

# **CANCER IN IDAHO – 2021 Preliminary Data**

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## **PREFACE**

“Cancer in Idaho – 2021, Preliminary Data” provides a provisional assessment of cancer in Idaho. This preliminary report is published by the Cancer Data Registry of Idaho (CDRI) when estimated completeness exceeds 90%. These data are preliminary and subject to change. This report is a precursor to “Cancer in Idaho – 2021,” which will be the forty-fifth annual report of the Cancer Data Registry of Idaho (CDRI) and describe the state of cancer among Idaho residents, with a focus on cancer cases diagnosed during 2021. The data can be used by public health and medical professionals, the Comprehensive Cancer Alliance for Idaho, and others to effectively plan services, appropriately allocate health resources, develop and measure prevention and intervention strategies, and identify high-risk populations in Idaho.

## **ACKNOWLEDGMENTS**

The Idaho Hospital Association (IHA) contracts with, and receives funding from, the Idaho Department of Health and Welfare, Division of Public Health, to provide a statewide cancer surveillance system.

The statewide cancer registry database is a product of collaboration among many report sources, including hospitals, physicians, surgery centers, pathology laboratories, and other states in which Idaho residents are diagnosed or treated for cancer. Their cooperation in reporting timely, accurate, and complete cancer data is acknowledged and sincerely appreciated.

CDRI also thanks the Division of Public Health, Idaho Department of Health and Welfare, and the Comprehensive Cancer Alliance for Idaho for their continued partnership and for using CDRI data as a tool in cancer control and prevention.

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# Introduction to the Cancer Data Registry of Idaho (CDRI)

## Purpose of the Registry

Population-based cancer registries are essential for assessing the extent of cancer burden in a specified geographic area. The Cancer Data Registry of Idaho (CDRI) is a population-based cancer registry that collects incidence and survival data on all cancer patients who are Idaho residents or patients who are diagnosed or treated for cancer in the state of Idaho. The goals of CDRI are to:

- ◆ determine the incidence of cancer in the state of Idaho with respect to geographic, demographic, and community characteristics;
- ◆ monitor trends and patterns of cancer incidence over time;
- ◆ identify high-risk populations;
- ◆ serve as a resource for conducting epidemiologic studies; and
- ◆ provide data to assist public health officials, hospital administrators, and physicians to effectively plan services, appropriately allocate health resources, and develop and measure prevention and intervention strategies.

CDRI works closely with the Comprehensive Cancer Alliance for Idaho (CCAI), the Idaho Comprehensive Cancer Control Program, and other organizations to lessen the burden of cancer in Idaho.

## History and Funding of the Registry

CDRI was established in 1969 and became population-based in 1971. The Idaho State Legislature has provided guidelines for the establishment, requirements, and funding of the statewide cancer registry. The operations of the registry are mandated by Idaho Code 57-1703 through 57-1707. Funding is appropriated in Idaho Code 57-1701 and 63-2520, which delineates that a portion (less than one percent) of the cigarette tax be dedicated to fund the statewide cancer registry. Through the National Program of

Cancer Registries (NPCR), additional funding has been awarded to CDRI from the Centers for Disease Control and Prevention (CDC) to enhance timely, complete, and accurate data collection, computerization, and reporting of reliable data. In May 2018, the National Cancer Institute (NCI) awarded the Idaho Hospital Association (IHA) a contract to operate CDRI as part of the Surveillance, Epidemiology and End Results (SEER) Program.

## Collection of Data

Each Idaho hospital, outpatient surgery center, and pathology laboratory is responsible for the complete ascertainment and reporting of all data on cancer diagnoses and treatments provided in its facility within six months of diagnosis. Sources for identifying eligible cases include:

- ◆ hospitals;
- ◆ outpatient surgery centers;
- ◆ private pathology laboratories;
- ◆ free-standing radiation centers;
- ◆ physicians (for patients not receiving cancer diagnoses or treatment in the above sources);
- ◆ death certificates; and
- ◆ other state cancer registries reporting an Idaho resident with cancer (as negotiated).

When a cancer case is reported from more than one source, the information is consolidated into one record.

Reported cases contain the following data:

- ◆ patient demographics (including geographic place of residence at time of cancer diagnosis);
- ◆ description of cancer (including date of diagnosis, primary site, metastatic sites, histology, extent of disease, etc.);
- ◆ first course of treatment; and
- ◆ follow-up data for purpose of calculating survival rates.

Primary site, behavior, grade, and histology were coded according to the *International Classification of Diseases for Oncology, 3rd edition*.<sup>1</sup> Stage of disease variables were coded using SEER's *Summary Staging Manual 2018* and the *AJCC Manual for Staging of Cancer, 8th edition*.<sup>2,3</sup> All other variables were coded following the rules of the North American Association of Central Cancer Registries (NAACCR), the National Cancer Institute's SEER program, and the American College of Surgeons Commission on Cancer.<sup>4-6</sup> Rules for coding multiple primary cases and hematopoietic and lymphoid neoplasms were applied based on the year of diagnosis.<sup>7,8,9</sup>

### **Behavior and Stage**

Behavior refers to how a tumor acts within the body. Behavior is classified as follows:

- ◆ benign (tumor may grow in place without the potential for spread);
- ◆ borderline (uncertain whether benign or malignant, but low malignant potential);
- ◆ in situ (cancerous, but cells not yet grown beyond basement membrane);
- ◆ malignant (cells have invaded beyond the basement membrane).

Benign and borderline cases together may also be called "non-malignant."

Staging measures the extent of disease at the time of initial diagnosis. Summary staging attempts to group cases with similar prognoses into categories of:

- ◆ in situ (non-invasive);
- ◆ localized (cancer confined to the primary site);
- ◆ regional (direct extension of tumor to adjacent organs, tissues, or lymph nodes);
- ◆ distant (metastasis to tissues or lymph nodes remote from the primary site); or
- ◆ unstaged.

### **Reportable Cases**

All in situ and malignant neoplasms are reportable to CDRI. The database includes all cases of carcinoma, sarcoma, melanoma, lymphoma, and leukemia diagnosed by histology/cytology, radiology, laboratory testing, clinical observation, and autopsy.

Benign tumors of the brain, meninges, spinal cord, any other part of the central nervous system, pineal gland, and pituitary gland are also reportable.

Basal and squamous cell carcinomas of the skin are excluded except when occurring on a mucous membrane.

Under Idaho Code and as recommended by NAACCR, cervix in situ cases are not currently reportable.

### **Confidentiality of Data**

Idaho state law ensures the protection of confidential data and restricts the release of identifying data. Only aggregate data are published. The same law protects report sources from any liability for reporting confidential data to CDRI. Persons with access to confidential data are required to sign a pledge of confidentiality and are subject to penalty if they, through negligence or willful misconduct, disclose confidential data.

### **Quality Assurance**

To assure validity and reliability of data presented, CDRI has many mechanisms in place to check data for quality and completeness. CDRI uses SEER\*DMS, SEER\*Edits, and GenEDITS Plus software, which apply algorithms that check the values of data fields against an encoded set of acceptable possible values and flags the acceptability of coded data. Edits include field edits, inter-field edits, and inter-record edits. Edits check for unlikely sex/site,

site/histology, and site/age combinations. Records are also routinely checked for duplicate entries using manual and probabilistic record linkage methods.

CDRI has met SEER and NPCR program standards and is recognized as a “gold standard registry” for data quality, completeness, and timeliness as designated by NAACCR. These designations allow Idaho data to be included in United States Cancer Statistics and all NAACCR volumes of “Cancer Incidence in North America.” Idaho data have been included in SEER-21/SEER-22 statistics published by NCI since April 2019.

### 2021 Idaho Cancer Incidence Rates by Sex (Preliminary)

Primary Site	Total			Male			Female		
	Rate	Cases	Pop	Rate	Cases	Pop	Rate	Cases	Pop
All Sites	411.1	9,426	1,904,314	450.3	5,064	959,021	381.4	4,362	945,293
Bladder - malignant and in situ	18.3	430	1,904,314	30.9	338	959,021	7.6	92	945,293
Brain - malignant	5.9	124	1,904,314	6.7	69	959,021	5.2	55	945,293
Brain and other CNS - non-malignant	11.3	247	1,904,314	5.9	63	959,021	16.5	184	945,293
Breast - malignant	60.6	1,350	1,904,314	1.5	16	959,021	118.0	1,334	945,293
Breast - in situ	13.5	290	1,904,314	0.0	0	959,021	27.0	290	945,293
Cervix	--	--	--	--	--	--	4.6	43	945,293
Colorectal	35.9	792	1,904,314	39.9	427	959,021	32.2	365	945,293
Corpus Uteri	--	--	--	--	--	--	21.8	258	945,293
Esophagus	4.2	98	1,904,314	7.5	85	959,021	1.1	13	945,293
Hodgkin Lymphoma	2.0	42	1,904,314	2.3	25	959,021	1.7	17	945,293
Kidney and Renal Pelvis	17.7	405	1,904,314	26.4	295	959,021	9.7	110	945,293
Larynx	2.1	49	1,904,314	3.3	35	959,021	1.1	14	945,293
Leukemia	14.6	328	1,904,314	18.1	198	959,021	11.6	130	945,293
Liver and Bile Duct	6.3	155	1,904,314	9.3	114	959,021	3.4	41	945,293
Lung and Bronchus	39.4	940	1,904,314	43.8	490	959,021	36.3	450	945,293
Melanoma of the Skin	31.7	698	1,904,314	38.4	408	959,021	26.4	290	945,293
Myeloma	6.1	142	1,904,314	7.9	87	959,021	4.5	55	945,293
Non-Hodgkin Lymphoma	17.3	401	1,904,314	19.4	218	959,021	15.1	183	945,293
Oral Cavity and Pharynx	10.2	243	1,904,314	14.7	173	959,021	6.0	70	945,293
Ovary	--	--	--	--	--	--	10.2	116	945,293
Pancreas	13.0	307	1,904,314	14.3	160	959,021	12.0	147	945,293
Prostate	--	--	--	109.0	1,333	959,021	--	--	--
Stomach	3.9	87	1,904,314	4.4	47	959,021	3.6	40	945,293
Testis	--	--	--	7.2	66	959,021	--	--	--
Thyroid	11	218	1,904,314	8	84	959,021	14.3	134	945,293
Pediatric Age 0 to 19	16.6	87	522,511	14.2	38	264,660	19.1	49	257,851

Rates are per 100,000 and age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1130) standard.

All Sites category includes additional primary sites not listed.

## 2021 Idaho Cancer Incidence Counts by Behavior (Preliminary)

Primary Site	In situ	Malignant
All Sites	1,188	9,205
Bladder	221	209
Brain	0	124
Breast	290	1,350
Cervix	0	43
Colorectal	3	792
Corpus Uteri	3	258
Esophagus	0	98
Hodgkin Lymphoma	0	401
Kidney and Renal Pelvis	5	405
Larynx	1	49
Leukemia	0	328
Liver and Bile Duct	0	155
Lung and Bronchus	4	940
Melanoma of the Skin	635	698
Myeloma	0	142
Non-Hodgkin Lymphoma	0	401
Oral Cavity and Pharynx	4	243
Ovary	2	116
Pancreas	0	307
Prostate	0	1,333
Stomach	1	87
Testis	1	66
Thyroid	0	218
Pediatric Age 0 to 19	0	87

All Sites category includes additional primary sites not listed.

## 2021 Idaho Cancer Incidence Counts by SEER Summary Stage (Preliminary)

Primary Site	In situ	Localized	Regional	Distant	Unstaged
All Sites	1,188	4,551	1,798	2,335	521
Bladder	221	161	18	18	12
Brain	0	99	16	3	6
Breast	290	928	327	81	14
Cervix	0	24	14	3	2
Colorectal	3	242	308	186	56
Corpus Uteri	3	183	40	21	14
Esophagus	0	21	17	41	19
Hodgkin Lymphoma	0	102	55	211	33
Kidney and Renal Pelvis	5	289	55	51	10
Larynx	1	30	10	7	2
Leukemia	0	0	0	315	13
Liver and Bile Duct	0	75	40	31	9
Lung and Bronchus	4	277	159	461	43
Melanoma of the Skin	635	609	48	26	15
Myeloma	0	6	0	135	1
Non-Hodgkin Lymphoma	0	102	55	211	33
Oral Cavity and Pharynx	4	67	136	25	15
Ovary	2	22	21	58	15
Pancreas	0	62	94	139	12
Prostate	0	929	212	140	52
Stomach	1	36	11	35	5
Testis	1	45	12	7	2
Thyroid	0	140	69	7	2
Pediatric Age 0 to 19	0	31	21	30	5

All Sites category includes additional primary sites not listed.

## 2021 Idaho Malignant Cancer Incidence Rates by Age (Preliminary)

Age at Diagnosis	Rate	Cases	Pop
00-04	16.8	19	112,936
05-09	16.6	21	126,812
10-14	14.5	20	137,636
15-19	18.6	27	145,127
20-24	31.2	41	131,213
25-29	60.3	74	122,797
30-34	89.7	111	123,714
35-39	118.7	148	124,680
40-44	190.7	232	121,646
45-49	307.9	330	107,170
50-54	494.5	528	106,773
55-59	692.8	762	109,992
60-64	1,052.9	1,219	115,772
65-69	1,522.7	1,622	106,523
70-74	1,780.9	1,578	88,607
75-79	2,164.9	1,226	56,630
80-84	2,314.9	812	35,077
85+	2,102.0	656	31,209

Rates are per 100,000.

### 2021 Idaho Cancer Mortality Rates by Sex (Final)

Cause of Death	Total			Male			Female		
	Rate	Deaths	Pop	Rate	Deaths	Pop	Rate	Deaths	Pop
All Causes of Death	847.0	18,334	1,904,314	988.5	9,859	959,021	716.8	8,475	945,293
All Malignant Cancers	136.7	3,126	1,904,314	156.6	1,668	959,021	120.8	1,458	945,293
Bladder	4.5	102	1,904,314	7.8	78	959,021	1.9	24	945,293
Brain and Other Nervous System	4.3	94	1,904,314	5.3	55	959,021	3.3	39	945,293
Breast	10.8	241	1,904,314	0.6	6	959,021	19.9	235	945,293
Cervix	--	--	--	--	--	--	2.0	18	945,293
Colorectal	13.6	305	1,904,314	15.5	166	959,021	11.8	139	945,293
Corpus Uteri	--	--	--	--	--	--	2.5	31	945,293
Esophagus	3.8	92	1,904,314	6.7	79	959,021	1.1	13	945,293
Hodgkin Lymphoma	0.2	5	1,904,314	0.3	4	959,021	0.1	1	945,293
Kidney	3.1	71	1,904,314	4.6	48	959,021	1.9	23	945,293
Larynx	0.8	20	1,904,314	1.2	13	959,021	0.5	7	945,293
Leukemia	6.5	145	1,904,314	8.5	89	959,021	4.8	56	945,293
Liver and Bile Duct	4.5	109	1,904,314	6.2	72	959,021	3.0	37	945,293
Lung and Bronchus	23.8	563	1,904,314	26.2	289	959,021	21.9	274	945,293
Melanoma of the Skin	2.8	63	1,904,314	4.1	45	959,021	1.6	18	945,293
Myeloma	2.9	65	1,904,314	3.0	32	959,021	2.8	33	945,293
Non-Hodgkin Lymphoma	5.8	129	1,904,314	6.4	65	959,021	5.2	64	945,293
Oral Cavity and Pharynx	2.4	58	1,904,314	3.4	39	959,021	1.6	19	945,293
Ovary	--	--	--	--	--	--	6.6	81	945,293
Pancreas	10.9	257	1,904,314	12.1	132	959,021	10.0	125	945,293
Prostate	--	--	--	21.1	209	959,021	--	--	--
Stomach	2.1	43	1,904,314	2.9	29	959,021	1.3	14	945,293
Testis	--	--	--	0.5	4	959,021	--	--	--
Thyroid	0.5	10	1,904,314	0.4	5	959,021	0.5	5	945,293

Data source: Bureau of Vital Records and Health Statistics (BVRHS), Idaho Department of Health and Welfare, 2022.

Rates are per 100,000 and age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1130) standard.

Cause of death categories are based on SEER cause of death recodes (<http://seer.cancer.gov/codrecodes/>), which differ from official BVRHS cancer mortality categories. Death counts may differ from official BVRHS statistics due to late filings.

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