

Cancer in South Dakota

Preliminary report of cancer among South Dakotans in 2016

South Dakota Cancer Registry



February 2018

This report presents numbers and rates of new malignant cancer cases that were diagnosed among South Dakota residents during the year 2016. These data are current as of 2/13/2018. However, 2016 data are still being collected so the data in this report should be considered preliminary. Once the majority of the 2016 cases are reported, the South Dakota Cancer Registry (SDCR) will release a final report, which will be posted at <http://getscreened.sd.gov/registry/data/>. The final report will present more complete incidence data than are currently available. Statistics on cancer deaths that occurred among South Dakota residents during 2016 are available in the *South Dakota Vital Statistics: State and County Comparison of Leading Health Indicators, 2016* report posted at <http://doh.sd.gov/statistics/2016/Vital/>.

On the following pages, Table 1 presents the number of new cases and the age-adjusted incidence rate for all cancers combined by primary site and gender for the year 2016. During that year, there were a total of 3,676 invasive and *in situ* bladder cancers diagnosed among South Dakota residents which translates into an age-adjusted rate of 351.3 per 100,000 population. By primary site, cancers of the female breast, lung, prostate, colorectal (colon and rectum), and bladder accounted for 1,895 diagnoses, more than half (51.6%) of all new malignancies.

By gender, female breast cancer was the most frequently diagnosed cancer. It accounted for 25% of all new cases among women, followed by lung cancer and colorectal cancer. Among men, cancer of the prostate occurred most frequently, accounting for about one of every four new malignancies, followed by lung cancer and colorectal cancer.

Table 2 presents the number of cases diagnosed in 2016 by the SEER Summary Stage. This table reflects *in situ* cases that are not used to calculate incidence rates, but are collected by the SDCR. Summary staging categorizes how far a cancer has spread from its point of origin. Summary staging uses all information available in the medical record; in other words, it is a combination of the most precise clinical and pathological documentation of the extent of disease.

This report is available online at: <http://getscreened.sd.gov/registry/data/>.

**Table 1: Age-adjusted Incidence Rates by Site and Gender
South Dakota, 2016 (Preliminary)**

	TOTAL		MALE		FEMALE	
	Cases	Age Adjusted Rate	Cases	Age Adjusted Rate	Cases	Age Adjusted Rate
All Sites	3,676	351.3	1,901	376.4	1,775	335.2
Bladder	185	17.3	136	27.7	49	8.8
Kidney and Renal Pelvis	161	15.3	95	17.8	66	13.0
Ureter	5	0.4	5	1.0	0	0.0
Other Urinary Organs	3	0.3	3	0.7	0	0.0
Bones and Joints	5	0.6	5	1.1	0	0.0
Soft Tissue (Including Heart)	23	2.3	12	2.6	11	2.1
Brain and Nervous System	60	6.2	38	7.9	22	4.6
Eye and Orbit	6	0.6	3	0.7	3	0.6
Breast, Female	445	85.1			445	85.1
Cervix Uteri	26	6.3			26	6.3
Corpus and Uterus, NOS	131	23.8			131	23.8
Ovary	49	9.3			49	9.3
Vagina	2	0.4			2	0.4
Vulva	20	3.8			20	3.8
Other Female Genital Organs	6	1.2			6	1.2
Breast, Male	2	0.4	2	0.4		
Penis	3	0.8	3	0.8		
Prostate	434	77.4	434	77.4		
Testis	17	4.1	17	4.1		
Oral Cavity and Pharynx	110	10.2	82	15.7	28	5.0
Anus, Anal Canal and Anorectum	13	1.3	4	0.9	9	1.6
Colorectal	322	31.1	174	36.0	148	27.4
Esophagus	40	3.5	27	5.0	13	2.2
Gallbladder	7	0.8	1	0.2	6	1.4
Liver and Bile Ducts	58	5.3	41	7.7	17	2.9
Other Biliary	13	1.2	10	2.2	3	0.4
Pancreas	122	11.2	63	12.0	59	10.5
Peritoneum, Omentum and Mesentery	11	1.0	2	0.5	9	1.5
Retroperitoneum	6	0.6	3	0.6	3	0.5
Small Intestine	21	2.1	14	3.0	7	1.3
Stomach	35	3.5	24	5.3	11	1.8
Larynx	20	2.0	18	4.0	2	0.3
Lung and Bronchus	509	46.8	247	49.5	262	45.4
Mesothelioma	7	0.6	6	1.1	1	0.1
Nose, Nasal Cavity and Middle Ear	8	0.7	6	1.1	2	0.5
Melanoma of the Skin	138	14.0	81	16.8	57	11.8
Other Skin	11	1.1	8	1.8	3	0.7
Hodgkin's Lymphoma	21	2.5	11	2.4	10	2.5
Non Hodgkin's Lymphoma	152	15.2	77	16.5	75	14.0
Leukemia	157	15.3	101	20.7	56	10.8
Myeloma	61	5.8	34	7.0	27	5.0
Myeloproliferative and Myelodysplastic	75	7.1	43	9.2	32	5.5
Thyroid	110	12.5	34	7.4	76	17.8
Other Endocrine	6	0.7	2	0.6	4	0.8
Other Sites	60	5.6	35	7.0	25	4.3

Rates per 100,000 persons and age-adjusted to the 2000 US standard population and 2016 SD estimate population.

**Table 2: Incidence Counts by SEER Summary Stage and Primary Site
South Dakota, 2016 (Preliminary)**

Primary Site	<i>In Situ</i>	Localized	Regional	Distant	Unstaged/ Unknown	Total
Total	405	1,654	703	1,051	154	3,967
Bladder	114	38	16	14	3	185
Kidney and Renal Pelvis	5	112	23	24	2	166
Ureter	3	2	2	0	1	8
Other Urinary Organs	0	0	0	2	1	3
Bones and Joints	0	1	2	1	1	5
Soft Tissue (Including Heart)	0	16	1	6	0	23
Brain and Nervous System	0	45	5	3	7	60
Eye and Orbit	0	5	1	0	0	6
Breast, Female	95	331	90	19	5	540
Cervix Uteri	1	12	10	3	1	27
Corpus and Uterus, NOS	1	101	15	13	2	132
Ovary	0	7	12	29	1	49
Vagina	7	2	0	0	0	9
Vulva	16	12	6	2	0	36
Other Female Genital Organs	1	2	3	1	0	7
Breast, Male	0	2	0	0	0	2
Penis	3	3	0	0	0	6
Prostate	1	324	71	29	10	435
Testis	0	14	1	2	0	17
Oral Cavity & Pharynx	13	43	53	13	1	123
Anus, Anal Canal and Anorectum	4	8	4	1	0	17
Colorectal	32	126	107	77	12	354
Esophagus	3	8	15	15	2	43
Gallbladder	0	0	4	3	0	7
Liver and Bile Ducts	0	28	11	12	7	58
Other Biliary	0	1	6	5	1	13
Pancreas	1	19	38	58	7	123
Peritoneum, Omentum and Mesentery	0	0	3	7	1	11
Retroperitoneum	0	0	3	2	1	6
Small Intestine	0	4	10	6	1	21
Stomach	0	10	8	12	5	35
Larynx	3	13	4	2	1	23
Lung and Bronchus	2	127	110	262	10	511
Mesothelioma	0	0	1	6	0	7
Nose, Nasal Cavity and Middle Ear	0	1	5	1	1	8
Melanomas of the Skin	99	116	12	6	4	237
Other Skin	1	10	1	0	0	12
Hodgkin's Lymphoma	0	1	6	13	1	21
Non-Hodgkin's Lymphoma	0	32	12	100	8	152
Leukemia	0	1	1	154	1	157
Multiple Myeloma	0	2	0	59	0	61
Myeloproliferative and Myelodysplastic	0	0	0	75	0	75
Thyroid	0	72	30	6	2	110
Other Endocrine	0	1	1	3	1	6
Other Sites	0	2	0	5	53	60

Appendix A: SEER Incidence Site Analysis Categories

Site Group	ICD-O-3 Site	ICD-O-3 Histology (Type)	Recode	
Oral Cavity and Pharynx				
Lip	C000-C009	excluding 9050-9055, 9140, 9590-9992	20010	
Tongue	C019-C029		20020	
Salivary Gland	C079-C089		20030	
Floor of Mouth	C040-C049		20040	
Gum and Other Mouth	C030-C039, C050-C059, C060-C069		20050	
Nasopharynx	C110-C119		20060	
Tonsil	C090-C099		20070	
Oropharynx	C100-C109		20080	
Hypopharynx	C129, C130-C139		20090	
Other Oral Cavity and Pharynx	C140, C142-C148		20100	
Digestive System				
Esophagus	C150-C159	excluding 9050-9055, 9140, 9590-9992	21010	
Stomach	C160-C169		21020	
Small Intestine	C170-C179		21030	
Colon and Rectum				
Colon Excluding Rectum				
Cecum	C180	excluding 9050-9055, 9140, 9590-9992	21041	
Appendix	C181		21042	
Ascending Colon	C182		21043	
Hepatic Flexure	C183		21044	
Transverse Colon	C184		21045	
Splenic Flexure	C185		21046	
Descending Colon	C186		21047	
Sigmoid Colon	C187		21048	
Large Intestine, NOS	C188-C189, C260		21049	
Rectum and Rectosigmoid Junction				
Rectosigmoid Junction	C199	excluding 9050-9055, 9140, 9590-9992	21051	
Rectum	C209		21052	
Anus, Anal Canal and Anorectum	C210-C212, C218		21060	
Liver and Intrahepatic Bile Duct				
Liver	C220	excluding 9050-9055, 9140, 9590-9992	21071	
Intrahepatic Bile Duct	C221		21072	
Gallbladder	C239		21080	
Other Biliary	C240-C249		21090	
Pancreas	C250-C259		21100	
Retroperitoneum	C480		21110	
Peritoneum, Omentum and Mesentery	C481-C482		21120	
Other Digestive Organs	C268-C269, C488		21130	
Respiratory System				
Nose, Nasal Cavity and Middle Ear	C300-C301, C310-C319		excluding 9050-9055, 9140, 9590-9992	22010
Larynx	C320-C329	22020		
Lung and Bronchus	C340-C349	22030		
Pleura	C384	22050		
Trachea, Mediastinum and Other Respiratory Organs	C339, C381-C383, C388, C390, C398, C399	22060		

Appendix A: SEER Incidence Site Analysis Categories (continued)

Bones and Joints	C400-C419	excluding 9050-9055, 9140, 9590-9992	23000
Soft Tissue Including Heart	C380, C470-C479, C490-C499	excluding 9050-9055, 9140, 9590-9992	24000
Skin Excluding Basal And Squamous			
Melanoma of the Skin	C440-C449	8720-8790	25010
Other Non-Epithelial Skin	C440-C449	excluding 8000-8005, 8010-8046, 8050-8084, 8090-8110, 8720-8790, 9050-9055, 9140, 9590-9992	25020
Breast	C500-C509	excluding 9050-9055, 9140, 9590-9992	26000
Female Genital System			
Cervix Uteri	C530-C539	excluding 9050-9055, 9140, 9590-9992	27010
Corpus and Uterus, NOS			
Corpus Uteri	C540-C549	excluding 9050-9055, 9140, 9590-9992	27020
Uterus, NOS	C559		27030
Ovary	C569		27040
Vagina	C529		27050
Vulva	C510-C519		27060
Other Female Genital Organs	C570-C589		27070
Male Genital System			
Prostate	C619	excluding 9050-9055, 9140, 9590-9992	28010
Testis	C620-C629		28020
Penis	C600-C609		28030
Other Male Genital Organs	C630-C639		28040
Urinary System			
Urinary Bladder	C670-C679	excluding 9050-9055, 9140, 9590-9992	29010
Kidney and Renal Pelvis	C649, C659		29020
Ureter	C669		29030
Other Urinary Organs	C680-C689		29040
Eye and Orbit	C690-C699	excluding 9050-9055, 9140, 9590-9992	30000
Brain and Other Nervous System			
Brain	C710-C719	excluding 9050-9055, 9140, 9590-9992	31010
Cranial Nerves Other Nervous System	C710-C719	9530-9539	31040
	C700-C709, C720-C729	excluding 9050-9055, 9140, 9590-9992	
Endocrine System			
Thyroid	C739	excluding 9050-9055, 9140, 9590-9992	32010
Other Endocrine Including Thymus	C379, C740-C749, C750-C759		32020

Appendix A: SEER Incidence Site Analysis Categories (continued)

Lymphoma			
Hodgkin's Lymphoma			
Hodgkin's - Nodal	C024, C098-C099, C111, C142, C379, C422, C770-C779	9650-9667	33011
Hodgkin's - Extranodal	All other sites		33012
Non-Hodgkin's Lymphoma (NHL)			
NHL - Nodal	C024, C098,C099, C111,C142, C379,C422, C770-C779	9590-9597, 9670-9671, 9673, 9675, 9678-9680, 9684, 9687-9691, 9695, 9698-9702, 9705, 9708-9709, 9712, 9714-9719, 9724-9729, 9735, 9737-9738, 9811-9818, 9823, 9827, 9837	33041
NHL - Extranodal	All sites except C024, C098-C099, C111, C142, C379, C422, C770-C779	9590-9597, 9670-9671, 9673, 9675, 9678-9680, 9684, 9687, 9688, 9689-9691, 9695, 9698-9702, 9705, 9708-9709, 9712, 9714-9719, 9724-9729, 9735, 9737, 9738	33042
	All sites except C024, C098-C099, C111, C142, C379, C420-C422, C424, C770-C779	9811-9818, 9823, 9827, 9837	
Myeloma		9731-9132, 9734	34000
Leukemia			
Lymphocytic Leukemia			
Acute Lymphocytic Leukemia	C420, C421, C424	9826, 9835-9836 9811-9818, 9837	35011
Chronic Lymphocytic Leukemia	C420, C421, C424	9823	35012
Other Lymphocytic Leukemia		9820, 9832-9834, 9940	35013
Myeloid and Monocytic Leukemia			
Acute Myeloid Leukemia		9840, 9861, 9865-9867, 9869, 9871-9874, 9895-9897, 9898, 9910-9911, 9920	35021
Acute Monocytic Leukemia		9891	35031
Chronic Myeloid Leukemia		9863, 9875, 9876, 9945, 9946	35022
Other Myeloid/Monocytic Leukemia		9860, 9930	35023
Other Leukemia			
Other Acute Leukemia		9801, 9805-9809, 9931	35041
Aleukemic, Subleukemic and NOS		9733, 9742, 9800, 9831, 9870, 9948, 9963, 9964	35043
	C420, C421, C424	9827	
Mesothelioma		9050-9055	36010
Kaposi Sarcoma		9140	36020
Miscellaneous		9740-9741, 9750-9769, 9950, 9960-9962, 9965-9967, 9970-9971, 9975, 9980, 9982-9987, 9989, 9991-9992	37000
	C760-C768, C809	excluding 9050-9055, 9140, 9590-9992	
	C420-C424 C770-C779		
Invalid	Site or histology code not within valid range or site code not found in this table.		99999

Source: <http://seer.cancer.gov/siterecode>

* This table was updated for Hematopoietic codes based on WHO Classification of Tumors of Hematopoietic and Lymphoid Tissues (2008).