma	Total	2	52,005	3.8	2.8	2.8	0.938	327	8,387,039	3.9
	Male	-	26,993	-	-	1.9	0.297	195	4,200,887	4.6
	Female	2	25,012	8.0	6.4	1.0	0.522	132	4,186,152	3.2
Non-Hodgkin Lymphoma	Total	4	52,005	7.7	5.6	4.8	0.939	566	8,387,039	6.7
	Male	2	26,993	7.4	4.8	3.1	0.797	317	4,200,887	7.5
	Female	2	25,012	8.0	6.5	1.8	1.000	249	4,186,152	5.9
Oral Cavity and Pharynx	Total	3	52,005	5.8	4.0	2.0	0.628	220	8,387,039	2.6
	Male	1	26,993	3.7	2.4	1.5	1.000	151	4,200,887	3.6
	Female	2	25,012	8.0	6.2	0.5	0.199	69	4,186,152	1.6
Ovary	Female	3	25,012	12.0	8.8	2.9	1.000	360	4,186,152	8.6
Pancreas	Total	5	52,005	9.6	6.6	9.7	0.158	1,074	8,387,039	12.8
	Male	3	26,993	11.1	7.0	6.0	0.303	589	4,200,887	14.0
	Female	2	25,012	8.0	6.0	3.8	0.525	485	4,186,152	11.6
Prostate	Male	9	26,993	33.3	22.5	8.8	1.000	926	4,200,887	22.0
Stomach	Total	1	52,005	1.9	1.4	1.8	0.948	209	8,387,039	2.5
	Male	1	26,993	3.7	2.5	1.2	1.000	121	4,200,887	2.9
	Female	-	25,012	-	-	0.6	1.000	88	4,186,152	2.1

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, 2019.

Cancer Screening and Risk Factors

The Bureau of Vital Records and Health Statistics (BVRHS), Division of Public Health, 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) with randomly selected adult Idahoans to measure population prevalences of risk factors for the major causes of death, including cancer, since 1984. BVRHS provided data sets containing Behavioral Risk Factor Surveillance System (BRFSS) data from 2011 through 2018 to CDRI staff, who performed the analyses reported in these *County Profiles*. Analysis weights were poststratified to 2018 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, 2011–2018

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 (2014–2018)	81.2%	80.6%	84.5%	74.6%	84.7%	75.5%	83.3%	83.8%	76.6%
Not See Doctor Due to Cost in Past Year (2014–2018)	14.3%	13.9%	12.2%	18.1%	13.6%	14.3%	12.5%	13.9%	14.5%
Cancer Screening									
Mammogram Past 2 Years, Age 50–74 (2014, 2016, 2018)	67.5%	66.8%	72.1%	63.2%	72.9%	61.0%	64.6%	66.8%	.
Pap Test Past 3 Years, Cervix Intact Age 21–65 (2016, 2018)	72.5%	74.8%	74.3%	72.1%	73.0%	71.7%	72.7%	68.6%	.
Colorectal Cancer Screening, Age 50–75 (2016, 2018)	65.4%	64.9%	71.3%	62.6%	68.9%	60.3%	62.1%	65.3%	.
Tobacco Use									
Current Smoker (2014–2018)	14.6%	17.1%	15.1%	16.8%	13.1%	16.2%	14.4%	10.4%	18.3%
Current Smokeless Tobacco User, Males (2014–2018)	9.5%	10.6%	14.0%	11.1%	8.4%	8.9%	8.4%	7.3%	13.5%
Other Cancer-Related									
Sunburn in Previous 12 Months (2018)	47.7%	42.3%	49.0%	41.6%	50.8%	42.8%	49.9%	56.6%	.
Artificial Tanning Appliance Use (2011, 2014, 2016)	4.4%	5.5%	3.3%	3.3%	3.4%	4.2%	5.7%	6.8%	0.0%
Healthy Weight by Body Mass Index, Age 20+ (2014–2018)	32.6%	34.2%	32.9%	27.0%	36.3%	31.1%	29.4%	32.4%	45.5%
Meet Physical Activity Guidelines (2011, 2013, 2015, 2017)	22.1%	22.1%	19.9%	20.6%	26.1%	18.8%	20.0%	20.1%	25.0%
Home Ever Tested for Radon (2016, 2018)	22.7%	29.7%	19.5%	16.3%	24.1%	20.2%	23.3%	22.7%	.

Access to Care

Have Health Insurance – 2014–2018
Statewide, 81.2% of adults aged 18–64 reported having health care coverage. Health care coverage differed significantly by race/ethnicity, with 84.5% of white non-Hispanics, compared to 59.8% of Hispanics and 79.9% of Native Americans, having health insurance. Spanish-speaking respondents were significantly less likely to be insured (33.1%) than English-speaking respondents (83.1%). Health care coverage differed significantly by age of respondent, with 76.4% of persons aged 30–39, and 86.5% of persons aged 50–64, having health insurance. Health care coverage differed significantly by county, with a range of 57.4% in Adams County to 91.7% in Oneida County having health insurance.

Not See Doctor Due to Cost in Past Year – 2014–2018
Statewide, 14.3% 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 (13.2% of white non-Hispanics, 21.4% of Hispanics, and 23.1% of Native Americans). Inability to see a doctor due to cost differed significantly by annual household income (27.4% for less than $15,000, 6.7% for greater than $50,000). Inability to see a doctor due to cost differed significantly by county, with a range of 7.0% in Caribou County to 20.2% in Jerome County.

Cancer Screening

Mammogram – 2014, 2016, 2018
Statewide, 67.5% 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 (70.7% versus 34.0%). Mammography rates differed significantly by county, with a range in screening of 47.3% in Gooding County to 77.5% in Nez Perce County. In 2018, Idaho ranked 49th among states and the District of Columbia for mammography screening rates among women aged 50–74 and 50th among ages 40+.

Pap Test – 2016, 2018
Statewide, 72.5% 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 (77.3% versus 54.2% screened in the past 3 years). Pap screening differed significantly by county, with a range of 60.5% in Idaho County to 79.2% in Latah County. In 2018, Idaho ranked 51st among states and the District of Columbia for Pap screening rate.

Colorectal Cancer Screening – 2016, 2018
Statewide, 65.4% of adults aged 50–75 reported receiving colorectal cancer screening based on the most recent guidelines.** Persons with health insurance were over twice as likely to be current for colorectal cancer screening. In 2018, Idaho ranked 41st 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 Smoking – 2014–2018
Statewide, 14.6% of adults aged 18 and older were current smokers. Smoking prevalence differed significantly by age of respondent, with 19.2% of persons aged 30–39, and 8.4% of persons aged 65 and older reporting current smoking. Smoking prevalence was lower among white non-Hispanics (14.7%) than among Native Americans (32.4%). Smoking prevalence differed significantly by county, with a range of 4.3% in Madison County to 32.7% in Adams County. Counties with higher rates of current smoking had higher rates of lung cancer.

Smokeless Tobacco Use, Males – 2014–2018
Statewide, 9.5% of males aged 18 and older were current users of smokeless tobacco. Smokeless tobacco use differed significantly by age group, ranging from 12.8% of males aged 30–39 to 4.0% of males aged 65 and older. Smokeless tobacco use differed significantly by county, with a range of 3.4% in Franklin County to 21.1% in Custer County. Counties with higher rates of smokeless tobacco use had higher rates of oral cavity & pharynx cancer.

Other Cancer-Related

Sun Exposure – 2018
Statewide, 47.7% of adults aged 18 and older reported having sunburn in the past 12 months. Sunburn rates were higher for white non-Hispanics (49.6%) and Native Americans (48.7%) than for Hispanics (35.2%). Sunburn rates differed significantly by age group, with 67.2% of persons aged 30–39 and 17.9% of persons aged 65 and older having sunburn in the past 12 months. Sunburn rates differed significantly by county, with a range of 36.7% in Idaho County to 72.9% in Madison County having sunburn in the past 12 months.

Artificial Tanning Appliance Use – 2011, 2014, 2016
Statewide, 4.4% of adults aged 18 and older reported using an artificial tanning appliance, such as a tanning bed, in the past 12 months. Females (6.8%) were significantly more likely than males (2.1%) to have used an artificial tanning appliance in the past 12 months. Tanning appliance use differed significantly by age group, with 8.7% of persons aged 18–29 and 0.9% of persons aged 65 and older, using an appliance in the past 12 months. Tanning appliance use differed by county, with a range of less than 1% in Oneida, Power, and Valley Counties to over 9% in Bear Lake and Fremont Counties using an artificial tanning appliance in the past 12 months.

Healthy Weight by Body Mass Index – 2014–2018
Statewide, 32.6% 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 33.3% of white non-Hispanics, compared to 26.0% of Hispanics and 26.8% of Native Americans, being in the healthy weight range. Males (25.7%) were significantly less likely to be in the healthy weight range than females (39.4%). BMI differed significantly by age of respondent, with 45.0% of persons aged 18–29, and 27.1% of persons aged 50–64, being in the healthy weight range. BMI differed significantly by county, with a range of 19.5% in Minidoka County to 52.8% in Blaine County of adults being in the healthy weight range.

Physical Activity – 2011, 2013, 2015, 2017
Statewide, 22.1% of adults aged 18 and older met aerobic and strength physical activity guidelines during the past month or week. Physical activity differed significantly by age of respondent, with 26.3% of persons aged 18–29, and 19.3% of persons aged 50–64, meeting guidelines. The percentage of adults meeting physical activity guidelines differed significantly by county, with a range of 7.6% in Oneida County to 31.1% in Blaine County.

Home Radon Testing – 2016, 2018
Statewide, 22.7% of adults have ever tested their house for radon. Radon test usage varied significantly by race/ethnicity, with 24.7% of white non-Hispanics, 5.3% of Hispanics, and 27.9% 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 8.0% in Cassia County to 58.0% in Blaine County.

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WASHINGTON COUNTY CANCER PROFILE

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

Cancer Incidence 2013–2017
Cancer Mortality 2014–2018
BRFSS 2011–2018

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 are due to personal lifestyle factors, such as smoking and sedentary lifestyle, and are preventable. Additional cancers are 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. 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.

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://health.gov/dietaryguidelines/2015.

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
615 N. 7th Street
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/contact-center

American Cancer Society
2676 S. Vista Avenue
Boise, ID 83705
208-343-4609
https://www.cancer.org

CANCER INCIDENCE 2013–2017

Nearly one in two Idahoans are estimated to develop cancer during their lifetime. During 2013–2017, 40,996 cases of invasive cancer were diagnosed among Idaho residents, and 360 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, 2013–2017

Cancer Incidence 2013–2017	Washington County	State of Idaho
All Sites/Types	**360**	**40,996**
Female Breast	**38**	**5,956**
Prostate	**58**	**5,027**
Lung & Bronchus	**48**	**4,657**
Colorectal	**34**	**3,235**

Table 3 (*Cancer Incidence 2013–2017, 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 rate of invasive cancer incidence in Washington County was 721.7 cases per 100,000 person-years per year during 2013–2017. Comparing this crude rate with the crude rate for the remainder of Idaho (492.8) gives an estimate of the relative burden of disease in Washington County.

The age- and sex-adjusted incidence rate of invasive cancer in Washington County, all sites combined, was 518.2 cases per 100,000 persons per year during 2013–2017. There were more cases of cancer in Washington County (360) than expected (342.3) 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 2014–2018

During 2014–2018, cancer was the second leading cause of death in Idaho; 14,585 Idaho residents and 140 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, 2014–2018

Mortality 2014–2018	Washington County	State of Idaho
All Deaths	**580**	**67,280**
Cancer Deaths	**140**	**14,585**
% of All Deaths	*24.1%*	*21.7%*
Lung & Bronchus	**36**	**3,125**
Colorectal	**11**	**1,226**
Pancreas	**14**	**1,079**
Female Breast	**8**	**1,077**
Prostate	**8**	**935**

Table 4 (*Cancer Mortality 2014–2018, 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 185.7 deaths per 100,000 persons per year during 2014–2018, compared with 172.2 for the remainder of the state. There were more cancer deaths in Washington County (140) than expected (129.8) 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 2013–2017
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	360	49,881	721.7	518.2	342.3	0.353	40,636	8,246,485	492.8
	Male	214	24,825	862.0	587.2	185.1	0.041 >>	20,983	4,131,170	507.9
	Female	146	25,056	582.7	438.6	159.0	0.322	19,653	4,115,315	477.6
Bladder	Total	19	49,881	38.1	25.1	18.3	0.934	1,996	8,246,485	24.2
	Male	16	24,825	64.5	40.7	14.8	0.818	1,554	4,131,170	37.6
	Female	3	25,056	12.0	8.3	3.9	0.907	442	4,115,315	10.7
Brain - malignant	Total	4	49,881	8.0	6.4	4.6	1.000	606	8,246,485	7.3
	Male	3	24,825	12.1	9.2	2.9	1.000	368	4,131,170	8.9
	Female	1	25,056	4.0	3.4	1.7	0.979	238	4,115,315	5.8
Brain and other CNS - non-malignant	Total	10	49,881	20.0	15.5	8.3	0.647	1,062	8,246,485	12.9
	Male	8	24,825	32.2	24.7	2.7	0.013 >>	346	4,131,170	8.4
	Female	2	25,056	8.0	6.2	5.6	0.168	716	4,115,315	17.4
Breast	Total	38	49,881	76.2	57.2	48.1	0.161	5,963	8,246,485	72.3
	Male	-	24,825	-	-	0.4	1.000	45	4,131,170	1.1
	Female	38	25,056	151.7	116.3	47.0	0.211	5,918	4,115,315	143.8
Breast - in situ	Total	11	49,881	22.1	17.3	8.1	0.391	1,053	8,246,485	12.8
	Male	-	24,825	-	-	0.0	1.000	3	4,131,170	0.1
	Female	11	25,056	43.9	35.1	8.0	0.369	1,050	4,115,315	25.5
Cervix	Female	1	25,056	4.0	3.8	1.6	1.000	258	4,115,315	6.3
Colorectal	Total	34	49,881	68.2	48.6	27.2	0.228	3,201	8,246,485	38.8
	Male	17	24,825	68.5	47.7	14.8	0.636	1,718	4,131,170	41.6
	Female	17	25,056	67.8	49.4	12.4	0.249	1,483	4,115,315	36.0
Corpus Uteri	Female	4	25,056	16.0	12.3	9.5	0.081	1,205	4,115,315	29.3
Esophagus	Total	7	49,881	14.0	9.7	4.0	0.226	462	8,246,485	5.6
	Male	5	24,825	20.1	13.7	3.4	0.510	383	4,131,170	9.3
	Female	2	25,056	8.0	5.5	0.7	0.306	79	4,115,315	1.9
Hodgkin Lymphoma	Total	1	49,881	2.0	1.9	1.2	1.000	198	8,246,485	2.4
	Male	-	24,825	-	-	0.7	1.000	108	4,131,170	2.6
	Female	1	25,056	4.0	3.8	0.6	0.874	90	4,115,315	2.2
Kidney and Renal Pelvis	Total	10	49,881	20.0	14.5	12.9	0.514	1,544	8,246,485	18.7
	Male	7	24,825	28.2	19.8	8.4	0.785	988	4,131,170	23.9
	Female	3	25,056	12.0	8.9	4.6	0.660	556	4,115,315	13.5
Larynx	Total	3	49,881	6.0	4.2	1.8	0.528	206	8,246,485	2.5
	Male	2	24,825	8.1	5.4	1.5	0.876	166	4,131,170	4.0
	Female	1	25,056	4.0	3.0	0.3	0.552	40	4,115,315	1.0
Leukemia	Total	13	49,881	26.1	18.6	12.5	0.957	1,473	8,246,485	17.9
	Male	7	24,825	28.2	19.6	7.6	1.000	874	4,131,170	21.2
	Female	6	25,056	23.9	17.5	5.0	0.769	599	4,115,315	14.6
Liver and Bile Duct	Total	5	49,881	10.0	7.2	6.1	0.848	728	8,246,485	8.8
	Male	3	24,825	12.1	8.5	4.5	0.684	529	4,131,170	12.8
	Female	2	25,056	8.0	5.8	1.7	0.996	199	4,115,315	4.8
Lung and Bronchus	Total	48	49,881	96.2	63.8	42.1	0.397	4,609	8,246,485	55.9
	Male	25	24,825	100.7	64.0	22.5	0.650	2,377	4,131,170	57.5
	Female	23	25,056	91.8	63.2	19.7	0.517	2,232	4,115,315	54.2
Melanoma of the Skin	Total	15	49,881	30.1	22.8	20.0	0.308	2,511	8,246,485	30.4
	Male	11	24,825	44.3	31.5	12.3	0.846	1,458	4,131,170	35.3
	Female	4	25,056	16.0	13.0	7.9	0.216	1,053	4,115,315	25.6
Myeloma	Total	10	49,881	20.0	13.4	5.4	0.099	598	8,246,485	7.3
	Male	8	24,825	32.2	20.8	3.3	0.037 >>	349	4,131,170	8.4
	Female	2	25,056	8.0	5.5	2.2	1.000	249	4,115,315	6.1
Non-Hodgkin Lymphoma	Total	18	49,881	36.1	25.4	15.1	0.514	1,755	8,246,485	21.3
	Male	12	24,825	48.3	33.0	8.8	0.347	995	4,131,170	24.1
	Female	6	25,056	23.9	17.3	6.4	1.000	760	4,115,315	18.5
Oral Cavity and Pharynx	Total	9	49,881	18.0	13.3	9.5	1.000	1,159	8,246,485	14.1
	Male	6	24,825	24.2	17.4	6.9	0.942	820	4,131,170	19.8
	Female	3	25,056	12.0	9.0	2.7	1.000	339	4,115,315	8.2
Ovary	Female	6	25,056	23.9	18.2	4.1	0.464	513	4,115,315	12.5
Pancreas	Total	19	49,881	38.1	25.7	11.5	0.052	1,285	8,246,485	15.6
	Male	11	24,825	44.3	29.2	6.3	0.113	691	4,131,170	16.7
	Female	8	25,056	31.9	22.0	5.2	0.319	594	4,115,315	14.4
Prostate	Male	58	24,825	233.6	156.6	44.5	0.060	4,969	4,131,170	120.3
Stomach	Total	4	49,881	8.0	5.6	4.2	1.000	484	8,246,485	5.9
	Male	2	24,825	8.1	5.4	2.8	0.932	316	4,131,170	7.6
	Female	2	25,056	8.0	5.7	1.4	0.834	168	4,115,315	4.1
Testis	Male	2	24,825	8.1	9.5	1.3	0.781	265	4,131,170	6.4
Thyroid	Total	5	49,881	10.0	9.2	8.2	0.340	1,251	8,246,485	15.2
	Male	2	24,825	8.1	6.8	2.3	1.000	330	4,131,170	8.0
	Female	3	25,056	12.0	11.3	5.9	0.318	921	4,115,315	22.4
Pediatric Age 0 to 19	Total	2	12,934	15.5	15.4	2.4	1.000	433	2,387,588	18.1
	Male	2	6,586	30.4	29.9	1.3	0.726	232	1,219,316	19.0
	Female	-	6,348	-	-	1.1	0.673	201	1,168,272	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 2014–2018
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	580	50,123	1,157.2	767.7	600.7	0.410	66,700	8,388,921	795.1
	Male	303	24,938	1,215.0	795.0	316.3	0.474	34,883	4,202,942	830.0
	Female	277	25,185	1,099.9	735.1	286.4	0.604	31,817	4,185,979	760.1
All Malignant Cancers	Total	140	50,123	279.3	185.7	129.8	0.393	14,445	8,388,921	172.2
	Male	78	24,938	312.8	199.0	73.0	0.586	7,823	4,202,942	186.1
	Female	62	25,185	246.2	170.3	57.6	0.596	6,622	4,185,979	158.2
Bladder	Total	6	50,123	12.0	7.5	4.0	0.432	420	8,388,921	5.0
	Male	2	24,938	8.0	4.8	3.1	0.784	317	4,202,942	7.5
	Female	4	25,185	15.9	10.4	0.9	0.032 >>	103	4,185,979	2.5
Brain and Other Nervous System	Total	2	50,123	4.0	2.9	4.0	0.472	495	8,388,921	5.9
	Male	2	24,938	8.0	5.7	2.6	1.000	313	4,202,942	7.4
	Female	-	25,185	-	-	1.4	0.471	182	4,185,979	4.3
Breast	Total	8	50,123	16.0	11.0	9.3	0.828	1,079	8,388,921	12.9
	Male	-	24,938	-	-	0.1	1.000	10	4,202,942	0.2
	Female	8	25,185	31.8	22.6	9.0	0.905	1,069	4,185,979	25.5
Cervix	Female	-	25,185	-	-	0.6	1.000	80	4,185,979	1.9
Colorectal	Total	11	50,123	21.9	14.9	10.7	1.000	1,215	8,388,921	14.5
	Male	5	24,938	20.0	13.3	5.9	0.926	657	4,202,942	15.6
	Female	6	25,185	23.8	16.5	4.9	0.717	558	4,185,979	13.3
Corpus Uteri	Female	-	25,185	-	-	1.3	0.530	153	4,185,979	3.7
Esophagus	Total	6	50,123	12.0	8.1	4.1	0.468	465	8,388,921	5.5
	Male	4	24,938	16.0	10.5	3.4	0.890	376	4,202,942	8.9
	Female	2	25,185	7.9	5.4	0.8	0.371	89	4,185,979	2.1
Hodgkin Lymphoma	Total	-	50,123	-	-	0.2	1.000	21	8,388,921	0.3
	Male	-	24,938	-	-	0.1	1.000	8	4,202,942	0.2
	Female	-	25,185	-	-	0.1	1.000	13	4,185,979	0.3
Kidney	Total	3	50,123	6.0	4.0	3.3	1.000	367	8,388,921	4.4
	Male	3	24,938	12.0	7.8	2.2	0.752	239	4,202,942	5.7
	Female	-	25,185	-	-	1.1	0.636	128	4,185,979	3.1
Larynx	Total	2	50,123	4.0	2.7	0.5	0.207	61	8,388,921	0.7
	Male	2	24,938	8.0	5.3	0.5	0.154	51	4,202,942	1.2
	Female	-	25,185	-	-	0.1	1.000	10	4,185,979	0.2
Leukemia	Total	2	50,123	4.0	2.6	5.6	0.165	614	8,388,921	7.3
	Male	-	24,938	-	-	3.4	0.069	358	4,202,942	8.5
	Female	2	25,185	7.9	5.4	2.3	1.000	256	4,185,979	6.1
Liver and Bile Duct	Total	5	50,123	10.0	6.8	5.2	1.000	593	8,388,921	7.1
	Male	3	24,938	12.0	8.0	3.7	1.000	409	4,202,942	9.7
	Female	2	25,185	7.9	5.6	1.6	0.939	184	4,185,979	4.4
Lung and Bronchus	Total	36	50,123	71.8	46.9	28.3	0.181	3,089	8,388,921	36.8
	Male	20	24,938	80.2	50.1	15.6	0.327	1,647	4,202,942	39.2
	Female	16	25,185	63.5	43.2	12.8	0.433	1,442	4,185,979	34.4
Melanoma of the Skin	Total	2	50,123	4.0	2.8	2.4	1.000	278	8,388,921	3.3
	Male	1	24,938	4.0	2.7	1.6	1.000	186	4,202,942	4.4
	Female	1	25,185	4.0	2.8	0.8	1.000	92	4,185,979	2.2
Myeloma	Total	4	50,123	8.0	5.1	3.1	0.736	325	8,388,921	3.9
	Male	3	24,938	12.0	7.3	1.9	0.577	192	4,202,942	4.6
	Female	1	25,185	4.0	2.6	1.2	1.000	133	4,185,979	3.2
Non-Hodgkin Lymphoma	Total	8	50,123	16.0	10.1	5.3	0.329	562	8,388,921	6.7
	Male	4	24,938	16.0	9.9	3.0	0.713	315	4,202,942	7.5
	Female	4	25,185	15.9	10.3	2.3	0.399	247	4,185,979	5.9
Oral Cavity and Pharynx	Total	1	50,123	2.0	1.4	2.0	0.836	222	8,388,921	2.6
	Male	1	24,938	4.0	2.7	1.3	1.000	151	4,202,942	3.6
	Female	-	25,185	-	-	0.6	1.000	71	4,185,979	1.7
Ovary	Female	3	25,185	11.9	8.4	3.1	1.000	360	4,185,979	8.6
Pancreas	Total	14	50,123	27.9	18.5	9.6	0.214	1,065	8,388,921	12.7
	Male	11	24,938	44.1	28.6	5.3	0.041 >>	581	4,202,942	13.8
	Female	3	25,185	11.9	8.1	4.3	0.754	484	4,185,979	11.6
Prostate	Male	8	24,938	32.1	18.9	9.3	0.828	927	4,202,942	22.1
Stomach	Total	4	50,123	8.0	5.4	1.8	0.219	206	8,388,921	2.5
	Male	1	24,938	4.0	2.7	1.1	1.000	121	4,202,942	2.9
	Female	3	25,185	11.9	8.3	0.7	0.077	85	4,185,979	2.0

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, 2019.

Cancer Screening and Risk Factors

The Bureau of Vital Records and Health Statistics (BVRHS), Division of Public Health, 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) with randomly selected adult Idahoans to measure population prevalences of risk factors for the major causes of death, including cancer, since 1984. BVRHS provided data sets containing Behavioral Risk Factor Surveillance System (BRFSS) data from 2011 through 2018 to CDRI staff, who performed the analyses reported in these *County Profiles*. Analysis weights were poststratified to 2018 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, 2011–2018

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 (2014–2018)	81.2%	80.6%	84.5%	74.6%	84.7%	75.5%	83.3%	83.8%	74.9%
Not See Doctor Due to Cost in Past Year (2014–2018)	14.3%	13.9%	12.2%	18.1%	13.6%	14.3%	12.5%	13.9%	15.5%
Cancer Screening									
Mammogram Past 2 Years, Age 50–74 (2014, 2016, 2018)	67.5%	66.8%	72.1%	63.2%	72.9%	61.0%	64.6%	66.8%	.
Pap Test Past 3 Years, Cervix Intact Age 21–65 (2016, 2018)	72.5%	74.8%	74.3%	72.1%	73.0%	71.7%	72.7%	68.6%	.
Colorectal Cancer Screening, Age 50–75 (2016, 2018)	65.4%	64.9%	71.3%	62.6%	68.9%	60.3%	62.1%	65.3%	.
Tobacco Use									
Current Smoker (2014–2018)	14.6%	17.1%	15.1%	16.8%	13.1%	16.2%	14.4%	10.4%	26.3%
Current Smokeless Tobacco User, Males (2014–2018)	9.5%	10.6%	14.0%	11.1%	8.4%	8.9%	8.4%	7.3%	10.2%
Other Cancer-Related									
Sunburn in Previous 12 Months (2018)	47.7%	42.3%	49.0%	41.6%	50.8%	42.8%	49.9%	56.6%	.
Artificial Tanning Appliance Use (2011, 2014, 2016)	4.4%	5.5%	3.3%	3.3%	3.4%	4.2%	5.7%	6.8%	5.3%
Healthy Weight by Body Mass Index, Age 20+ (2014–2018)	32.6%	34.2%	32.9%	27.0%	36.3%	31.1%	29.4%	32.4%	25.7%
Meet Physical Activity Guidelines (2011, 2013, 2015, 2017)	22.1%	22.1%	19.9%	20.6%	26.1%	18.8%	20.0%	20.1%	23.7%
Home Ever Tested for Radon (2016, 2018)	22.7%	29.7%	19.5%	16.3%	24.1%	20.2%	23.3%	22.7%	16.0%

Access to Care

Have Health Insurance – 2014–2018
Statewide, 81.2% of adults aged 18–64 reported having health care coverage. Health care coverage differed significantly by race/ethnicity, with 84.5% of white non-Hispanics, compared to 59.8% of Hispanics and 79.9% of Native Americans, having health insurance. Spanish-speaking respondents were significantly less likely to be insured (33.1%) than English-speaking respondents (83.1%). Health care coverage differed significantly by age of respondent, with 76.4% of persons aged 30–39, and 86.5% of persons aged 50–64, having health insurance. Health care coverage differed significantly by county, with a range of 57.4% in Adams County to 91.7% in Oneida County having health insurance.

Not See Doctor Due to Cost in Past Year – 2014–2018
Statewide, 14.3% 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 (13.2% of white non-Hispanics, 21.4% of Hispanics, and 23.1% of Native Americans). Inability to see a doctor due to cost differed significantly by annual household income (27.4% for less than $15,000, 6.7% for greater than $50,000). Inability to see a doctor due to cost differed significantly by county, with a range of 7.0% in Caribou County to 20.2% in Jerome County.

Cancer Screening

Mammogram – 2014, 2016, 2018
Statewide, 67.5% 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 (70.7% versus 34.0%). Mammography rates differed significantly by county, with a range in screening of 47.3% in Gooding County to 77.5% in Nez Perce County. In 2018, Idaho ranked 49th among states and the District of Columbia for mammography screening rates among women aged 50–74 and 50th among ages 40+.

Pap Test – 2016, 2018
Statewide, 72.5% 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 (77.3% versus 54.2% screened in the past 3 years). Pap screening differed significantly by county, with a range of 60.5% in Idaho County to 79.2% in Latah County. In 2018, Idaho ranked 51st among states and the District of Columbia for Pap screening rate.

Colorectal Cancer Screening – 2016, 2018
Statewide, 65.4% of adults aged 50–75 reported receiving colorectal cancer screening based on the most recent guidelines.** Persons with health insurance were over twice as likely to be current for colorectal cancer screening. In 2018, Idaho ranked 41st 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 Smoking – 2014–2018
Statewide, 14.6% of adults aged 18 and older were current smokers. Smoking prevalence differed significantly by age of respondent, with 19.2% of persons aged 30–39, and 8.4% of persons aged 65 and older reporting current smoking. Smoking prevalence was lower among white non-Hispanics (14.7%) than among Native Americans (32.4%). Smoking prevalence differed significantly by county, with a range of 4.3% in Madison County to 32.7% in Adams County. Counties with higher rates of current smoking had higher rates of lung cancer.

Smokeless Tobacco Use, Males – 2014–2018
Statewide, 9.5% of males aged 18 and older were current users of smokeless tobacco. Smokeless tobacco use differed significantly by age group, ranging from 12.8% of males aged 30–39 to 4.0% of males aged 65 and older. Smokeless tobacco use differed significantly by county, with a range of 3.4% in Franklin County to 21.1% in Custer County. Counties with higher rates of smokeless tobacco use had higher rates of oral cavity & pharynx cancer.

Other Cancer-Related

Sun Exposure – 2018
Statewide, 47.7% of adults aged 18 and older reported having sunburn in the past 12 months. Sunburn rates were higher for white non-Hispanics (49.6%) and Native Americans (48.7%) than for Hispanics (35.2%). Sunburn rates differed significantly by age group, with 67.2% of persons aged 30–39 and 17.9% of persons aged 65 and older having sunburn in the past 12 months. Sunburn rates differed significantly by county, with a range of 36.7% in Idaho County to 72.9% in Madison County having sunburn in the past 12 months.

Artificial Tanning Appliance Use – 2011, 2014, 2016
Statewide, 4.4% of adults aged 18 and older reported using an artificial tanning appliance, such as a tanning bed, in the past 12 months. Females (6.8%) were significantly more likely than males (2.1%) to have used an artificial tanning appliance in the past 12 months. Tanning appliance use differed significantly by age group, with 8.7% of persons aged 18–29 and 0.9% of persons aged 65 and older, using an appliance in the past 12 months. Tanning appliance use differed by county, with a range of less than 1% in Oneida, Power, and Valley Counties to over 9% in Bear Lake and Fremont Counties using an artificial tanning appliance in the past 12 months.

Healthy Weight by Body Mass Index – 2014–2018
Statewide, 32.6% 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 33.3% of white non-Hispanics, compared to 26.0% of Hispanics and 26.8% of Native Americans, being in the healthy weight range. Males (25.7%) were significantly less likely to be in the healthy weight range than females (39.4%). BMI differed significantly by age of respondent, with 45.0% of persons aged 18–29, and 27.1% of persons aged 50–64, being in the healthy weight range. BMI differed significantly by county, with a range of 19.5% in Minidoka County to 52.8% in Blaine County of adults being in the healthy weight range.

Physical Activity – 2011, 2013, 2015, 2017
Statewide, 22.1% of adults aged 18 and older met aerobic and strength physical activity guidelines during the past month or week. Physical activity differed significantly by age of respondent, with 26.3% of persons aged 18–29, and 19.3% of persons aged 50–64, meeting guidelines. The percentage of adults meeting physical activity guidelines differed significantly by county, with a range of 7.6% in Oneida County to 31.1% in Blaine County.

Home Radon Testing – 2016, 2018
Statewide, 22.7% of adults have ever tested their house for radon. Radon test usage varied significantly by race/ethnicity, with 24.7% of white non-Hispanics, 5.3% of Hispanics, and 27.9% 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 8.0% in Cassia County to 58.0% in Blaine County.

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