

# **CANCER IN IDAHO – 2017 Preliminary**

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Cancer Data Registry of Idaho**



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## **PREFACE**

"Cancer in Idaho - 2017," the forty-first annual report of the Cancer Data Registry of Idaho (CDRI), contains information on the cancer burden among Idaho residents, with a focus on cancer cases diagnosed during 2017. The data can be used by public health officials, hospital administrators, physicians, the Comprehensive Cancer Alliance for Idaho, and others to effectively plan services, prioritize health resource allocations, develop and measure prevention and intervention strategies, and identify high-risk populations within the state of 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 would also like to thank 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 reside in the state of Idaho or 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 social characteristics;
- ◆ monitor trends and patterns of cancer incidence over time;
- ◆ identify high-risk populations;
- ◆ provide a database and serve as a resource for conducting epidemiologic studies; and
- ◆ provide data to assist public health officials, hospital administrators, and physicians to effectively plan services, prioritize health resource allocations 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 a portion (less than one percent) of the cigarette tax to 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 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 2000* and the *AJCC Manual for Staging of Cancer, 7th edition*, which were used to calculate NPCR-derived clinical and pathologic stage group.<sup>2,3,4</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>5-8</sup> Beginning with cases diagnosed in 2010, new rules for coding hematopoietic and lymphoid neoplasms were applied.<sup>9</sup>

### **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.

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

Basal and squamous cell carcinomas of the skin are excluded except when occurring on a mucous membrane or if the AJCC stage group is II, III, or IV.

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 GenEDITS Plus software which has standard edits using algorithms that check the content of data fields against an encoded set of acceptable possible contents 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. Duplicate case checking is performed both manually and electronically using several methodologies.

CDRI has met NPCR program standards and is recognized as a "gold standard registry" for quality, completeness, and timeliness as designated by NAACCR. These designations enable Idaho data to be included in *United States Cancer Statistics* and all NAACCR volumes of *"Cancer Incidence in North America."*

### 2017 Idaho Cancer Incidence Rates by Sex (Preliminary)

Primary Site	Total			Male			Female		
	Rate	Cases	Pop	Rate	Cases	Pop	Rate	Cases	Pop
All Sites	424.6	8,393	1,716,943	454.5	4,376	860,458	402.5	4,017	856,485
Bladder	19.3	387	1,716,943	32.6	302	860,458	8.0	85	856,485
Brain - malignant	6.3	118	1,716,943	8.1	73	860,458	4.5	45	856,485
Brain and other CNS - non-malignant	11.5	211	1,716,943	7.3	65	860,458	15.4	146	856,485
Breast	68.9	1,313	1,716,943	0.7	7	860,458	133.5	1,306	856,485
Breast - in situ	12.8	240	1,716,943	0.0	0	860,458	25.1	240	856,485
Cervix	3.7	60	1,716,943	0.0	0	860,458	7.4	60	856,485
Colorectal	33.4	647	1,716,943	36.8	345	860,458	30.3	302	856,485
Corpus Uteri	11.5	238	1,716,943	0.0	0	860,458	22.3	238	856,485
Esophagus	5.1	104	1,716,943	9.3	90	860,458	1.3	14	856,485
Hodgkin Lymphoma	2.3	40	1,716,943	2.6	23	860,458	1.9	17	856,485
Kidney and Renal Pelvis	16.5	322	1,716,943	22.8	214	860,458	10.8	108	856,485
Larynx	1.7	35	1,716,943	2.9	29	860,458	0.6	6	856,485
Leukemia	15.3	290	1,716,943	18.7	169	860,458	12.2	121	856,485
Liver and Bile Duct	7.2	151	1,716,943	10.9	110	860,458	3.9	41	856,485
Lung and Bronchus	46.5	951	1,716,943	47.9	468	860,458	45.4	483	856,485
Melanoma of the Skin	25.3	485	1,716,943	31.6	299	860,458	19.8	186	856,485
Myeloma	6.8	137	1,716,943	8.6	79	860,458	5.3	58	856,485
Non-Hodgkin Lymphoma	17.6	344	1,716,943	20.5	193	860,458	14.8	151	856,485
Oral Cavity and Pharynx	11.1	227	1,716,943	17.7	175	860,458	5.1	52	856,485
Ovary	4.8	94	1,716,943	0.0	0	860,458	9.5	94	856,485
Pancreas	15.2	299	1,716,943	17.0	159	860,458	13.5	140	856,485
Prostate	51.4	1,115	1,716,943	107.4	1,115	860,458	0.0	0	856,485
Stomach	4.1	82	1,716,943	6.1	58	860,458	2.4	24	856,485
Testis	2.7	42	1,716,943	5.3	42	860,458	0.0	0	856,485
Thyroid	12.1	211	1,716,943	7.7	67	860,458	16.6	144	856,485
Pediatric Age 0 to 19	16.2	79	489,849	18	45	250,190	14.3	34	239,659

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

## 2017 Idaho Cancer Incidence Counts by Behavior (Preliminary)

Primary Site	In situ	Malignant
All Sites	904	8,209
Bladder	184	203
Brain	0	118
Breast	240	1,313
Cervix	0	60
Colorectal	9	647
Corpus Uteri	0	238
Esophagus	1	104
Hodgkin Lymphoma	0	40
Kidney and Renal Pelvis	4	322
Larynx	1	35
Leukemia	0	290
Liver and Bile Duct	0	151
Lung and Bronchus	3	951
Melanoma of the Skin	437	485
Myeloma	0	137
Non-Hodgkin Lymphoma	0	344
Oral Cavity and Pharynx	3	227
Ovary	2	94
Pancreas	0	299
Prostate	0	1,115
Stomach	0	82
Testis	0	42
Thyroid	8	211
Pediatric Age 0 to 19	1	79

**2017 Idaho Cancer Incidence Counts by SEER Summary Stage (Preliminary)**

Primary Site	In situ	Localized	Regional	Distant	Unstaged
All Sites	904	3,469	1,667	1,956	1,117
Bladder	184	121	30	24	28
Brain	0	85	12	1	20
Breast	240	842	364	71	36
Cervix	0	30	15	6	9
Colorectal	9	176	252	145	74
Corpus Uteri	0	161	40	20	17
Esophagus	1	17	45	26	16
Hodgkin Lymphoma	0	4	14	20	2
Kidney and Renal Pelvis	4	215	31	55	21
Larynx	1	16	15	2	2
Leukemia	0	0	0	264	26
Liver and Bile Duct	0	62	28	22	39
Lung and Bronchus	3	227	178	417	129
Melanoma of the Skin	437	359	48	21	57
Myeloma	0	7	0	118	12
Non-Hodgkin Lymphoma	0	79	59	162	44
Oral Cavity and Pharynx	3	82	100	16	29
Ovary	2	19	24	49	2
Pancreas	0	31	82	136	50
Prostate	0	629	148	80	258
Stomach	0	20	23	33	6
Testis	0	26	7	7	2
Thyroid	8	130	59	14	8
Pediatric Age 0 to 19	1	37	13	22	7

## 2017 Idaho Cancer Incidence Rates by Age (Preliminary)

Age at Diagnosis	Rate	Cases	Pop
00-04	19.7	23	117,037
05-09	11.4	14	122,937
10-14	12.5	16	128,315
15-19	21.4	26	121,560
20-24	36.4	41	112,737
25-29	53.7	62	115,400
30-34	84.3	93	110,319
35-39	130.1	146	112,256
40-44	207.2	208	100,362
45-49	319.2	320	100,265
50-54	483.3	479	99,107
55-59	744.2	803	107,906
60-64	1,028.5	1,068	103,841
65-69	1,487.2	1,358	91,313
70-74	1,866.6	1,298	69,539
75-79	2,296.4	1,059	46,115
80-84	2,209.6	648	29,327
85+	2,555.3	731	28,607

Rates are per 100,000.



### 2017 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	743.5	14,007	1,716,943	855.7	7,364	860,458	642.6	6,643	856,485
All Malignant Cancers	152.9	3,015	1,716,943	180.2	1,638	860,458	131.2	1,377	856,485
Bladder	5.0	95	1,716,943	9.1	76	860,458	1.7	19	856,485
Brain and Other Nervous System	4.7	95	1,716,943	7.2	68	860,458	2.5	27	856,485
Breast	11.5	225	1,716,943	0.2	3	860,458	21.6	222	856,485
Cervix	0.8	14	1,716,943	0.0	0	860,458	1.5	14	856,485
Colorectal	13.1	256	1,716,943	14.5	134	860,458	11.8	122	856,485
Corpus Uteri	1.9	39	1,716,943	0.0	0	860,458	3.6	39	856,485
Esophagus	5.0	99	1,716,943	8.9	82	860,458	1.6	17	856,485
Hodgkin Lymphoma	0.4	7	1,716,943	0.2	2	860,458	0.6	5	856,485
Kidney	4.2	83	1,716,943	5.1	47	860,458	3.4	36	856,485
Larynx	0.4	9	1,716,943	0.7	6	860,458	0.3	3	856,485
Leukemia	6.9	131	1,716,943	8.7	76	860,458	5.3	55	856,485
Liver and Bile Duct	5.9	121	1,716,943	9.0	88	860,458	3.1	33	856,485
Lung and Bronchus	30.0	605	1,716,943	34.6	328	860,458	26.2	277	856,485
Melanoma of the Skin	2.4	48	1,716,943	3.3	30	860,458	1.7	18	856,485
Myeloma	4.0	76	1,716,943	5.6	48	860,458	2.7	28	856,485
Non-Hodgkin Lymphoma	6.1	119	1,716,943	7.4	66	860,458	5.0	53	856,485
Oral Cavity and Pharynx	2.4	47	1,716,943	4.0	39	860,458	0.9	8	856,485
Ovary	3.3	68	1,716,943	0.0	0	860,458	6.2	68	856,485
Pancreas	12.3	244	1,716,943	13.9	128	860,458	10.9	116	856,485
Prostate	8.7	164	1,716,943	20.0	164	860,458	0.0	0	856,485
Stomach	2.0	40	1,716,943	2.2	22	860,458	1.8	18	856,485
Testis	0.0	1	1,716,943	0.1	1	860,458	0.0	0	856,485
Thyroid	0.5	10	1,716,943	0.6	5	860,458	0.5	5	856,485

Data source: Bureau of Vital Records and Health Statistics (BVRHS), Idaho Department of Health and Welfare, 2018.  
 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/codrecode/>), which differ from official BVRHS cancer mortality categories. Death counts may differ from official BVRHS statistics due to late filings.

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## APPENDIX A

### 2000 U.S. STANDARD POPULATION

Age Group	2000 US Standard Population (Census P25-1130)
0	3,794,901
1-4	15,191,619
5-9	19,919,840
10-14	20,056,779
15-19	19,819,518
20-24	18,257,225
25-29	17,722,067
30-34	19,511,370
35-39	22,179,956
40-44	22,479,229
45-49	19,805,793
50-54	17,224,359
55-59	13,307,234
60-64	10,654,272
65-69	9,409,940
70-74	8,725,574
75-79	7,414,559
80-84	4,900,234
85+	4,259,173
Total	274,633,642

Source: SEER Program, National Cancer Institute, 2018.<sup>16</sup>