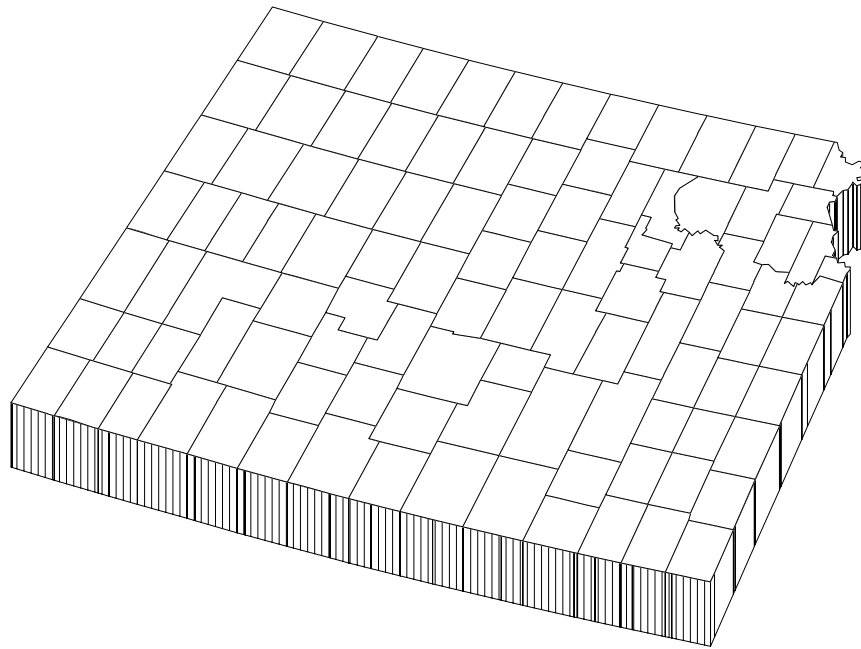


KANSAS CANCER REGISTRY

MULTIPLE YEAR REPORT



CANCER INCIDENCE AND MORTALITY IN KANSAS

1997-2005

Cancer Incidence and Mortality in Kansas, 1997-2005

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August 2008

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Kansas Cancer Registry is grant funded by
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Centers for Disease Control and Prevention

ACKNOWLEDGMENTS

Paula F. Clayton, M.S., Director, Bureau of Chronic Disease and Health Promotion, KDHE.

SPECIAL THANKS to the following Healthcare Institutions in Kansas for their efforts in reporting cancer cases:

Hospitals

Abilene Memorial Hospital	Irwin Army Community Hospital	Ransom Memorial Hospital
Air Force Hospital, McConnell Air Force Base	Jefferson County Memorial Hospital, Inc.	Rawlins County Health Center
Allen County Hospital	Jewell County Hospital	Republic County Hospital
Anderson County Hospital	Kansas Heart Hospital	Robert J. Dole VA Medical Center
Ashland Health Center	Kansas Medical Center, LLC	Rooks County Health Center
Atchison Hospital	Kansas Spine Hospital	Rush County Memorial Hospital
Bob Wilson Memorial Grant County Hospital	Kearny County Hospital	Russell Regional Hospital
Central Kansas Medical Center	Kingman Community Hospital	Sabetha Community Hospital, Inc
Cheyenne County Hospital	Kiowa County Memorial Hospital	Saint John Hospital
Children's Mercy South	Kiowa District Hospital and Manor	Saint Luke's South Hospital
Citizens Medical Center	Labette Health	Salina Regional Health Center
Clara Barton Hospital	Lane County Hospital	Salina Surgical Hospital
Clay County Medical Center	Lawrence Memorial Hospital	Satanta District Hospital, Clinics and LTCU
Cloud County Health Center	Lincoln County Hospital	Scott County Hospital
Coffey County Hospital	Lindsborg Community Hospital	Sedan City Hospital
Coffeyville Regional Medical Center	Logan County Hospital	Select Specialty Hospital - Topeka
Comanche County Hospital	Manhattan Surgical Hospital	Shawnee Mission Medical Center
Community HealthCare System, Inc.	Meade District Hospital	Sheridan County Health Complex
Community Memorial Healthcare Inc.	Medicine Lodge Memorial Hospital	Smith County Memorial Hospital
Crawford County Hospital District #1	Memorial Hospital, Inc.	South Central Kansas Regional Medical Center
Cushing Memorial Hospital	Menorah Medical Center	Southwest Medical Center
Decatur Health Systems, Inc.	Mercy Health Center of Kansas	St. Catherine Hospital
Doctors Hospital, LLC	Mercy Hospital	St. Francis Health Center
Edwards County Hospital & Healthcare Center	Mercy Hospital, Inc.	St. John's Maude Norton Memorial Hospital
Ellinwood District Hospital	Mercy Regional Health Center, Inc	St. Joseph Memorial Hospital
Ellsworth County Medical Center	Miami County Medical Center, Inc.	St. Luke Hospital and Living Center
Fredonia Regional Hospital	Minneola District Hospital	Stafford District Hospital
Galichia Heart Hospital	Mitchell County Hospital	Stanton County Health Care Facility
Geary Community Hospital	Morris County Hospital	Stevens County Hospital
Goodland Regional Medical Center	Morton County Health System	Stormont-Vail HealthCare, Inc.
Gove County Medical Center	Mount Carmel Regional Medical Center	Sumner County District #1 Hospital
Graham County Hospital	Munson Army Hospital	Sumner Regional Medical Center
Greeley County Health Services	Nemaha Valley Community Hospital	Surgical & Diagnostic Center of Great Bend
Greenwood County Hospital	Neosho Memorial Regional Medical Center	Susan B. Allen Memorial Hospital
Grisell Memorial Hospital District 1	Ness County Hospital	Trego County-Lemke Memorial Hospital
Hamilton County Hospital	Newman Regional Health	University of Kansas Medical Center
Hays Medical Center	Newton Medical Center	VA Eastern Kansas Health Care
Heartland Spine and Specialty Hospital	Northeast Kansas Center for Health & Wellness	Via Christi Regional Medical Center
Herington Municipal Hospital	Norton County Hospital	Wamego City Hospital
Hiawatha Community Hospital	Olathe Medical Center	Washington County Hospital
Hillsboro Community Medical Center	Osborne County Memorial Hospital	Washington County Hospital District #1
Hodgeman County Health Center	Oswego Medical Center	Wesley Medical Center
Holton Community Hospital	Ottawa County Health Center	Western Plains Medical Complex
Hospital District #1 of Rice County	Overland Park Regional Medical Center	Wichita County Health Center
Hospital District #5 of Harper County	Phillips County Hospital	William Newton Hospital
Hospital District #6 of Harper County	Pratt Regional Medical Center	Wilson County Hospital
Hutchinson Hospital	Providence Medical Center	

Pathology Laboratories

Advanced Dermatology, P.A.
Central Kansas Medical Center Pathology Laboratory
Cimarron Pathology, P.A.
Coffeyville Regional Medical Center Pathology Laboratory
Cytocheck Laboratory, LLC
Dermatology Center of Lawrence
Dermatology Laser Center, LLC
Free State Dermatology
Heartland Dermatology Center
Heartland Pathology
Hutchinson Hospital Pathology Laboratory
Johnson County Dermatology
Kansas City Dermatology & Skin Surgery Center
Kansas Pathology Consultants
Lawrence Memorial Hospital Pathology Laboratory
Midwest Anatomic Pathology Laboratory
Midwest Pathology
Mount Carmel Regional Medical Center Pathology Laboratory
Newman Regional Health Pathology Laboratory
Olathe Medical Center Pathology Laboratory
Overland Park Regional Medical Center Pathology Laboratory

Pathology Services, P. A.
Peterson Laboratory Services P.A.
Physicians Reference Laboratory
Providence Medical Center Pathology Laboratory
Quest Diagnostics
Quest Diagnostics Inc.
Salina Regional Health Center Pathology Laboratory
Scamman Pathology Services
Shawnee Mission Medical Center Pathology Laboratory
Southwest Medical Center Pathology Laboratory
St. Catherine Hospital Pathology Laboratory
St. Francis Health Center Pathology Laboratory
Stormont-Vail HealthCare, Inc. Pathology Laboratory
The Dermatology Clinic, P.A.
University of Kansas Medical Center Pathology Laboratory
Via Christi Regional Medical Center Pathology Laboratory
Wesley Medical Center Pathology Laboratory
Western Plains Medical Complex Pathology Laboratory
Wichita Clinic Pathology
William Newton Hospital Pathology Laboratory
WPM Pathology Laboratory, Chartered

Surgical Centers

Advanced Dermatologic Surgery, P.A.
College Park Family Care Center, P.A.
Cotton-O'Neil Clinic Endoscopy Center
Cypress Surgery Center
Derby Ambulatory Surgery Center
Endoscopic Imaging Center
Endoscopic Services, PA
Endoscopy & Surgery Center of Topeka
Heart of America Surgery Center, LLC
Hutchinson Ambulatory Surgery Center, LLC
Hutchinson Clinic Endoscopy Center
Kansas Endoscopy
Kansas Surgery & Recovery Center
Midwest Surgery Center, L.C.

Northwest Kansas Surgery Center
Skin and Moh's Surgery Center
Summit Surgical, LLC
Surgery Center of Dodge City
Surgery Center of Leawood, LLC
Surgery Center of Olathe
Surgicare of Wichita Inc
Surgicenter of Johnson County
Tallgrass Surgical Center
The Center for Same Day Surgery
Topeka Single Day Surgery
WestGlen Endoscopy Center
Wichita Clinic Day Surgery

Radiation Centers

Central Care Cancer Center - Emporia
Central Care Cancer Center-Newton
Central Kansas Cancer Institute
Kansas City Cancer Center Southwest
Lawrence Cancer Center
Radiation Oncology Center
University of Kansas Medical Center

Heartland Hospice
Hospice of Dickinson County
Hospice of Leavenworth
Hospice of Salina
HospiceCare of Kansas, LLC
Kansas City Hospice
Meadowlark Hospice
Ottawa County Home Health/Hospice Agency
Solomon Valley Hospice
SouthernCare Lawrence
St. John's RMC Hospice

Hospices

Allen County Home Health/Hospice
Harry Hynes Memorial Hospice
Hays Home Health and Hospice

THANKS also to the participating clinics, physicians, out of state hospitals, pathology labs and registries for heir contribution to cancer surveillance in the State of Kansas.

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INTRODUCTION

The Kansas Cancer Registry, the only population-based source of information on cancer incidence in Kansas, has published annual reports about cancer incidence (new cancer cases) and mortality for Kansans who have been diagnosed with cancers since 1995. Starting this year, the Kansas Cancer Registry publishes a multiple-year (1997 – 2005) cancer incidence and mortality report to alleviate fluctuation on the incidence rate year to year due to a small population size in some counties and varying care seeking behaviors. This report includes detailed information on cases diagnosed between 1997 and 2005, a section describing cancer incidence in the elderly population, and the age-adjusted cancer death rates.

The Kansas Cancer Registry (KCR) has successfully achieved goals and objectives set forth by the CDC National Program for Cancer Registries. It is evident that KCR would not have attained such major accomplishments without the cooperation of hospitals, pathology laboratories, radiation treatment centers, outpatient surgical centers, oncology/chemo clinics, dermatology clinics, physicians, home health and hospices. Also, professional organizations such as the American Cancer Society, Kansas Hospital Association, Kansas Medical Society, and Society for Kansas Pathologists have contributed their support to make the Kansas Cancer Registry a true population-based cancer registry. Currently,

- KCR has registered over 90% of the expected number of Kansans with cancers within 12 months of the close of the diagnosis year and over 95% completeness of reporting within 24 months of the close of the diagnosis year.
- All health care providers including physicians and clinic groups in the state of Kansas proactively report cancer cases to the Kansas Cancer Registry.
- KCR data continued to be certified by NAACCR with gold standards of achievement in completeness, timeliness, and data quality of cancer reporting data.
- KCR website has been updated to include this multiple year incidence report, an interactive query system, and KCR operation manual.
- KCR has conducted data exchange with the following neighboring states, Colorado, Missouri, Nebraska, Oklahoma, Texas, and Washington.
- KCR has released the registry data for cancer cluster investigations, community needs assessments, planning of screening programs, health policy making, and epidemiological studies. Kansas Department of Health and Environment (KDHE) has also used the registry data to estimate possible size of the disabled cancer population, the burden of smoking on a population, and to set the Healthy Kansans 2010 objectives. New clinics and radiation treatment centers were opened after using the registry data to identify needs in communities.
- The registry data have also been included in the Colorectal Cancer Monograph (<http://www3.interscience.wiley.com/journal/112761499/issue>) and the United States

Cancer Statistics, incidence reports published to the Nation since 1999. The publication is a joint effort of the National Program of Cancer Registry, CDC and the National Cancer Institute.

- KCR actively supports the Kansas Statewide Comprehensive Cancer Control Initiative. The registry data have been and will continue to be used for Kansas statewide cancer control activities.

In summary, KCR has devised strategies and implemented mechanisms to increase case reporting from Kansas health care facilities, improve timeliness of reporting through registration of cases from multiple sources, and increase accuracy of the registry data. The main purpose of this report is to provide preliminary cancer data to the general public, researchers, physicians, and health care planning agencies. It is hoped that through continued efforts on case registration and quality control of the data, the data will be used to serve the interests of all Kansans through statewide cancer surveillance, prevention, and control.

TECHNICAL NOTES

Sources of data:

Incidence: Incidence data (new cancer cases) were collected from all health care facilities licensed in the State of Kansas. The majority of cancer cases are identified in hospitals by screening many types of records, such as disease indices, in-hospital pathology reports, and radiation logs. When a cancer case is reported from more than one facility, the information is consolidated into one record. However, names of the reporting hospitals are maintained in the KCR database. Many Kansans with cancers were diagnosed and treated in hospitals outside the State of Kansas. These cancer cases are reported to the KCR by data exchange with the neighboring state registry to which the cases are reported. The reporting time lag in identification of Kansans with cancers from central cancer registries in other states varies widely. Therefore, data included in this report should be subject to change since missed cases are continuously added to the KCR database.

Expected Number of New Invasive Cancer Cases: About 116,893 new cases of invasive cancer were expected to be diagnosed in 1997-2005, in Kansas. Appendix A shows calculation of the expected number of new invasive cancer cases by multiplying IOWA SEER age-sex-race specific average annual invasive cancer incidence rates for 1994-1998 to the 2000 Kansas age-sex-race specific population from US Census. This estimate does not include carcinoma *in situ* of any site but bladder, nor does it include basal and squamous cell cancers of the skin.

Mortality: The data for cancers as a primary cause of death was compiled from the death files generated for Kansas Cancer Registry by KDHE Center for Health and Environment Statistics. The death data presented herein may not include vital events occurring to Kansas residents in other states or Canada. Detailed information of cancer deaths on all Kansans should be referred to Kansas Annual Summary of Vital Statistics. The cancer sites included in this report are based on the 9th (1997-1998) and 10th (1999-current) revisions of the International Classification of Diseases (ICD) codes. Detailed ICD codes are shown in Appendix B.

Population Estimates: The estimates of Kansas total and county-specific populations were obtained from SEER, <http://seer.cancer.gov/popdata/download.html>.

Definitions:

Reportable cancers: All invasive neoplasms (a behavior code of 3), *in situ* cancers (a behavior code of 2) and benign brain tumors are reportable cancers and are registered in the registry database. Carcinoma *in situ* of the cervix, basal and squamous cell carcinoma of the skin are non-reportable cancers. The anatomic site and histology of cancers are coded according to the third revision of the International Classification of Diseases for Oncology (ICD-O-3). Definitions of site-specific cancers are shown in Appendix B.

Stage of disease at diagnosis: The summary staging classification as defined by the National Cancer Institute's Surveillance Epidemiology and End Results (SEER) Program is used to determine stage of disease at diagnosis. The stages are defined as follows:

<i>In situ</i>	A neoplasm with all the characteristics of malignancy except invasion; it has not penetrated the basement membrane nor extended beyond the epithelial tissue.
<i>Localized</i>	An invasive malignant neoplasm confined entirely to the organ of origin. It may include intraluminal extension where specified.
<i>Regional</i>	A malignant neoplasm that 1) has extended beyond the limits of the organ of origin directly into surrounding organs or tissues; 2) involves regional lymph nodes by way of the lymphatic system; or 3) has both regional extension and involvement of regional lymph nodes.
<i>Distant</i>	A malignant neoplasm that has spread to parts of the body remote from the primary tumor either by direct extension or by discontinuous metastasis to distant organs, tissues, or via the lymphatic system to distant lymph nodes.
<i>Unstaged</i>	Insufficient information to determine the stage of disease at diagnosis.

Collaborative Staging: The collaborative staging schema as defined by The American Joint Committee on Cancer (AJCC) and the North American standards setters has been adopted for cases diagnosed January 1, 2004 and forward. Details of the schema can be obtained from <http://www.cancerstaging.org/cstage/index.html> ((Revised September 8, 2006).

Age-specific rate: The number of new cancer cases as a rate per 100,000 population in a given age group.

Age-adjusted rate: The number of new cancer cases that would have occurred in a standard population. Rates are calculated per 100,000 standardized to the age distribution of the 2000 U.S. standard population.

Elderly: The elderly population is defined as people aged 65 and older.

Regions: For cancer incidence, the patient's usual place of residence at the time the cancer is diagnosed is recorded in the registry database. Due to a small population in most counties in Kansas, these counties are grouped into twelve regions where each region has a population base of at least 100,000. The region assignment which groups counties of similar size and density, referral and business patterns, and proximity of aggregated counties was established in consultation with Dr. Steven Pickard at KDHE and Dr. Bob Nunley from the Kansas Geographic Bureau. These twelve regions encompass the following counties:

REGION	COUNTIES
Region 1	Cheyenne, Decatur, Ellis, Gove, Graham, Logan, Norton, Osborne, Phillips, Rawlins, Rooks, Russell, Sheridan, Sherman, Smith, Thomas, Trego, Wallace
Region 2	Clark, Finney, Ford, Grant, Gray, Greeley, Hamilton, Haskell, Kearney, Lane, Meade, Morton, Scott, Seward, Stanton, Stevens, Wichita
Region 3	Barber, Barton, Comanche, Edwards, Ellsworth, Harper, Hodgeman, Kingman, Kiowa, Ness, Pawnee, Pratt, Rice, Rush, Stafford
Region 4	Clay, Cloud, Dickinson, Jewell, Lincoln, Mitchell, Ottawa, Republic, Saline, Washington
Region 5	Harvey, Reno, McPherson, Sedgwick
Region 6	Butler, Cowley, Sumner
Region 7	Atchison, Brown, Doniphan, Jackson, Jefferson, Leavenworth, Marshall, Nemaha
Region 8	Geary, Pottawatomie, Riley
Region 9	Anderson, Chase, Chautauqua, Coffey, Elk, Greenwood, Linn, Lyon, Marion, Morris, Osage, Wabaunsee
Region 10	Douglas, Franklin, Miami, Shawnee
Region 11	Johnson, Wyandotte
Region 12	Allen, Bourbon, Cherokee, Crawford, Labette, Montgomery, Neosho, Wilson, Woodson

2000 Kansas Population estimates by region, age group, and gender are tabulated in Appendix C.

Data Quality:

The Kansas Cancer Registry works to ensure that the information received is as complete and accurate as possible. Currently, KCR performs visual edits on all abstracted forms received in KCR, computer edits on a minimum number of key data items (e.g., primary site, histology), and re-abstraction on a random sample of medical records. Several quality assurance mechanisms have also been developed and will be implemented to further ensure data quality.

CONFIDENTIALITY OF DATA:

The identities of patients, physicians, and facilities are protected by Kansas State Law. Tight restrictions on access to confidential data ensure the protection of persons who develop cancer.

References:

- KDHE (Kansas Department of Health and Environment) 1988. Kansas Statutes & Regulations Regarding Communicable Disease Control. Bureau of Epidemiology, KDHE.
- SEER (Surveillance, Epidemiology and End Results Program) 1993. Comparative Staging Guide for Cancer - Major Cancer Sites. National Institutes of Health, National Cancer Institute.
- AACCR (American Association of Central Cancer Registries) 1994. Standards for Completeness, Quality, Analysis, and Management of Data. Standards for Cancer Registries, Vol. III, edited by JE Seiffert.
- International Classification of Diseases for Oncology, Third Edition (ICD-0-3) 2000. World Health Organization.
- International Classification of Diseases, Tenth Revision (ICD-10). World Health Organization.
- 2000 Population from U.S. Census Bureau 2001 (Census 2000 Summary File 1)
- Kansas Cancer Registry: Cancer Incidence and Mortality in Kansas, 1995
- Kansas Cancer Registry: Cancer Incidence and Mortality in Kansas, 1996
- Kansas Cancer Registry: Cancer Incidence and Mortality in Kansas, 1997-2005
- Collaborative Staging, <http://www.cancerstaging.org/cstage/index.html> (Revised September 8, 2006)
- CDC Wonder, <http://wonder.cdc.gov/>
- Kansas Information for Communities(KIC), <http://kic.kdhe.state.ks.us/kic/>
- Cancer Control PLANET, <http://cancercontrolplanet.cancer.gov/>

Number of Cancer Cases by Primary Site and Stage Kansas Residents, 1997-2005

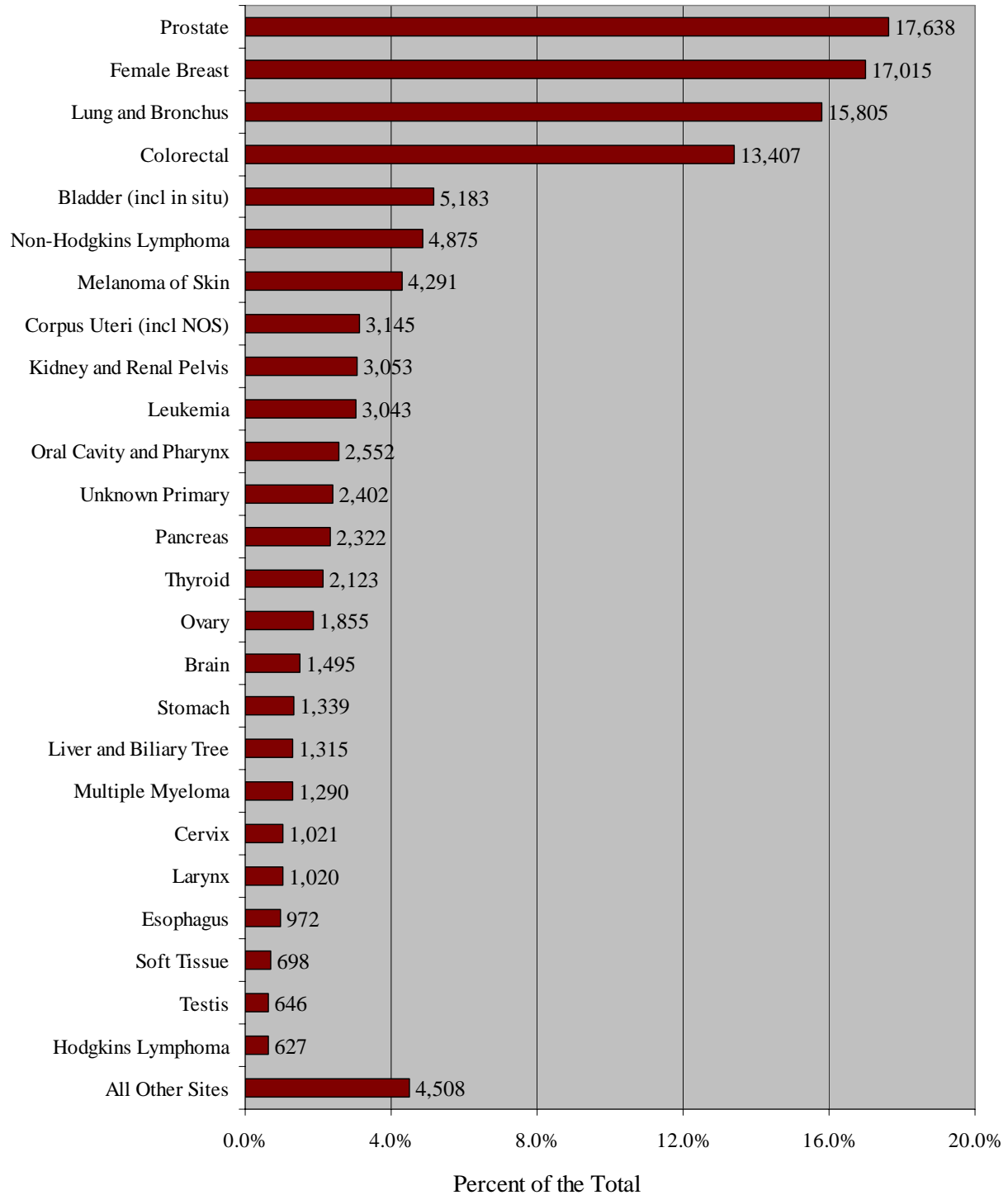
Primary Site	Stage at Diagnosis					
	All Cases	<i>In Situ</i>	Local	Regional	Distant	Unstaged
All Sites	120,704	8,123	52,846	25,061	23,470	11,204
Benign Brain§	519	-	-	-	-	-
Bladder (incl <i>in situ</i>)	5,183	1,580	2,766	410	131	296
Brain	1,495	-	1,112	151	25	207
Cervix	1,021	*	539	324	93	65
Colorectal	14,335	928	5,067	5,317	2,173	850
Corpus Uteri(incl NOS)	3,206	61	2,154	575	247	169
Esophagus	995	23	263	293	268	148
Female Breast	20,211	3,196	10,456	5,132	732	695
Hodgkins Lymphoma	627	-	188	215	181	43
Kidney and Renal Pelvis	3,088	35	1,708	584	577	184
Larynx	1,083	63	613	288	65	54
Leukemia	3,043	-	-	-	3,043	-
Liver and Biliary Tree	1,340	25	336	393	302	284
Lung and Bronchus	15,818	13	3,200	4,092	6,825	1,688
Melanoma of Skin	6,151	1,860	3,527	326	167	271
Multiple Myeloma	1,290	-	-	-	1,290	-
Non-Hodgkins Lymphoma	4,875	-	1,471	723	1,879	802
Oral Cavity and Pharynx	2,630	78	1,031	1,145	222	154
Ovary	1,864	9	358	317	1,060	120
Pancreas	2,324	2	251	682	1,069	320
Prostate	17,670	32	13,511	2,019	616	1,492
Soft Tissue	698	0	395	125	87	91
Stomach	1,356	17	294	460	393	192
Testis	647	1	453	103	66	24
Thyroid	2,126	3	1,519	463	77	64
Unknown Primary	2,402	-	-	-	-	2,402
All Other Sites	4,707	197	1,634	924	1,363	589

- denotes not applicable

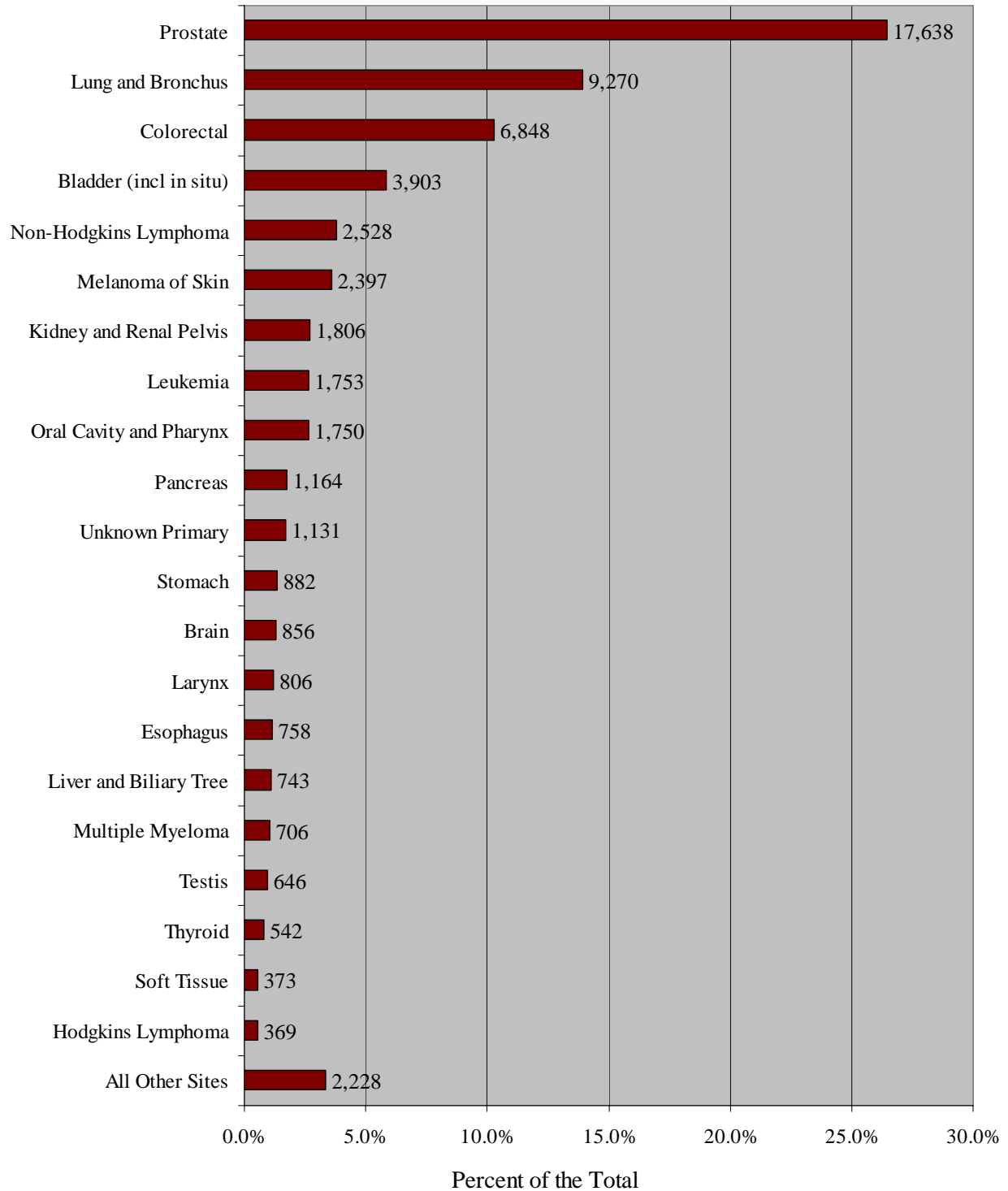
* denotes not reportable

§ benign brain tumor diagnosed in January 2004 and forward

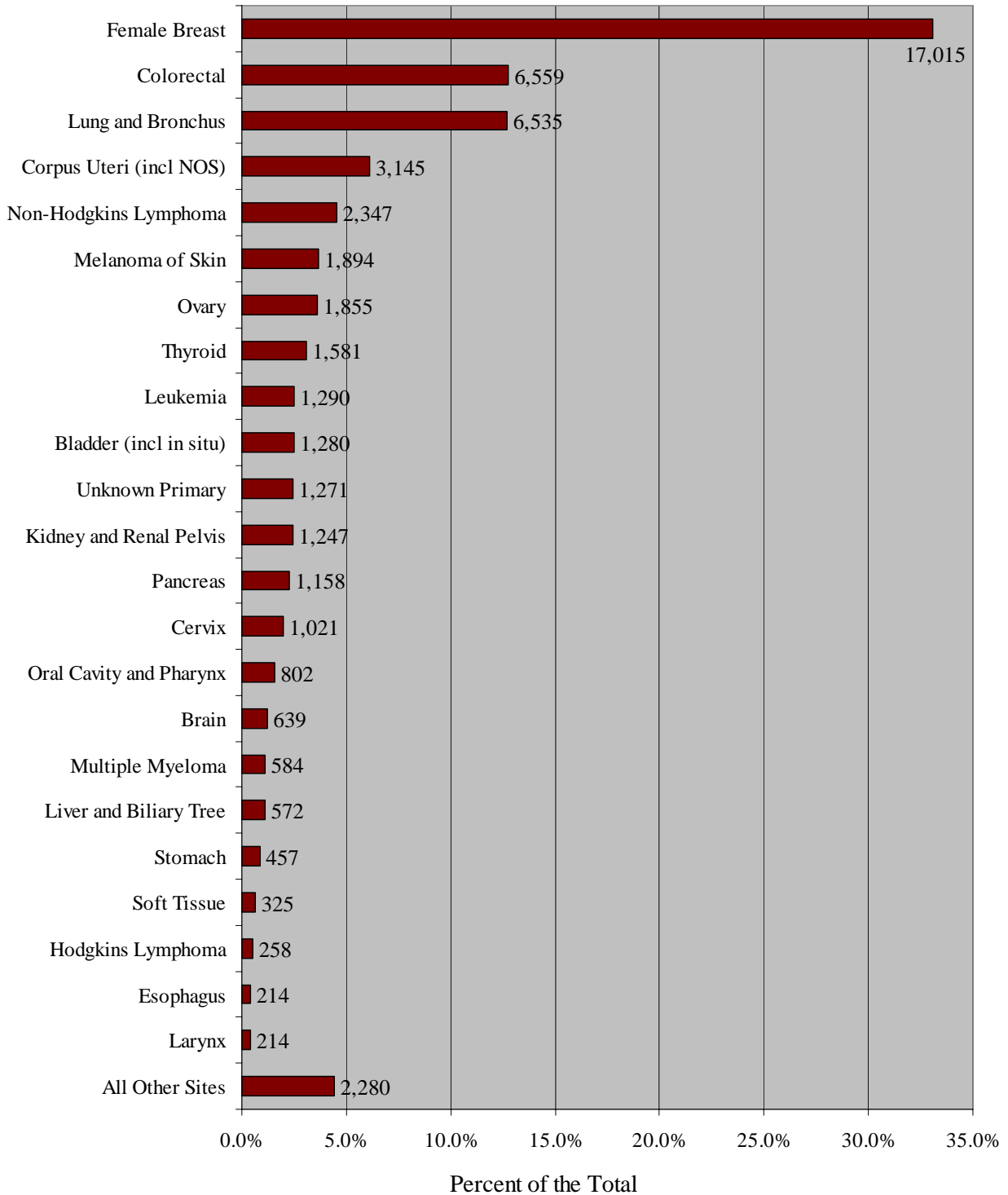
Number and Percent of Invasive Cancer Cases Primary Site, Kansas Residents, 1997-2005



Number and Percent of Invasive Cancer Cases Primary Site, Male Kansas Residents, 1997-2005



Number and Percent of Invasive Cancer Cases Primary Site, Female Kansas Residents, 1997-2005



Number of Invasive Cancer Cases by Primary Site and Age Group Male Kansas Residents, 1997-2005

Primary Site	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85+	Total
All Sites	174	91	118	201	299	342	523	772	1,335	2,394	3,801	5,395	6,550	8,498	9,755	8,974	5,928	3,947	59,097
Bladder (incl <i>in situ</i>)	0	0	0	0	3	9	19	27	52	127	192	263	335	512	666	708	559	431	3,903
Brain	21	23	20	20	20	26	30	44	53	56	76	70	76	82	82	75	52	30	856
Colorectal	0	0	0	0	3	14	40	72	150	279	424	621	738	882	1,141	1,056	793	635	6,848
Esophagus	0	0	0	0	0	0	2	5	12	38	62	92	103	106	126	106	69	37	758
Hodgkins Lymphoma	1	3	13	29	34	37	37	31	23	32	26	27	12	22	13	13	10	6	369
Kidney and Renal Pelvis	16	3	0	1	3	7	8	41	73	141	168	221	218	243	242	225	115	81	1,806
Larynx	0	0	0	1	1	2	0	5	19	43	75	98	129	125	140	89	45	34	806
Leukemia	69	30	22	26	27	18	18	30	61	75	125	130	143	185	202	253	181	158	1,753
Liver and Biliary Tree	3	2	1	1	1	2	6	8	20	47	68	78	76	97	95	107	88	43	743
Lung and Bronchus	1	0	0	1	2	2	10	40	129	262	496	796	1,129	1,451	1,722	1,637	1,045	547	9,270
Melanoma of Skin	0	1	3	15	30	53	82	107	175	203	242	229	198	235	253	240	194	137	2,397
Multiple Myeloma	0	0	0	0	0	0	1	6	15	43	48	54	83	74	128	115	89	50	706
Non-Hodgkins Lymphoma	9	11	13	22	25	24	50	60	108	155	194	217	225	311	306	342	266	190	2,528
Oral Cavity and Pharynx	2	1	3	5	13	9	10	36	61	162	201	234	206	220	220	165	106	96	1,750
Pancreas	0	0	2	0	0	1	4	8	21	60	93	113	123	176	175	177	124	87	1,164
Prostate	0	0	0	0	0	1	0	4	66	311	913	1,707	2,215	3,224	3,566	2,965	1,692	974	17,638
Soft Tissue	9	6	8	9	7	9	21	21	24	33	21	28	35	29	33	30	32	18	373
Stomach	0	0	0	0	3	1	5	8	26	45	76	70	98	113	136	120	97	84	882
Testis	8	0	5	41	88	89	107	111	87	52	22	9	11	5	6	3	1	1	646
Thyroid	0	0	2	4	12	15	24	37	59	47	70	69	60	44	47	26	23	3	542
Unknown Primary	3	0	0	1	1	4	3	13	32	43	78	94	131	130	162	198	122	116	1,131
All Other Sites	32	11	26	25	26	19	46	58	69	140	131	175	206	232	294	324	225	189	2,228

Number of Invasive Cancer Cases by Primary Site and Age Group Female Kansas Residents, 1997-2005

Primary Site	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85+	Total
All Sites	161	74	110	161	313	515	875	1,542	2,577	3,672	4,263	4,812	5,128	5,971	6,683	6,813	5,501	5,372	54,543
Bladder (incl <i>in situ</i>)	0	0	0	1	4	6	3	11	26	29	65	80	123	125	173	192	194	248	1,280
Brain	22	24	20	11	9	24	17	29	34	47	49	54	42	56	59	60	44	38	639
Cervix	0	0	0	1	10	70	105	128	139	135	87	80	47	54	51	40	38	36	1,021
Colorectal	0	0	0	3	12	7	31	70	130	269	335	396	528	694	874	1,021	967	1,222	6,559
Corpus Uteri (incl NOS)	0	0	0	0	2	15	34	64	119	218	301	372	378	387	400	394	263	198	3,145
Esophagus	0	0	0	0	0	1	0	0	1	8	6	13	20	26	34	38	34	33	214
Female Breast	0	0	0	0	5	64	204	558	1,094	1,593	1,785	1,864	1,704	1,871	1,899	1,782	1,403	1,189	17,015
Hodgkins Lymphoma	2	0	13	31	25	30	20	27	20	10	13	9	8	12	8	14	9	7	258
Kidney and Renal Pelvis	14	2	3	2	6	3	6	25	43	74	102	131	124	150	160	184	130	88	1,247
Larynx	0	0	0	0	1	0	0	3	11	10	15	28	32	33	34	26	9	12	214
Leukemia	69	25	14	19	24	9	22	25	50	63	73	70	87	103	135	175	154	173	1,290
Liver and Biliary Tree	5	0	1	1	1	1	2	7	12	15	36	50	43	76	72	76	66	108	572
Lung and Bronchus	1	0	1	0	3	1	10	41	132	247	343	559	783	1,030	1,192	1,030	723	439	6,535
Melanoma of Skin	1	0	3	23	68	81	125	152	175	197	148	145	121	133	138	140	103	141	1,894
Multiple Myeloma	0	0	0	0	1	0	3	2	12	22	33	38	68	61	103	92	85	64	584
Non-Hodgkins Lymphoma	3	7	11	5	14	34	32	39	58	111	133	168	215	281	329	331	300	276	2,347
Oral Cavity and Pharynx	0	2	1	4	5	7	16	24	39	42	85	68	83	76	90	89	86	85	802
Ovary	2	1	6	5	19	21	44	69	101	148	167	179	198	186	202	224	150	133	1,855
Pancreas	1	0	1	0	0	2	3	7	17	31	56	82	84	130	163	231	174	176	1,158
Soft Tissue	12	3	3	7	10	12	16	14	22	29	19	22	26	23	24	32	23	28	325
Stomach	0	0	0	0	0	5	5	5	19	18	21	21	34	50	54	73	77	75	457
Thyroid	1	0	9	30	70	88	143	166	204	192	167	120	102	90	67	58	43	31	1,581
Unknown Primary	1	0	0	2	1	6	5	12	24	41	59	95	101	123	151	225	183	242	1,271
All Other Sites	27	10	24	16	23	28	29	64	95	123	165	168	177	201	271	286	243	330	2,280

Number of Invasive Cancer Cases by Primary Site Sex, Race and Hispanic Ethnicity, Kansas Residents, 1997-2005

Primary Site	Males				Females			
	White	Black	Other*	Hispanic§	White	Black	Other*	Hispanic§
All Sites	54,739	2,662	1,696	1,077	50,881	2,244	1,418	1,118
Bladder (incl <i>in situ</i>)	3,738	93	72	45	1,203	47	30	14
Brain	821	25	10	25	609	22	8	17
Cervix	-	-	-	-	882	75	64	76
Colorectal	6,370	325	153	113	6,112	307	140	119
Corpus Uteri (incl NOS)	-	-	-	-	2,967	105	73	82
Esophagus	706	44	8	15	198	15	1	4
Female Breast	-	-	-	-	15,929	677	409	296
Hodgkins Lymphoma	336	22	11	14	238	15	5	13
Kidney and Renal Pelvis	1,698	81	27	54	1,162	67	18	32
Larynx	742	54	10	16	188	20	6	1
Leukemia	1,622	53	78	60	1,194	40	56	46
Liver and Biliary Tree	658	41	44	33	529	28	15	24
Lung and Bronchus	8,694	496	80	106	6,198	264	73	74
Melanoma of Skin	2,202	4	191	16	1,710	7	177	14
Multiple Myeloma	638	54	14	15	508	62	14	11
Non-Hodgkins Lymphoma	2,381	73	74	70	2,200	71	76	47
Oral Cavity and Pharynx	1,610	78	62	34	750	35	17	12
Ovary	-	-	-	-	1,766	53	36	53
Pancreas	1,078	74	12	25	1,060	74	24	15
Prostate	16,076	904	658	259	-	-	-	-
Soft Tissue	347	15	11	16	292	24	9	10
Stomach	793	63	26	38	404	34	19	24
Testis	610	11	25	29	-	-	-	-
Thyroid	509	15	18	16	1,472	55	54	67
Unknown Primary	1,045	60	26	24	1,188	60	23	28
All Other Sites	2,065	77	86	54	2,122	87	71	39

* include unknown races

- denotes not applicable

§ Hispanic ethnicity is not mutually exclusive of races

Number of Invasive Cancer Cases and Age-adjusted Incidence Rates Region and Sex, Kansas Residents, 1997-2005

Region	All Cases		Male		Female	
	Cases	Rate	Cases	Rate	Cases	Rate
All Regions	113,640	458.7	59,097	543.3	54,543	402.8
Region 1	5,552	454.1	3,091	558.5	2,461	382.5
Region 2	5,034	434.0	2,646	514.6	2,388	380.2
Region 3	5,965	468.4	3,225	568.1	2,740	403.3
Region 4	6,399	449.8	3,392	531.3	3,007	394.8
Region 5	24,326	472.3	12,605	559.2	11,721	415.1
Region 6	5,639	481.9	3,004	577.1	2,635	416.0
Region 7	6,460	425.4	3,543	513.1	2,917	362.0
Region 8	3,286	459.6	1,774	560.7	1,512	389.9
Region 9	6,115	453.7	3,298	536.1	2,817	391.7
Region 10	13,101	467.2	6,722	549.3	6,379	413.3
Region 11	22,585	449.3	10,973	512.3	11,612	411.1
Region 12	9,178	465.5	4,824	566.6	4,354	401.1

Includes *in situ* bladder cancer;
Rates are per 100,000 population and age adjusted to the 2000 U.S. Standard Population

Number of Invasive Cancer Cases for Selected Sites by County Kansas Residents, 1997-2005

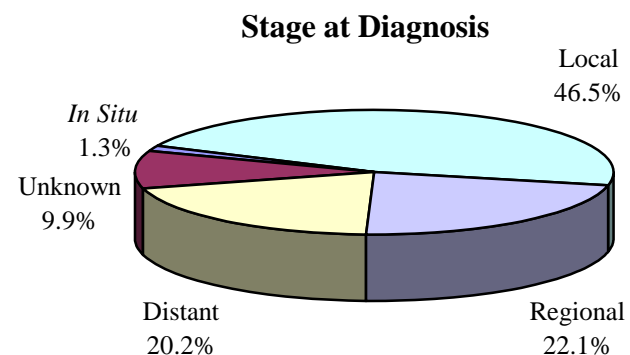
County	Total Cases	Colorectal		Lung and Bronchus		Prostate	Breast	Total Population
		Male	Female	Male	Female	Male	Female	
ALLEN	755	75	53	67	47	101	95	127,717
ANDERSON	476	28	41	39	20	85	63	73,211
ATCHISON	707	48	56	64	42	100	90	151,061
BARBER	312	21	13	26	16	45	43	46,683
BARTON	1,540	117	107	119	81	244	208	253,331
BOURBON	792	67	54	66	39	122	124	137,439
BROWN	543	33	39	48	28	90	82	95,549
BUTLER	2,609	128	132	233	159	446	367	541,126
CHASE	176	9	10	22	11	21	31	27,293
CHAUTAUQUA	246	13	9	27	22	27	35	38,482
CHEROKEE	984	68	66	117	81	117	122	200,159
CHEYENNE	199	14	10	15	5	47	21	27,707
CLARK	136	9	7	17	3	18	17	21,332
CLAY	442	29	24	44	21	87	68	78,702
CLOUD	575	32	50	38	28	100	79	90,840
COFFEY	470	27	17	55	29	73	57	79,202
COMANCHE	144	12	11	17	2	20	18	17,763
COWLEY	1,758	103	97	167	107	244	259	325,334
CRAWFORD	1,823	151	158	152	109	253	227	343,099
DECATUR	194	23	14	18	9	41	25	30,693
DICKINSON	1,071	62	57	102	52	194	154	173,327
DONIPHAN	312	31	22	27	10	35	44	72,906
DOUGLAS	2,877	146	148	181	135	447	544	928,558
EDWARDS	201	17	9	14	7	32	34	30,511
ELK	204	16	19	25	7	36	26	28,986
ELLIS	1,111	55	54	76	47	245	168	246,309
ELLSWORTH	345	22	21	25	22	60	36	57,925
FINNEY	973	62	59	72	50	149	132	354,230
FORD	1,054	75	57	82	66	134	156	292,289
FRANKLIN	1,153	72	62	101	63	177	169	226,783
GEARY	998	64	65	93	46	154	139	240,763
GOVE	178	11	8	16	7	42	17	26,855
GRAHAM	219	7	19	19	7	35	37	26,186
GRANT	276	11	14	20	17	36	34	70,490
GRAY	244	17	10	16	10	37	46	53,007
GREELEY	80	4	4	6	2	12	13	13,455
GREENWOOD	498	28	33	53	35	77	48	68,761
HAMILTON	119	9	4	10	9	14	21	23,778
HARPER	417	29	25	39	32	63	54	57,657
HARVEY	1,560	74	101	107	81	269	236	299,161
HASKELL	120	9	5	11	3	13	22	38,098
HODGEMAN	110	8	5	9	5	23	20	18,990
JACKSON	606	44	36	55	30	114	69	115,259
JEFFERSON	802	50	48	73	43	132	80	166,987
JEWELL	231	19	19	18	14	42	28	32,840
JOHNSON	16,202	835	830	1,052	922	2,089	3,030	4,182,160
KEARNY	125	13	3	5	12	20	21	40,649
KINGMAN	527	47	41	42	19	80	67	76,295
KIOWA	180	6	12	15	7	37	30	28,903
LABETTE	1,101	81	65	107	63	189	140	203,424
LANE	135	9	11	12	6	20	14	18,617
LEAVENWORTH	2,338	141	111	235	146	321	357	631,708
LINCOLN	223	16	10	14	8	42	34	31,635

Number of Invasive Cancer Cases for Selected Sites by County Kansas Residents, 1997-2005

County	Total Cases	Colorectal		Lung and Bronchus		Prostate	Breast	Total Population
		Male	Female	Male	Female	Male	Female	
LINN	456	28	30	53	29	63	52	86,318
LOGAN	200	12	17	9	7	50	23	26,653
LYON	1,312	85	94	110	76	198	171	321,576
MARION	728	41	47	52	32	122	105	119,638
MARSHALL	634	39	43	44	33	144	68	96,973
MCPHERSON	1,440	84	59	97	53	261	240	264,173
MEADE	218	17	10	15	6	45	29	41,479
MIAMI	1,089	69	55	84	73	122	173	257,306
MITCHELL	422	32	23	30	26	69	57	60,954
MONTGOMERY	2,024	133	105	205	146	306	274	321,966
MORRIS	356	21	22	40	23	56	37	54,603
MORTON	171	9	20	12	8	32	26	30,437
NEMAHA	518	31	42	35	18	102	65	94,862
NEOSHO	899	53	55	80	56	147	112	151,532
NESS	226	18	13	12	15	49	20	29,856
NORTON	333	16	19	33	27	57	32	52,837
OSAGE	876	43	44	82	71	145	103	150,994
OSBORNE	296	21	12	16	18	72	50	39,037
OTTAWA	322	15	20	26	19	50	36	55,166
PAWNEE	344	25	19	29	27	58	52	63,305
PHILLIPS	355	29	23	24	15	61	51	52,672
POTTAWATOMIE	768	55	38	68	39	134	99	165,231
PRATT	538	31	31	48	20	108	66	86,328
RAWLINS	217	19	7	13	16	54	24	26,262
RENO	3,245	219	181	231	172	545	438	577,379
REPUBLIC	356	26	33	16	18	68	52	50,563
RICE	575	44	36	59	28	85	71	95,836
RILEY	1,520	86	81	107	81	276	242	564,056
ROOKS	331	23	25	25	14	71	39	50,039
RUSH	251	18	15	27	16	46	42	31,617
RUSSELL	531	35	27	50	28	92	74	64,812
SALINE	2,368	145	160	204	133	359	375	482,740
SCOTT	264	26	12	19	16	57	32	44,718
SEDGWICK	18,081	1,007	983	1,457	1,113	2,911	2,811	4,099,906
SEWARD	668	34	50	61	31	106	98	203,912
SHAWNEE	7,982	468	455	649	493	1,258	1,162	1,532,353
SHERIDAN	148	15	7	11	8	25	21	24,629
SHERMAN	323	16	20	24	15	61	49	58,761
SMITH	309	14	24	36	15	48	42	39,534
STAFFORD	255	19	25	20	12	33	29	42,486
STANTON	106	6	5	9	3	23	11	21,477
STEVENS	213	10	7	12	11	32	35	48,613
SUMNER	1,272	81	77	94	65	192	186	230,463
THOMAS	327	12	19	28	14	76	47	72,452
TREGO	201	11	5	15	12	53	25	29,179
WABAUNSEE	317	21	18	32	13	52	35	61,706
WALLACE	80	8	2	4	3	21	7	15,237
WASHINGTON	389	31	28	34	9	56	59	56,909
WICHITA	132	12	7	12	7	30	13	22,430
WILSON	570	35	37	57	36	76	81	91,743
WOODSON	230	14	20	18	18	28	26	33,647
WYANDOTTE	6,383	389	397	659	456	802	897	1,416,403

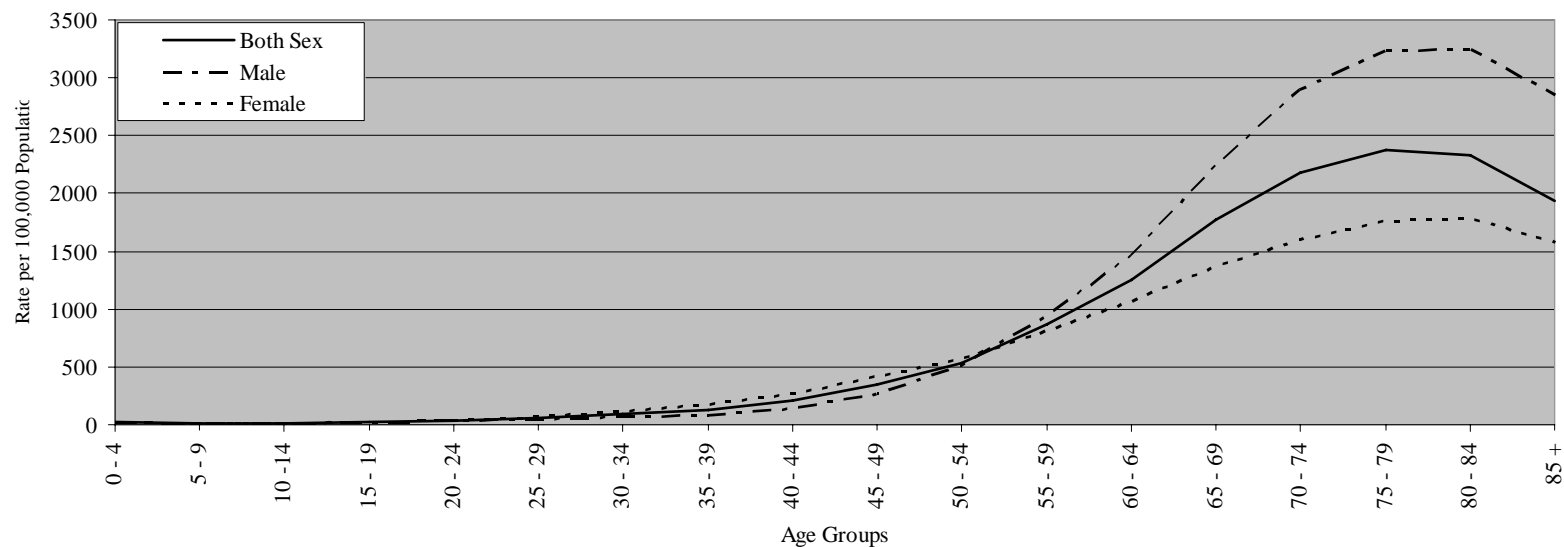
ALL INVASIVE CANCERS COMBINED[†]

		White	Black	Others [‡]	Total
Male	Case	54,739	2,662	1,696	59,097
	Rate*	532.2	647.9	np	543.3
	(CI)	527.8-536.7	622.5-674.2	np	538.9-547.7
Female	Case	50,881	2,244	1,418	54,543
	Rate*	400.1	394.6	np	402.8
	(CI)	396.6-403.6	378.3-411.5	np	399.4-406.3
Total	Case	105,620	4,906	3,114	113,640
	Rate*	452.5	495.7	np	458.7
	(CI)	449.8-455.3	481.7-510.1	np	437.8-461.4



[‡] Includes unknown race. np: not provided. CI: Confidence Interval

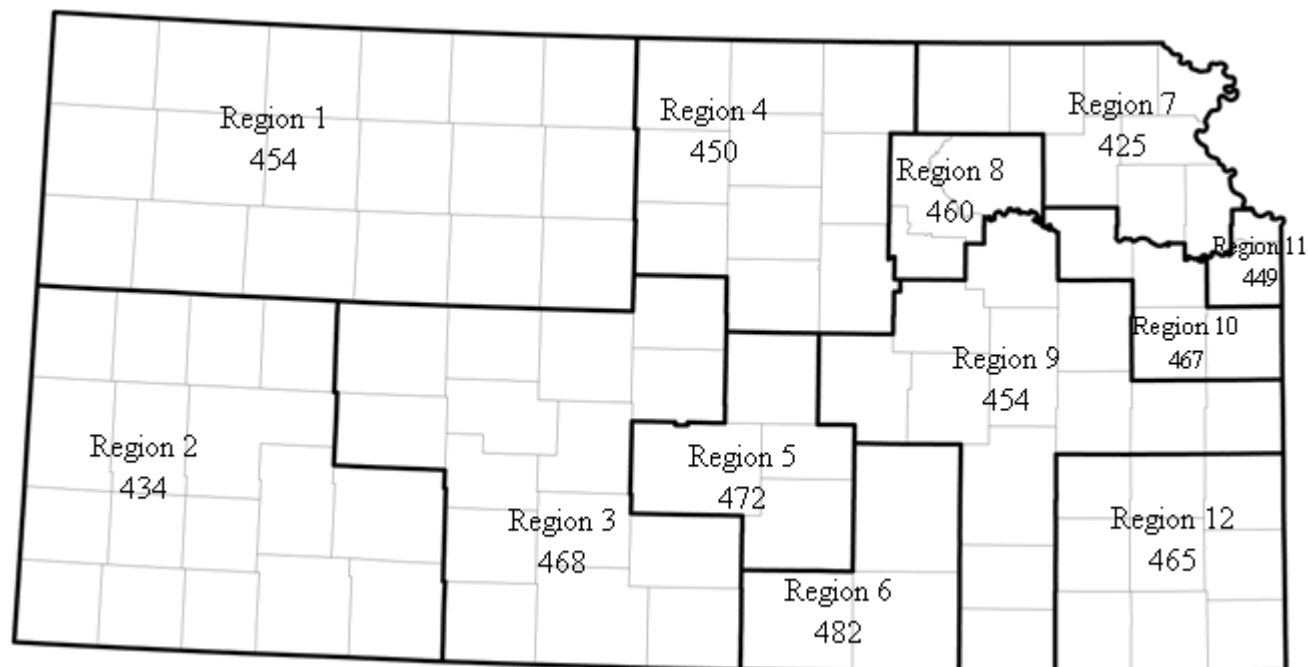
Age-specific Invasive Cancer Incidence Rates by Sex, Kansas Residents



[†]Includes *in situ* bladder cancer

*Rates are per 100,000 population and age-adjusted to the 2000 U.S. Standard Population

Age-adjusted All Invasive Cancer⁺ Incidence Rates* by Region, Kansas Residents, 1997-2005

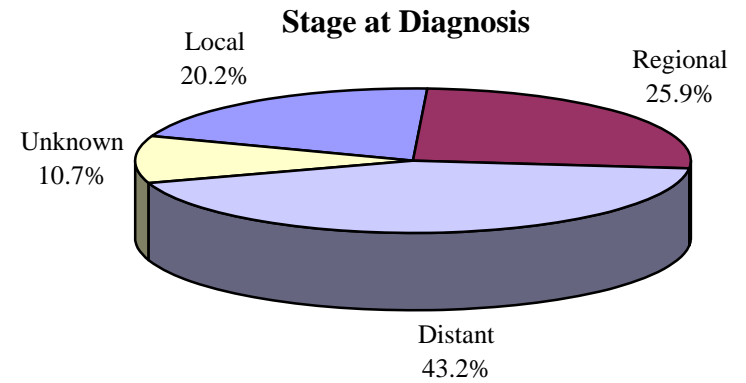


⁺Includes *in situ* bladder cancer

*Rates are per 100,000 population and age-adjusted to the 2000 U.S. Standard Population

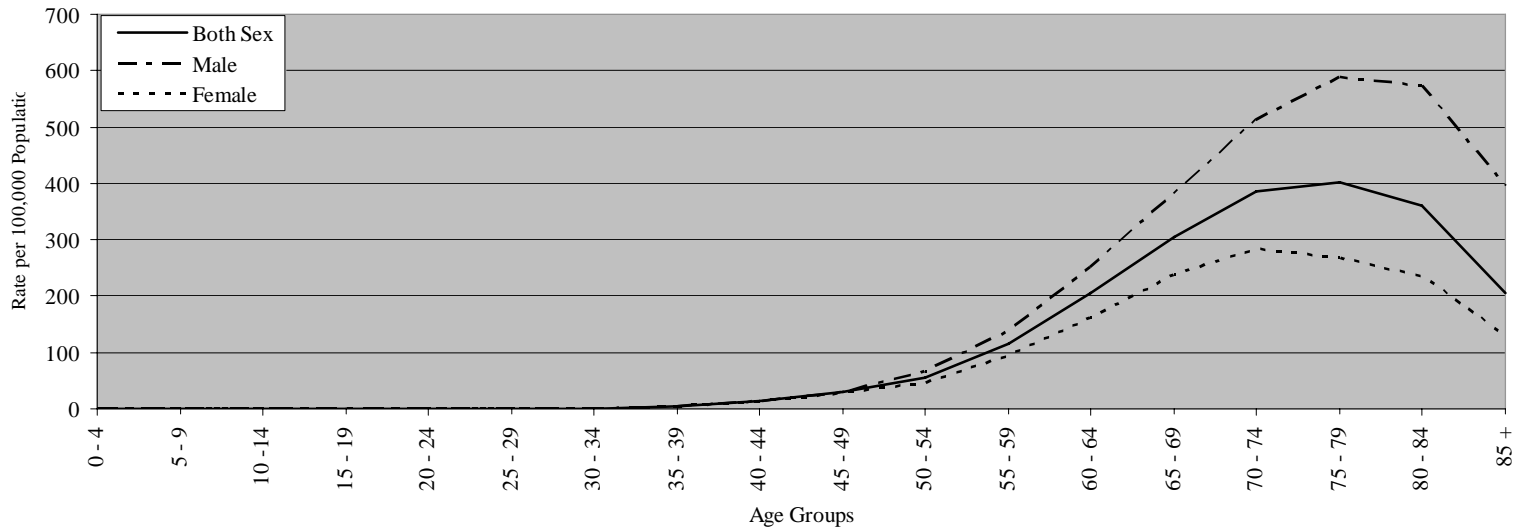
INVASIVE LUNG AND BRONCHUS CANCER

		White	Black	Others [‡]	Total
Male	Case	8,694	496	80	9,270
	Rate*	84.9	124.2	np	85.8
	(CI)	83.1-86.7	113.2-136.2	np	84.1-87.6
Female	Case	6,198	264	73	6,535
	Rate*	48.2	48.2	np	47.9
	(CI)	46.9-49.4	42.5-54.4	np	46.8-49.1
Total	Case	14,892	760	153	15,805
	Rate*	63.6	79.5	np	63.9
	(CI)	62.6-64.7	73.9-85.4	np	62.9-64.9



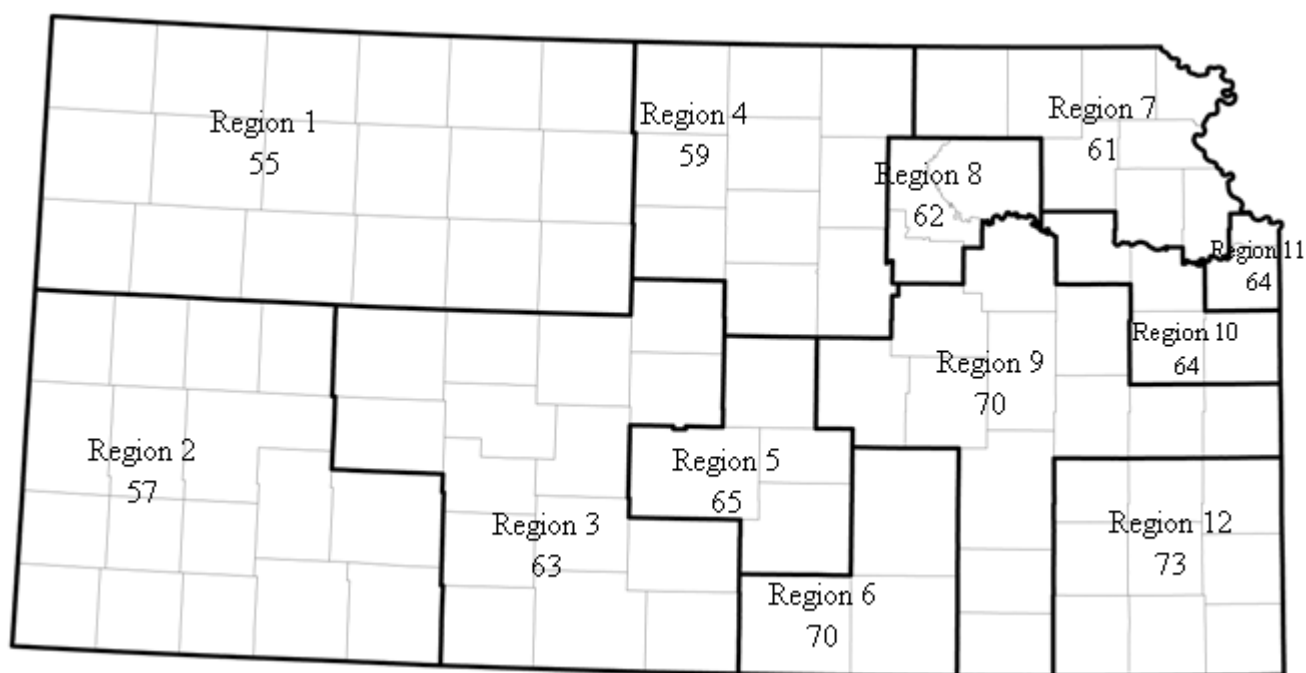
[‡] Includes unknown race. np: not provided. CI: Confidence Interval

Age-specific Invasive Cancer Incidence Rates by Sex, Kansas Residents



*Rates are per 100,000 population and age-adjusted to the 2000 U.S. Standard Population

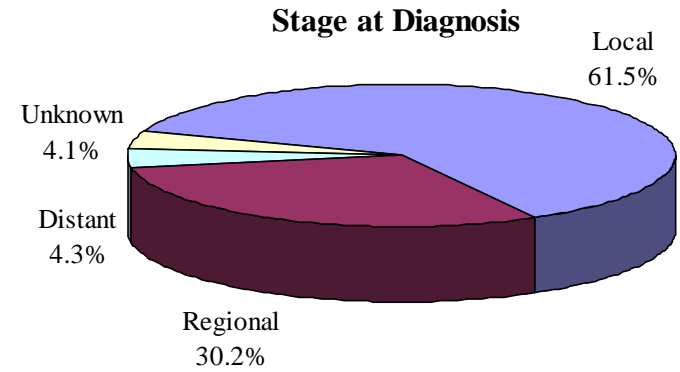
Age-adjusted Invasive Lung and Bronchus Cancer Incidence Rates* by Region, Kansas Residents, 1997-2005



*Rates are per 100,000 population and age-adjusted to the 2000 U.S. Standard Population

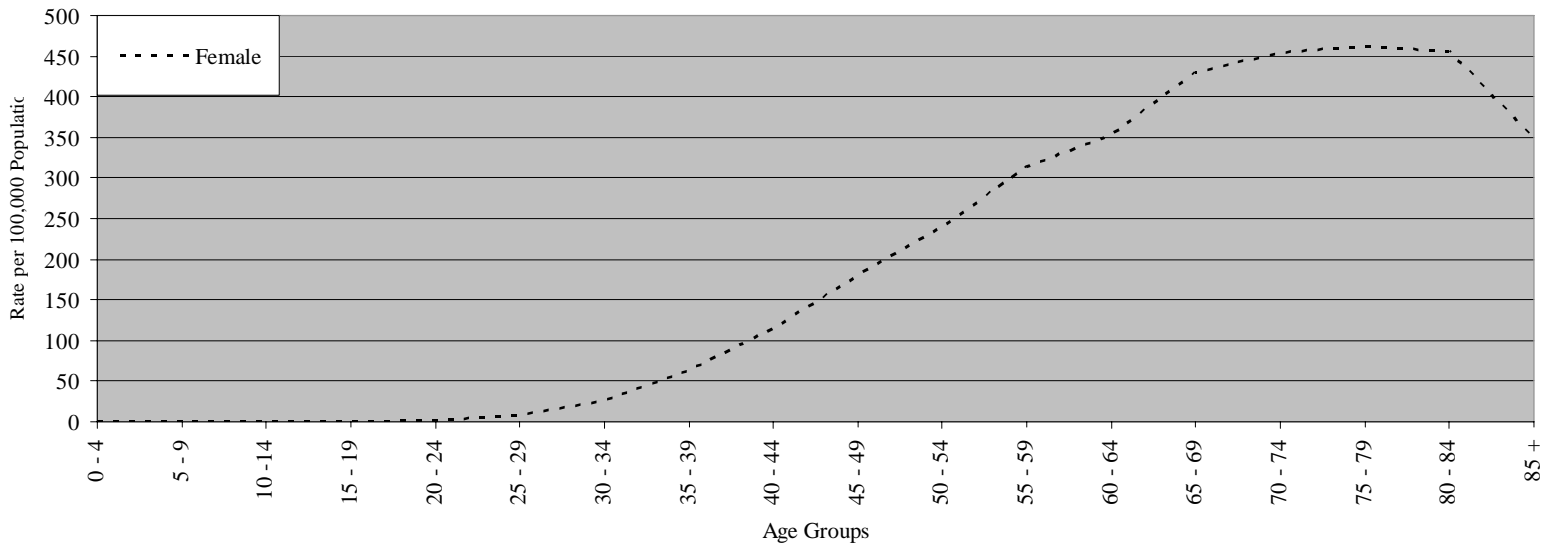
INVASIVE FEMALE BREAST CANCER

		White	Black	Others [‡]	Total
Female	Case	15,929	677	409	17,015
	Rate*	128.8	117.2	np	128.8
	(CI)	126.8-130.9	108.5-126.5	np	126.9-130.8



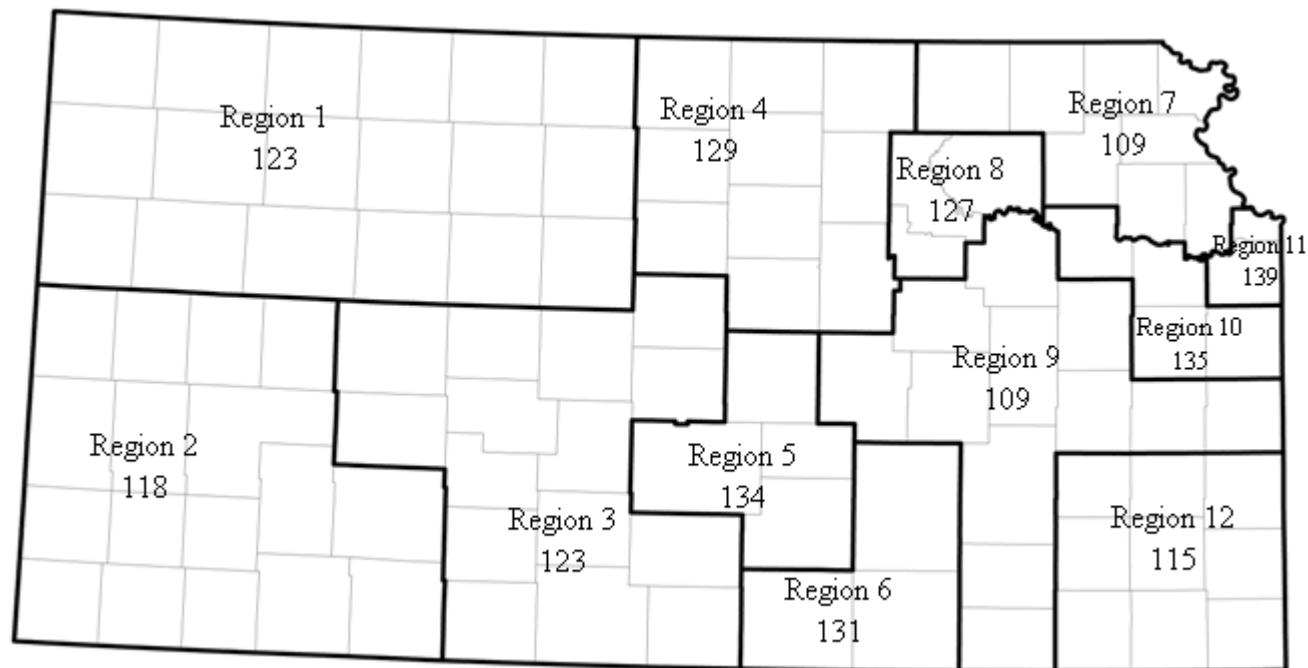
[‡] Includes unknown race. np: not provided. CI: Confidence Interval

Age-specific Invasive Cancer Incidence Rates by Sex, Kansas Residents



*Rates are per 100,000 population and age-adjusted to the 2000 U.S. Standard Population

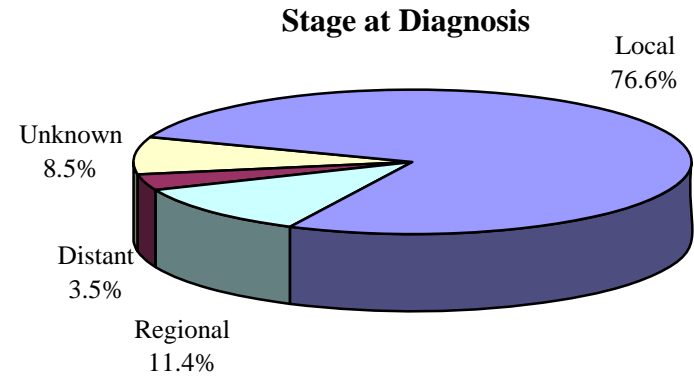
Age-adjusted Invasive Female Breast Cancer Incidence Rates* by Region, Female Kansas Residents, 1997-2005



*Rates are per 100,000 population and age-adjusted to the 2000 U.S. Standard Population

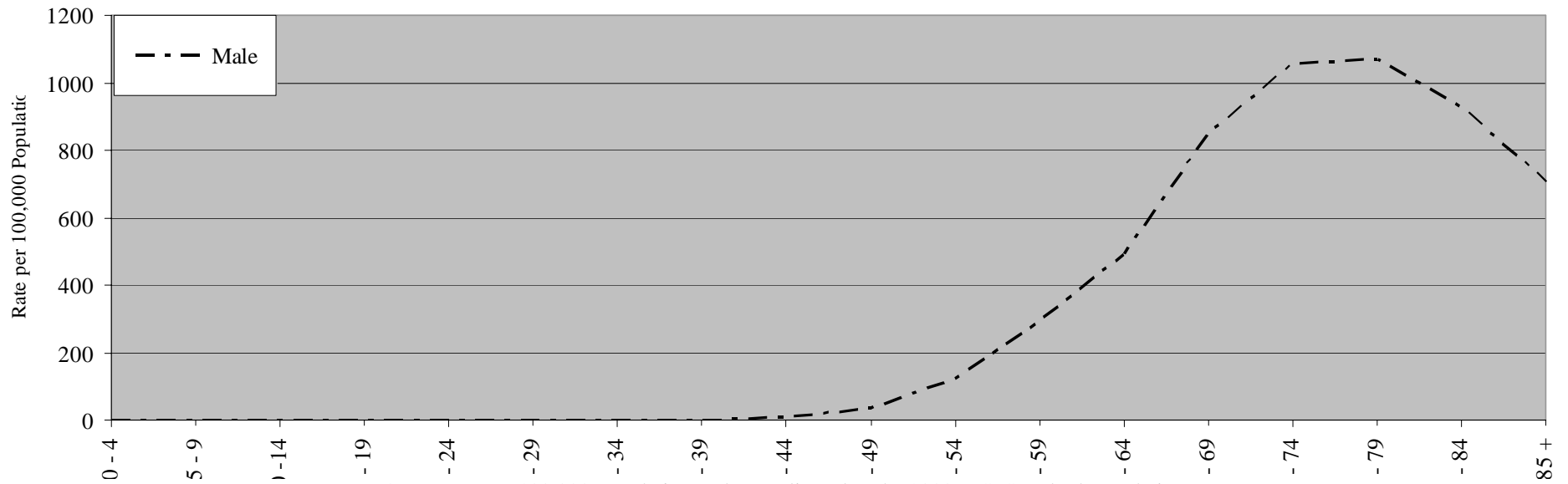
INVASIVE PROSTATE CANCER

		White	Black	Others [‡]	Total
Male	Case	16,076	904	658	17,638
	Rate*	156.5	229.1	np	163.1
	(CI)	154.1-158.9	214.0-245.2	np	160.7-165.5



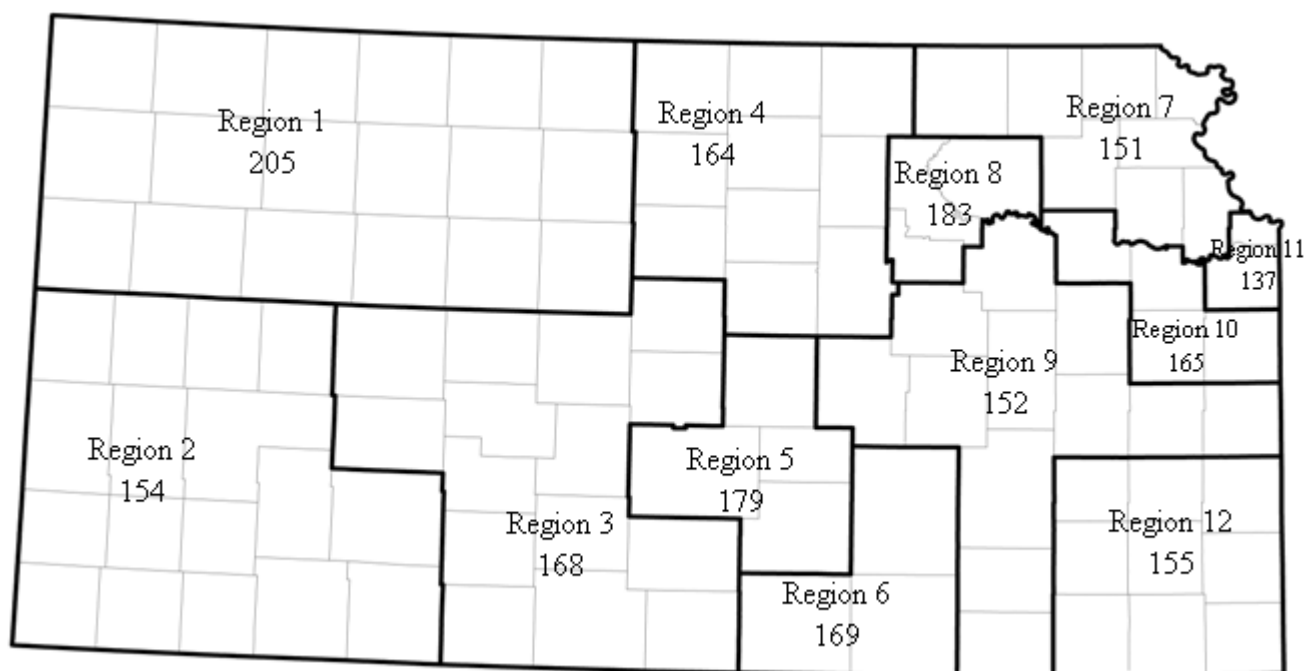
[‡] Includes unknown race. np: not provided. CI: Confidence Interval

Age-specific Invasive Cancer Incidence Rates by Sex, Kansas Residents



*Rates are per 100,000 population and age-adjusted to the 2000 U.S. Standard Population

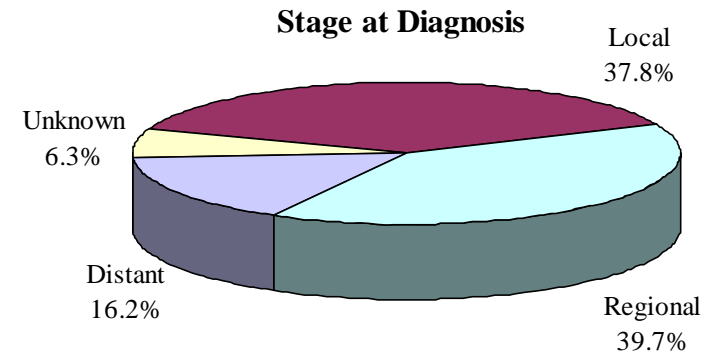
Age-adjusted Invasive Prostate Cancer Incidence Rates* by Region, Male Kansas Residents, 1997-2005



*Rates are per 100,000 population and age-adjusted to the 2000 U.S. Standard Population

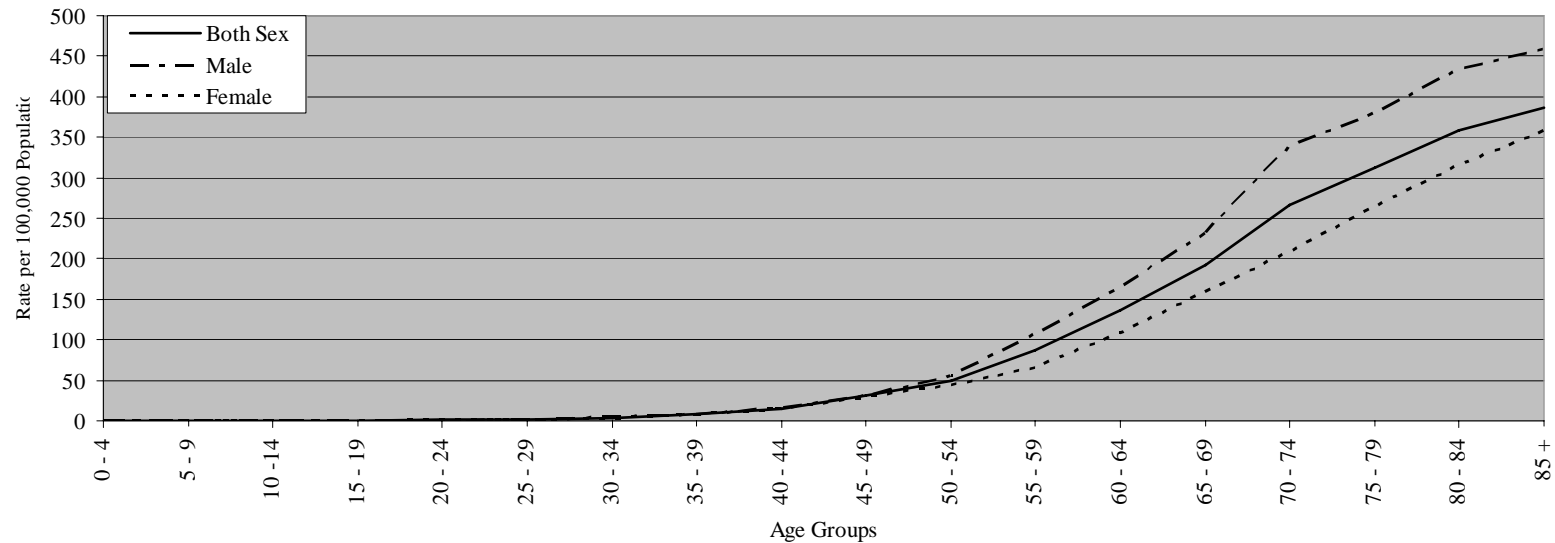
INVASIVE COLORECTAL CANCER

		White	Black	Others [‡]	Total
Male	Case	6,370	325	153	6,848
	Rate*	62.5	81.1	np	63.6
	(CI)	61.0-64.0	72.2-90.9	np	62.1-65.2
Female	Case	6,112	307	140	6,559
	Rate*	44.2	55.8	np	45.1
	(CI)	43.1-45.3	49.7-62.5	np	44.0-46.2
Total	Case	12,482	632	293	13,407
	Rate*	52.2	66.2	np	53.1
	(CI)	51.2-53.1	61.1-71.7	np	52.2-54.1



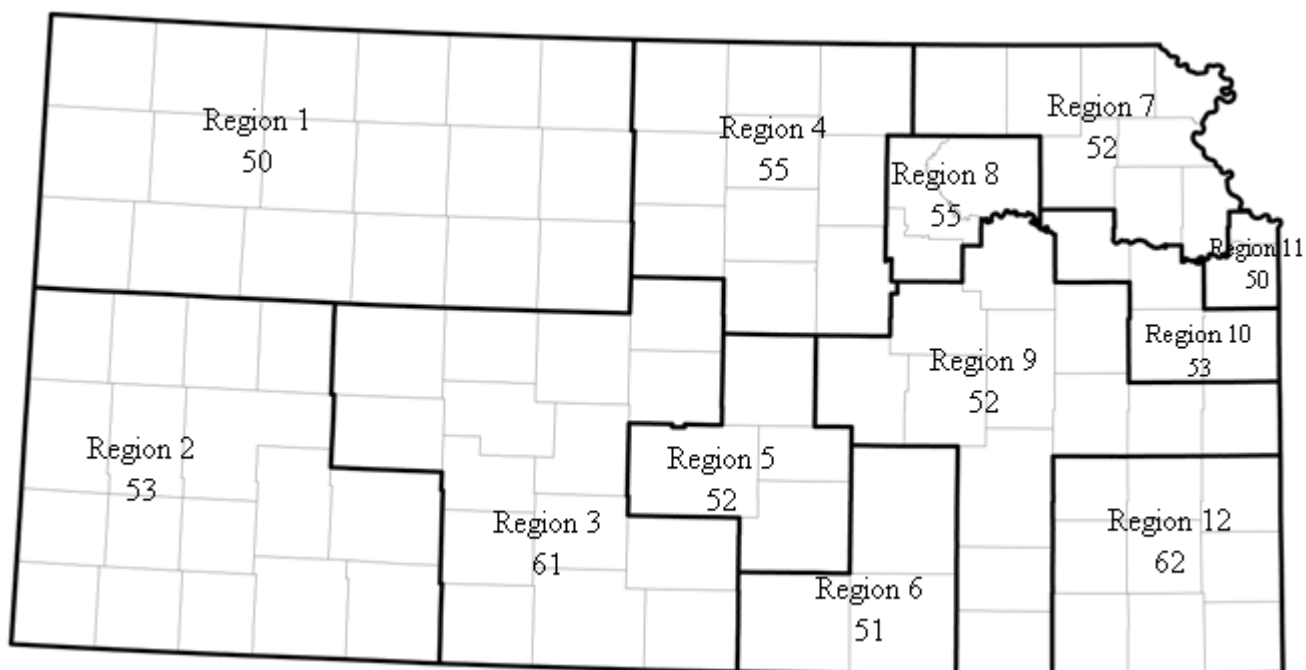
[‡] Includes unknown race. np: not provided. CI: Confidence Interval

Age-specific Invasive Cancer Incidence Rates by Sex, Kansas Residents



*Rates are per 100,000 population and age-adjusted to the 2000 U.S. Standard Population

Age-adjusted Invasive Colorectal Cancer Incidence Rates* by Region, Kansas Residents, 1997-2005



*Rates are per 100,000 population and age-adjusted to the 2000 U.S. Standard Population

Number of New Cancer Cases by Primary Site and Stage Elderly Kansas Residents, 1997-2005

Primary Site	Stage at Diagnosis					
	All Cases	<i>In Situ</i>	Local	Regional	Distant	Unstaged
All Sites	70,633	4,112	30,517	13,953	14,113	7,938
Benign Brain§	174	-	-	-	-	-
Bladder (incl <i>in situ</i>)	3,808	1,096	2,066	315	97	234
Brain	578	-	424	54	6	94
Cervix	219	*	84	92	24	19
Colorectal	9,929	644	3,609	3,664	1,382	630
Corpus Uteri(incl NOS)	1,662	20	1,066	318	158	100
Esophagus	623	14	176	183	141	109
Female Breast	9,390	1,246	5,285	2,058	371	430
Hodgkins Lymphoma	114	-	33	29	38	14
Kidney and Renal Pelvis	1,641	23	846	327	321	124
Larynx	583	36	354	141	23	29
Leukemia	1,719	-	-	-	1,719	-
Liver and Biliary Tree	842	14	213	240	184	191
Lung and Bronchus	10,825	9	2,395	2,721	4,377	1,323
Melanoma of Skin	2,543	829	1,362	150	72	130
Multiple Myeloma	861	-	-	-	861	-
Non-Hodgkins Lymphoma	2,932	-	855	406	1,123	548
Oral Cavity and Pharynx	1,274	41	555	474	110	94
Ovary	897	2	95	139	588	73
Pancreas	1,614	1	197	457	695	264
Prostate	12,446	25	9,438	1,194	481	1,308
Soft Tissue	272	0	145	60	27	40
Stomach	892	13	203	297	227	152
Testis	16	0	10	3	1	2
Thyroid	432	0	261	107	33	31
Unknown Primary	1,652	-	-	-	-	1,652
All Other Sites	2,695	99	845	524	880	347

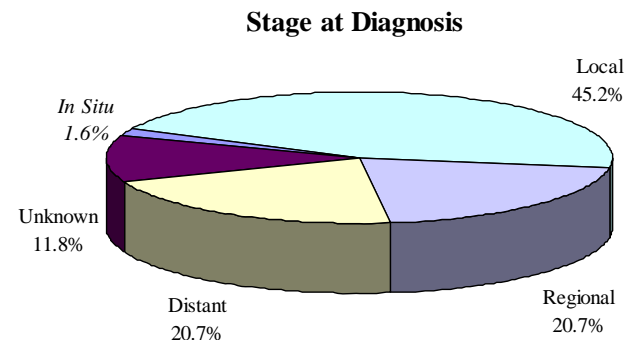
- denotes not applicable

* denotes not reportable

§ benign brain tumor diagnosed in January 2004 and forward

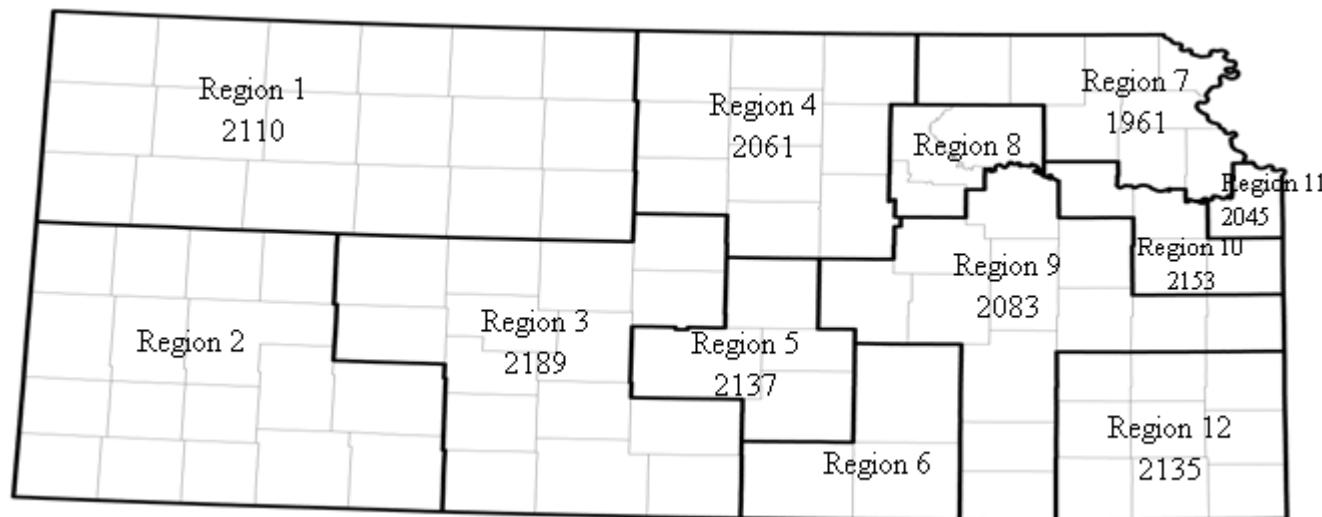
ALL INVASIVE CANCERS COMBINED[†] KANSAS ELDERLY, 1997-2005

		White	Black	Others [‡]	Total
Male	Case	34,777	1,419	906	37,102
	Rate*	2,775.5	3,319.4	np	2,832.0
	(CI)	2746.3-2804.9	3146.4-3499.9	np	2803.2-2861.1
Female	Case	28,807	1,025	508	30,340
	Rate*	1,588.4	1,553.3	np	1,596.6
	(CI)	1569.8-1607.2	1459.4-1651.9	np	1578.4-1614.9
Total	Case	63,584	2,444	1,414	67,442
	Rate*	2,076.8	2,252.1	np	2,104.0
	(CI)		2163.4-2343.7	np	2088.1-2120.0



[‡]Includes unknown race. np: not provided. CI: Confidence Interval

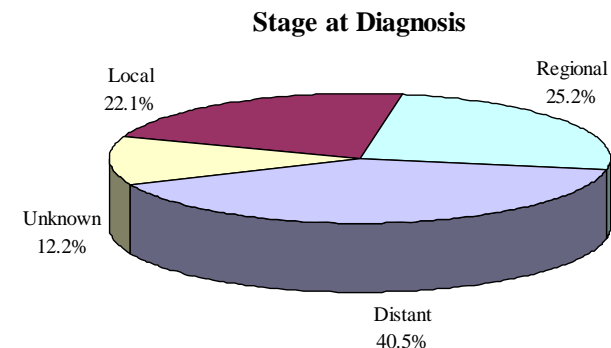
Age-adjusted Incidence Rates* by Regions



*Rates are per 100,000 and age-adjusted to the 2000 U.S. Standard Population;
Rates not shown for regions with elderly average population < 20,000
+includes *in situ* bladder cancer

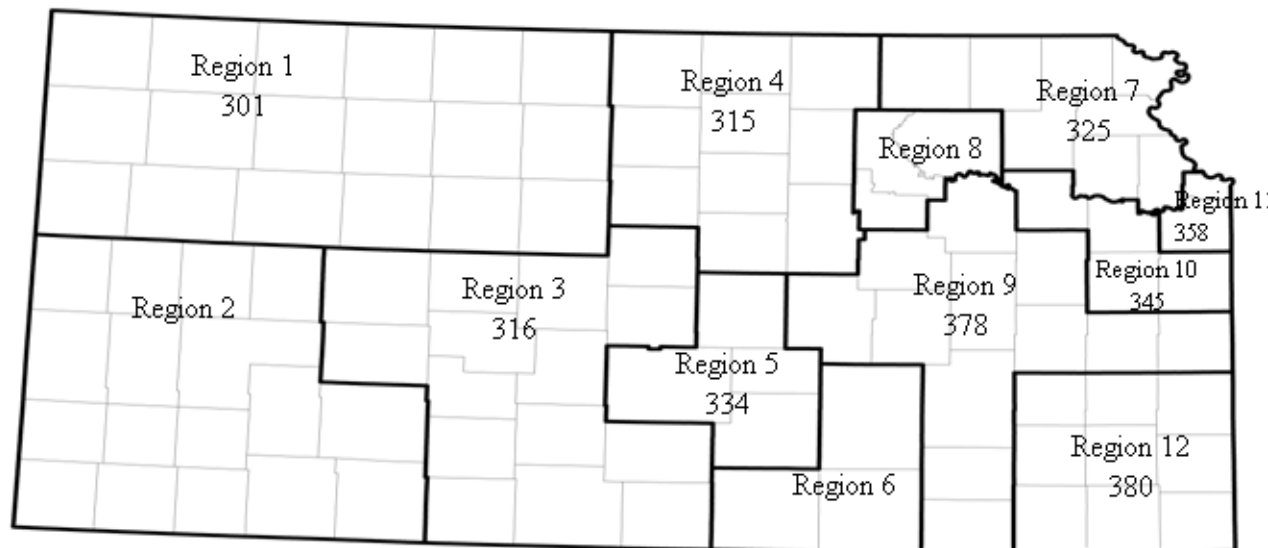
INVASIVE LUNG AND BRONCHUS CANCER KANSAS ELDERLY, 1997-2005

		White	Black	Others [‡]	Total
Male	Case	6,087	278	37	6,402
	Rate*	484.1	651.6		487.1
	(CI)	472.0-496.5	576.2-734.8	np	475.2-499.2
Female	Case	4,234	144	36	4,414
	Rate*	243.7	218.4		241.8
	(CI)	236.3-251.2	184.1-257.4	np	234.7-249.2
Total	Case	10,321	422	73	10,816
	Rate*	341.6	386.9		341.5
	(CI)	335.0-348.3	350.7-425.9	np	335.1-348.0



[‡]Includes unknown race. np: not provided. CI: Confidence Interval

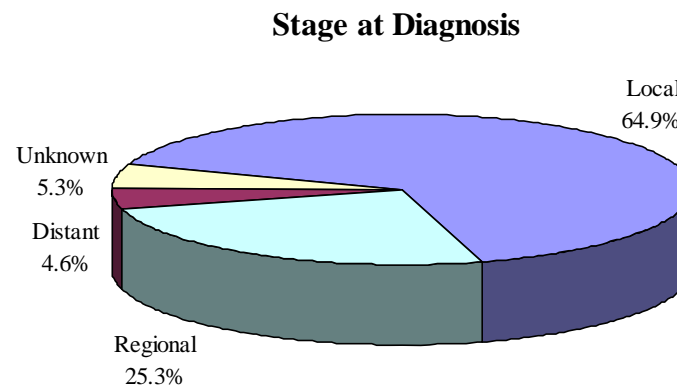
Age-adjusted Incidence Rates* by Regions



*Rates are per 100,000 and age-adjusted to the 2000 U.S. Standard Population;
Rates not shown for regions with elderly average population < 20,000

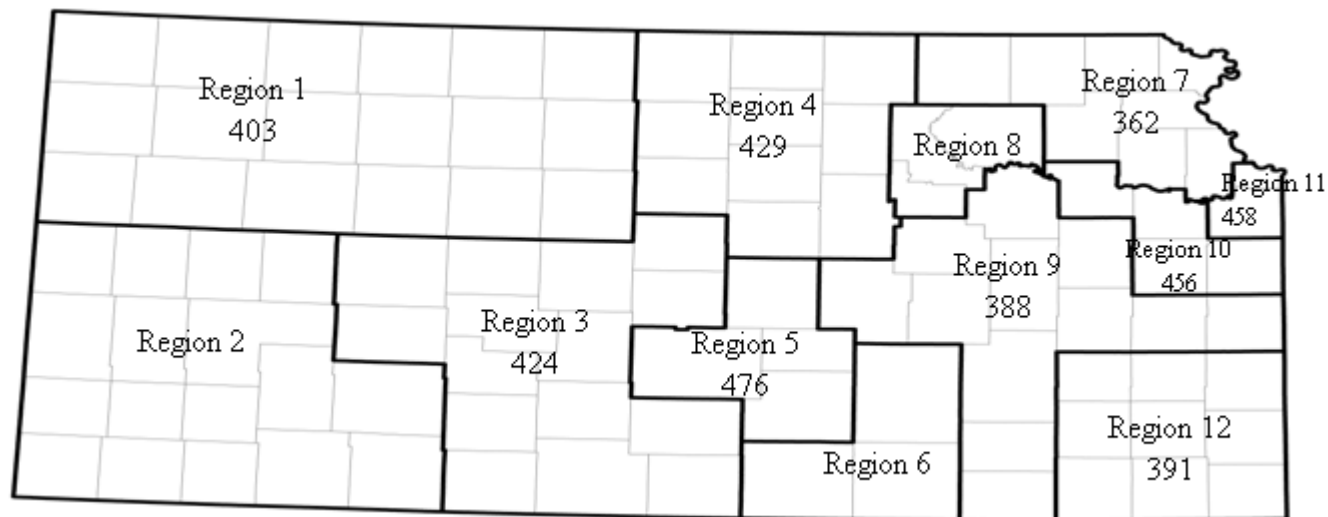
INVASIVE FEMALE BREAST CANCER KANSAS ELDERLY, 1997-2005

		White	Black	Others [‡]	Total
Female	Case	7,751	234	159	8,144
	Rate*	436.1	354.5	np	436.5
	(CI)	426.3-446.1	310.4-403.2	np	427.0-446.3



[‡]Includes unknown race. np: not provided. CI: Confidence Interval

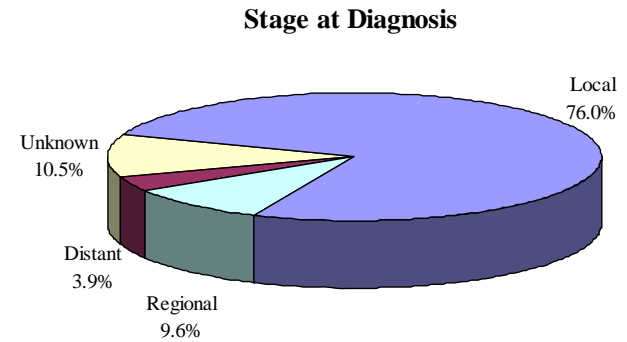
Age-adjusted Incidence Rates* by Regions



*Rates are per 100,000 and age-adjusted to the 2000 U.S. Standard Population;
Rates not shown for regions with elderly average population < 20,000

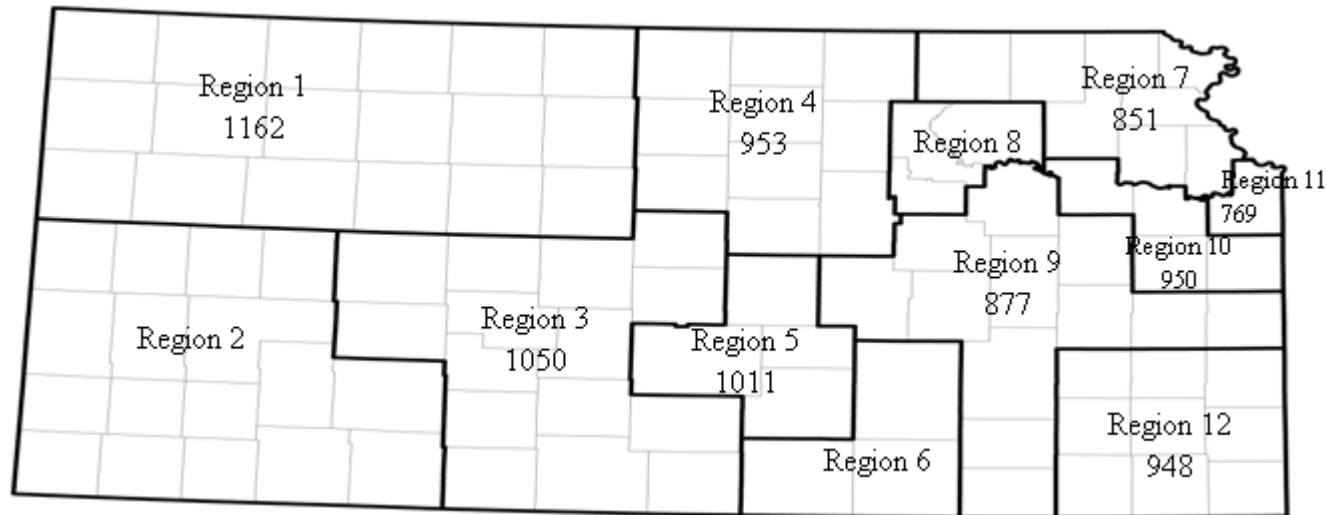
INVASIVE PROSTATE CANCER KANSAS ELDERLY, 1997-2005

		White	Black	Others [‡]	Total
Male	Case	11,367	545	509	12,421
	Rate*	900.8	1,255.3	np	941.1
	(CI)	884.3-917.5	1150.7-1367.5	np	924.6-957.9



[‡]Includes unknown race. np: not provided. CI: Confidence Interval

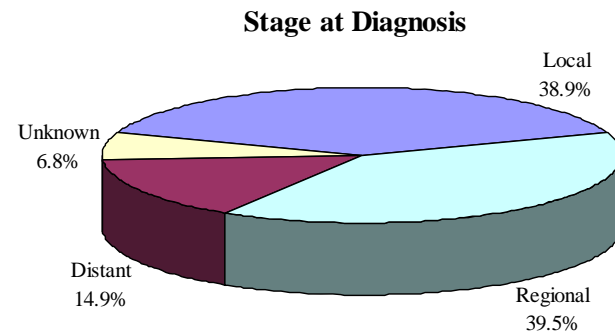
Age-adjusted Incidence Rates* by Regions



*Rates are per 100,000 and age-adjusted to the 2000 U.S. Standard Population;
Rates not shown for regions with elderly average population < 20,000

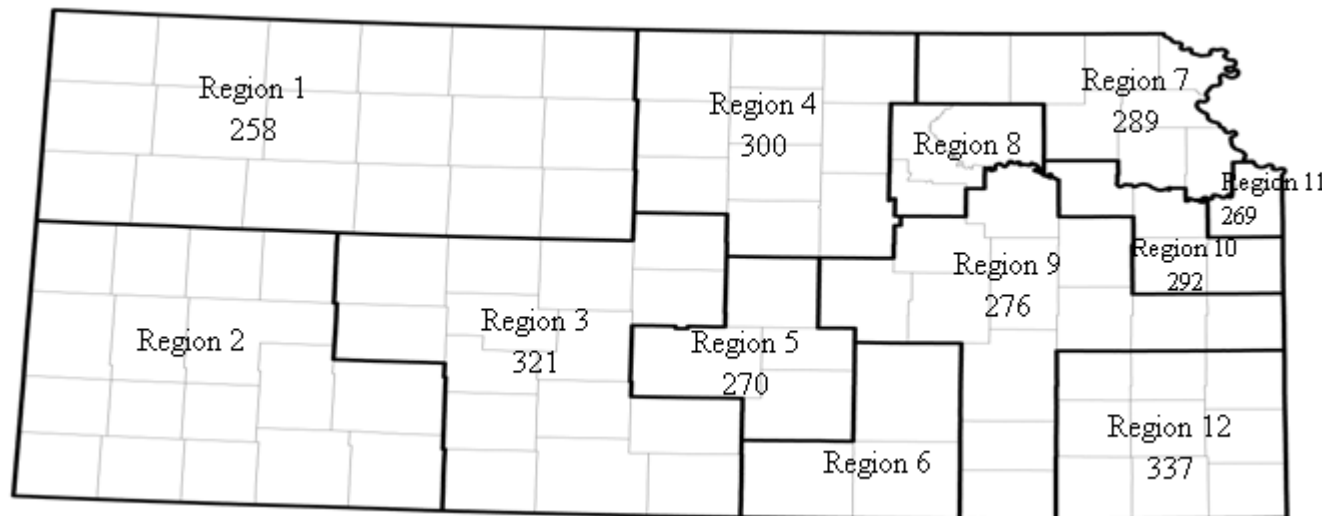
INVASIVE COLORECTAL CANCER KANSAS ELDERLY, 1997-2005

		White	Black	Others [‡]	Total
Male	Case	4,262	178	67	4,507
	Rate*	342.8	426.6	np	346.8
	(CI)	332.5-353.2	365.4-495.7	np	336.7-357.1
Female	Case	4,539	177	62	4,778
	Rate*	238.8	266.3	np	240.6
	(CI)	231.7-246.0	228.4-308.9	np	233.7-247.7
Total	Case	8,801	355	129	9,285
	Rate*	281.8	329.8	np	284.5
	(CI)	275.9-287.8	296.3-366.2	np	278.7-290.4



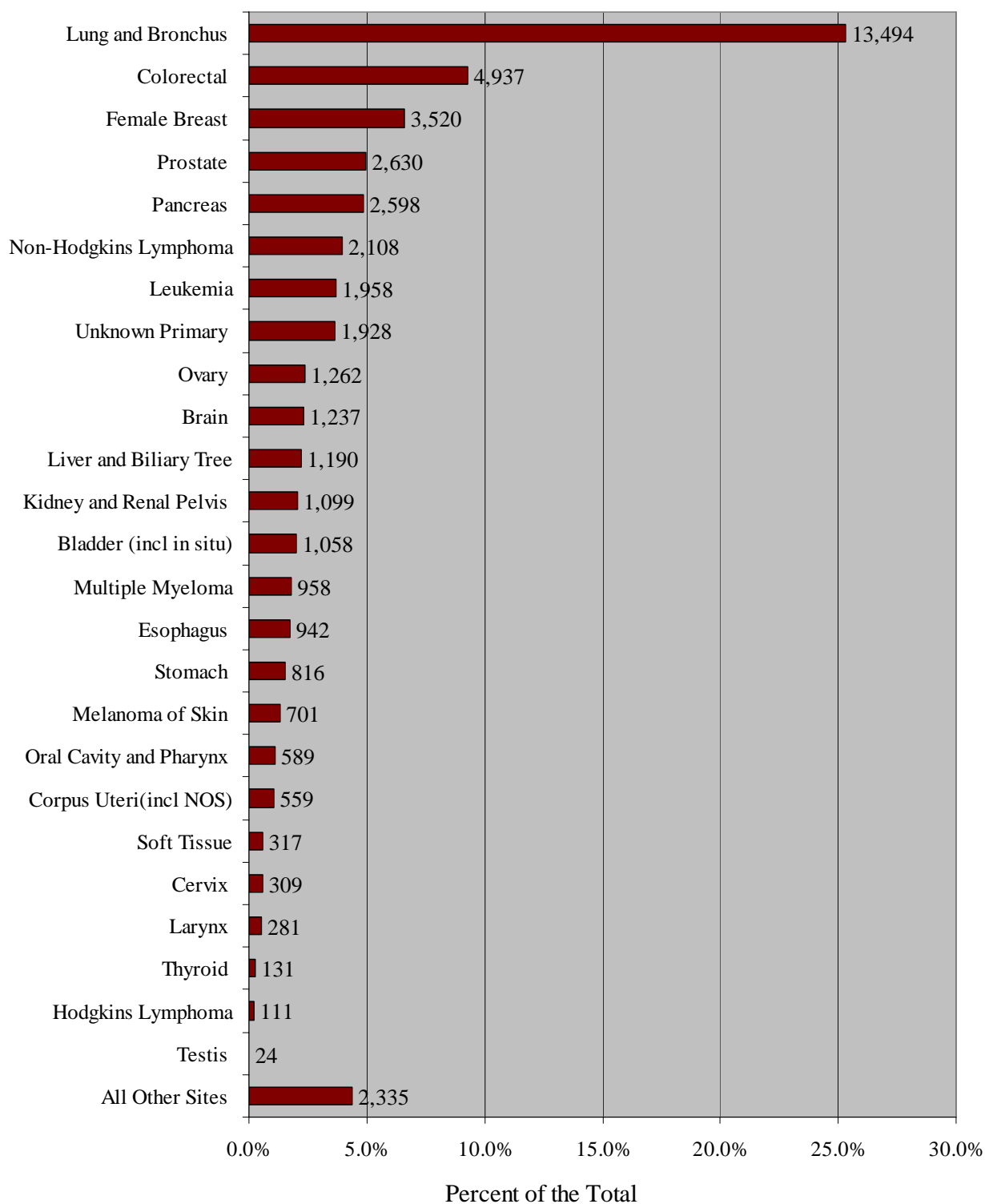
[‡]Includes unknown race. np: not provided. CI: Confidence Interval

Age-adjusted Incidence Rates* by Regions

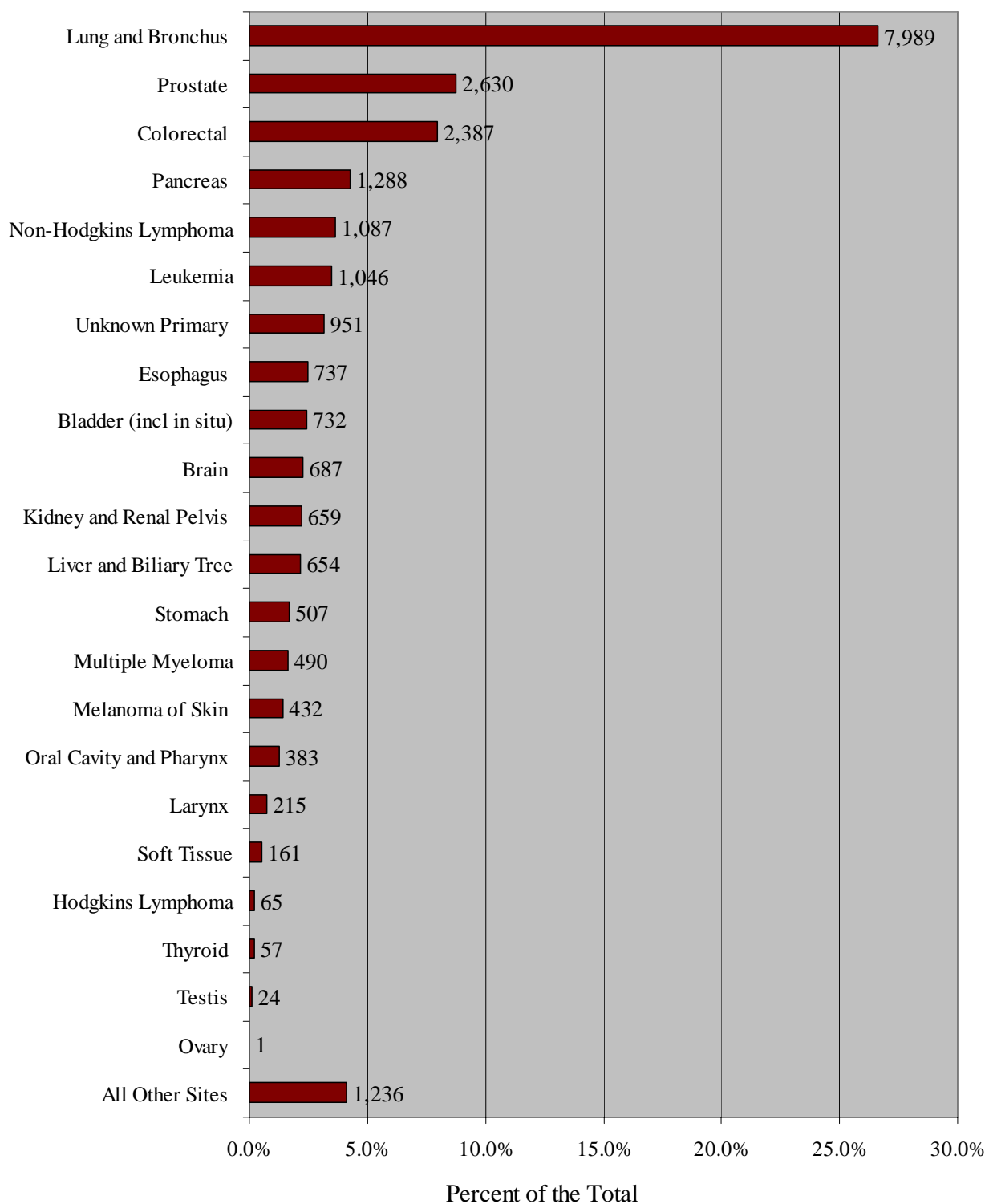


*Rates are per 100,000 and age-adjusted to the 2000 U.S. Standard Population;
Rates not shown for regions with elderly average population < 20,000

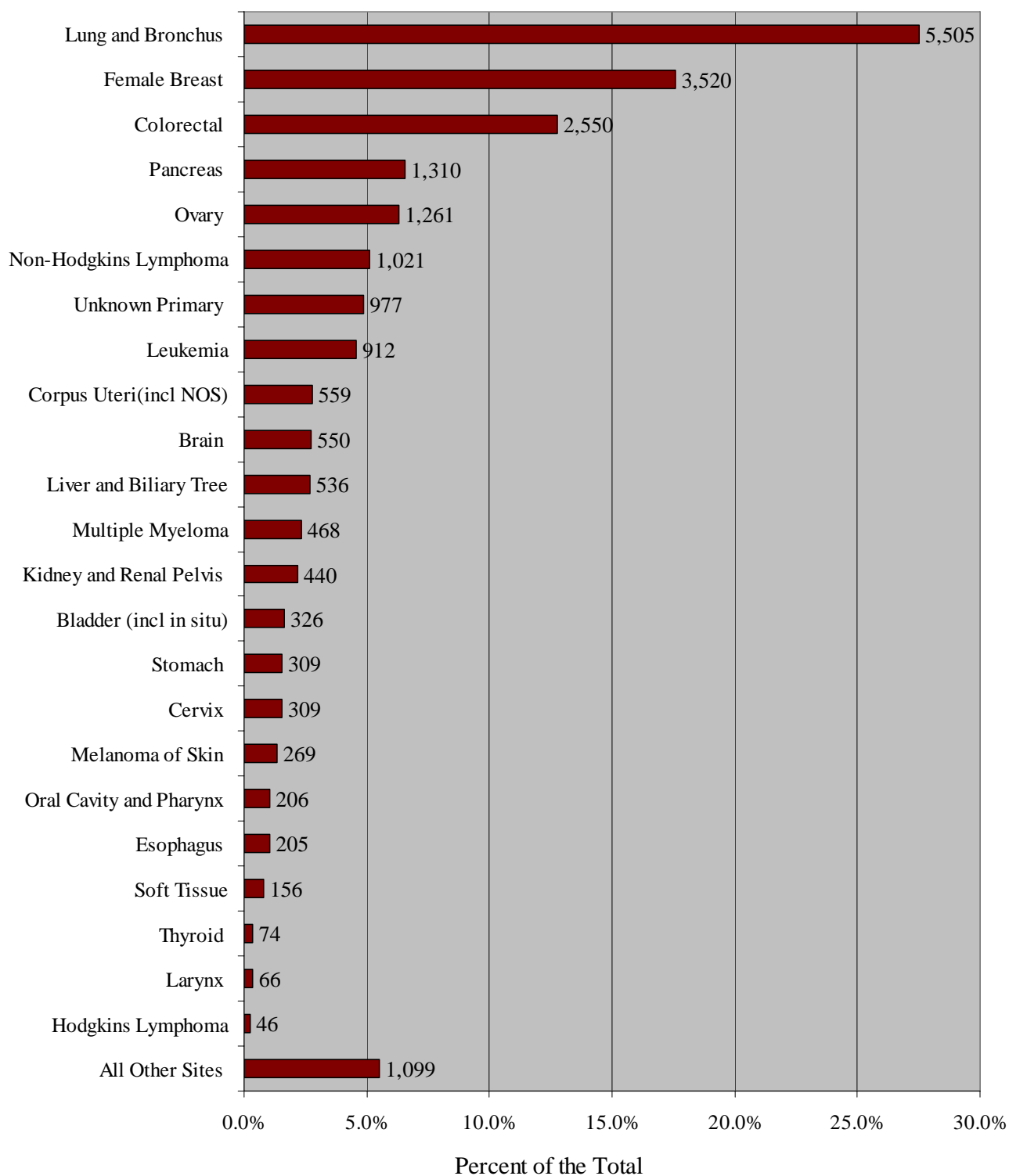
Number and Percent of Invasive Cancer Deaths by Underlying Cause of Death, Kansas Residents, 1997-2005



Number and Percent of Invasive Cancer Deaths by Underlying Cause of Death, Male Kansas Residents, 1997-2005



Number and Percent of Invasive Cancer Deaths by Underlying Cause of Death, Female Kansas Residents, 1997-2005



Number of Cancer Deaths by Underlying Cause of Death, Sex and Race, Kansas Residents, 1997-2005

Primary Site	All Cases	Males				Females			
		All Races	White	Black	Other	All Races	White	Black	Other
All Sites	47,092	24,418	22,777	1,331	310	22,674	21,258	1,095	321
Bladder (incl <i>in situ</i>)	1,058	732	702	22	8	326	306	17	3
Brain	1,237	687	660	20	7	550	535	11	4
Cervix	309	-	-	-	-	309	277	21	11
Colorectal	4,937	2,387	2,211	143	33	2,550	2,387	136	27
Corpus Uteri(incl NOS)	559	-	-	-	-	559	512	41	6
Esophagus	942	737	687	39	11	205	185	15	5
Female Breast	3,520	-	-	-	-	3,520	3,257	210	53
Hodgkins Lymphoma	111	65	59	6	0	46	43	3	0
Kidney and Renal Pelvis	1,099	659	625	26	8	440	415	23	2
Larynx	281	215	190	24	1	66	54	10	2
Leukemia	1,958	1,046	998	41	7	912	874	28	10
Liver and Biliary Tree	1,190	654	589	35	30	536	494	27	15
Lung and Bronchus	13,494	7,989	7,486	408	95	5,505	5,206	209	90
Melanoma of Skin	701	432	429	1	2	269	264	2	3
Multiple Myeloma	958	490	452	32	6	468	418	48	2
Non-Hodgkins Lymphoma	2,108	1,087	1,042	30	15	1,021	977	33	11
Oral Cavity and Pharynx	589	383	352	21	10	206	193	11	2
Ovary	1,262	-	-	-	-	1,261	1,199	47	15
Pancreas	2,598	1,288	1,197	77	14	1,310	1,201	85	24
Prostate	2,630	2,630	2,388	222	20	-	-	-	-
Soft Tissue	317	161	149	11	1	156	141	13	2
Stomach	816	507	447	48	12	309	275	24	10
Testis	24	24	21	3	0	-	-	-	-
Thyroid	131	57	54	2	1	74	73	0	1
Unknown Primary	1,928	951	878	61	12	977	924	39	14
All Other Sites	2,335	1,236	1,160	59	17	1,099	1,048	42	9

- denotes not applicable

Number of Cancer Deaths and Age-adjusted Death Rates by Site, Kansas Residents, 1997-2005

Primary Site	Number of Deaths	Rate
All Sites	47,092	184.2
Bladder (incl <i>in situ</i>)	1,058	4.0
Brain	1,237	5.0
Cervix	309	1.3
Colorectal	4,937	19.0
Corpus Uteri(incl NOS)	559	2.2
Esophagus	942	3.7
Female Breast	3,520	13.8
Hodgkins Lymphoma	111	0.4
Kidney and Renal Pelvis	1,099	4.3
Larynx	281	1.1
Leukemia	1,958	7.6
Liver and Biliary Tree	1,190	4.7
Lung and Bronchus	13,494	53.8
Melanoma of Skin	701	2.8
Multiple Myeloma	958	3.7
Non-Hodgkins Lymphoma	2,108	8.2
Oral Cavity and Pharynx	589	2.3
Ovary	1,262	5.0
Pancreas	2,598	10.2
Prostate	2,630	9.8
Soft Tissue	317	1.3
Stomach	816	3.2
Testis	24	0.1
Thyroid	131	0.5
Unknown Primary	1,928	7.5
All Other Sites	2,335	9.0

*Rates are per 100,000 population and age adjusted to the 2000 U.S. Standard Population

APPENDIX – A

Expected Number of Invasive Cancers by Race and Age, Kansas, 1997-2005

Age Group in Years	White Female			White Male			Total
	Kansas ¹ Population	Iowa SEER Rates per 100,000 ²	Expected Cases	Kansas ¹ Population	Iowa SEER Rates per 100,000 ²	Expected Cases	Expected Cases
0 - 4	722,038	20	144	762,585	25	191	335
5 - 9	737,858	12	89	779,487	13	101	190
10 - 14	780,534	15	117	826,519	12	99	216
15 - 19	802,238	22	176	852,791	22	188	364
20 - 24	751,711	40	301	803,622	33	265	566
25 - 29	668,665	71	475	712,340	46	328	802
30 - 34	698,655	106	741	723,661	65	470	1,211
35 - 39	800,587	161	1,289	806,272	87	701	1,990
40 - 44	864,072	251	2,169	862,856	126	1,087	3,256
45 - 49	812,500	392	3,185	817,491	231	1,888	5,073
50 - 54	693,911	572	3,969	700,017	512	3,584	7,553
55 - 59	554,090	801	4,438	540,941	916	4,955	9,393
60 - 64	450,346	1,063	4,787	422,215	1,426	6,021	10,808
65 - 69	408,712	1,365	5,579	359,258	2,266	8,141	13,720
70 - 74	396,711	1,674	6,641	321,282	2,904	9,330	15,971
75 - 79	369,258	1,921	7,093	266,933	3,193	8,523	15,617
80 - 84	296,216	2,011	5,957	176,390	3,445	6,077	12,034
85 +	330,641	2,014	6,659	133,504	3,403	4,543	11,202
Total	11,138,743		53,809	10,868,164		56,493	110,302

¹2000 Population from U.S. Census Bureau 2001 (Census 2000 Summary File 1)

²Iowa SEER age-sex-race specific average annual rate per 100,000 for 1994-1998

Age Group in Years	Black Female			Black Male			Total
	Kansas ¹ Population	Iowa SEER Rates per 100,000 ²	Expected Cases	Kansas ¹ Population	Iowa SEER Rates per 100,000 ²	Expected Cases	Expected Cases
0 - 4	74,494	8	6	78,815	24	19	25
5 - 9	73,143	15	11	77,362	29	22	33
10 - 14	70,996	8	6	74,691	22	16	22
15 - 19	65,831	22	14	72,579	20	15	29
20 - 24	61,625	27	17	69,883	0	0	17
25 - 29	52,596	52	27	57,908	40	23	51
30 - 34	51,803	76	39	54,127	52	28	68
35 - 39	55,420	176	98	57,881	82	47	145
40 - 44	55,980	205	115	57,592	181	104	219
45 - 49	46,048	441	203	45,457	418	190	393
50 - 54	35,486	617	219	34,351	800	275	494
55 - 59	27,098	937	254	23,837	1,317	314	568
60 - 64	21,575	1,071	231	18,349	2,013	369	600
65 - 69	19,257	1,561	301	14,731	2,284	336	637
70 - 74	16,042	1,836	295	11,330	4,275	484	779
75 - 79	12,864	2,275	293	8,300	2,855	237	530
80 - 84	8,920	1,714	153	4,936	4,520	223	376
85 +	9,196	1,437	132	4,124	4,000	165	297
Total	758,374		2,413	766,253		2,869	5,282

¹2000 Population from U.S. Census Bureau 2001 (Census 2000 Summary File 1)

²Iowa SEER age-sex-race specific average annual rate per 100,000 for 1994-1998

Age Group in Years	Other Races Female			Other Races Male			Total
	Kansas ¹ Population	Iowa SEER Rates per 100,000 ²	Expected Cases	Kansas ¹ Population	Iowa SEER Rates per 100,000 ²	Expected Cases	Expected Cases
0 - 4	31,279	17	5	32,208	9	3	8
5 - 9	30,009	0	0	30,845	10	3	3
10 - 14	29,323	20	6	30,585	29	9	15
15 - 19	31,256	0	0	32,821	10	3	3
20 - 24	36,599	16	6	40,618	7	3	9
25 - 29	39,255	57	22	39,901	26	10	33
30 - 34	35,028	97	34	35,903	33	12	46
35 - 39	31,054	113	35	30,448	115	35	70
40 - 44	29,707	248	74	26,856	111	30	103
45 - 49	25,775	207	53	22,658	179	41	94
50 - 54	21,313	443	94	18,680	247	46	141
55 - 59	15,191	426	65	13,215	632	84	148
60 - 64	10,729	658	71	9,539	896	85	156
65 - 69	7,389	781	58	6,541	1,296	85	142
70 - 74	5,476	1,509	83	4,017	1,964	79	162
75 - 79	3,516	501	18	2,478	1,656	41	59
80 - 84	2,209	2,432	54	1,371	2,273	31	85
85 +	1,796	831	15	861	2,083	18	33
Total	386,904		692	379,545		618	1,309

¹2000 Population from U.S. Census Bureau 2001 (Census 2000 Summary File 1)

²Iowa SEER age-sex-race specific average annual rate per 100,000 for 1994-1998

Appendix – B

Primary Site	ICD-O-3⁺	ICD-9	ICD-10
Oral Cavity and Pharynx	C00.0 - C14.8	140-149	C00.0 – C14.8
Esophagus	C15.0 – C15.9	150	C15.0 – C15.9
Stomach	C16.0 – C16.9	151	C16.0 – C16.9
Colorectal	C18.0 – C18.9 C19.9 C20.9 C26.0	152-154	C18.0 – C18.9 C19.9 C20.9 C26.0
Liver and Biliary Tree	C22.0 – C22.1 C23.9 C24.0 – C24.9	155-156	C22.0 – C22.9 C23.9 C24.0 – C24.9
Pancreas	C25.0 – C25.9	157	C25.0 – C25.9
Larynx	C32.0 – C32.9	161	C32.0 – C32.9
Lung and Bronchus	C34.0 – C34.9	162	C34.0 – C34.9
Soft Tissue	C47.0 – C47.9 C49.0 – C49.9	192 171	C47.0 – C47.9 C49.0 – C49.9
Melanoma of Skin	C44.0 – C44.9 & M8720 – M8780	172	C43.0 – C43.9
Female Breast	C50.0 – C50.9 (Sex = 2)	174	C50.0 – C50.9
Cervix	C53.0 – C53.9	180	C53.0 – C53.9
Corpus Uteri	C54.0 – C54.9 C55.9	182 179	C54.0 – C54.9 C55.9
Ovary	C56.9	183	C56.9
Prostate	C61.9	185	C61.9
Testis	C62.0 – C62.9	186	C62.0 – C62.9
Bladder	C67.0 – C67.9	188	C67.0 – C67.9
Kidney and Renal Pelvis	C64.9 C65.9	189	C64.9 C65.9
Brain	C71.0 – C71.9	191	C71.0 – C71.9
Thyroid	C73.9	193	C73.9
Hodgkins Lymphoma*	M9650 – M9667	201	C81.0 – C81.9
Non-Hodgkins Lymphoma*	M9590 – M9596 M9670 – M9719 M9727 – M9729 M9823 and M9827	202	C82.0 – C82.9 C83.0 – C83.9 C84.0 – C84.9 C85.0 – C85.9

SITE CODES USED FOR MAJOR SITE HEADINGS			
Primary Site	ICD-O-3⁺	ICD-9	ICD-10
Multiple Myeloma*	M9731 – M9732	203	C90.0 C90.2
Leukemia*	M9800 – M9948	204-208	C91.0 – C91.9 C92.0 – C92.9 C93.0 – C93.9 C94.0 – C94.9 C95.0 – C95.9
Unknown Primary	C80.9	199	C80.9
Ill-Defined Sites	N/A	195	C76.0 – C76.8
Skin, non-melanoma	N/A	173	C44.0 – C44.9
All Other Sites	Includes all ICD-O-3 site codes not specified above	Includes all ICD-9 site codes not specified above	Includes all ICD-10 site codes not specified above

⁺ At all sites, only morphologies with a behavior code of “3” under ICD-0-3, indicating invasive malignancy, are included in tables listing **invasive** cancers. *In situ* bladder cancer is an exception to this rule; the behavior code is “2”, but it is listed with invasive cancers.

* For those sites defined by histology (leukemia, lymphoma, and multiple myeloma), the cancers are listed under the appropriate histology and not under the site at which they occurred.

Appendix – C

2000 Kansas Population* by Region, Age and Gender

Region	Age Group	Males	Females	Total
Region 1	0-4	2,879	2,727	5,606
	5-9	3,310	3,005	6,315
	10-14	3,863	3,613	7,476
	15-19	4,584	4,044	8,628
	20-24	3,600	3,288	6,888
	25-29	2,643	2,308	4,951
	30-34	2,643	2,450	5,093
	35-39	3,571	3,513	7,084
	40-44	3,930	3,833	7,763
	45-49	3,840	3,557	7,397
	50-54	3,068	2,856	5,924
	55-59	2,310	2,567	4,877
	60-64	2,216	2,387	4,603
	65-69	2,260	2,617	4,877
	70-74	2,164	2,591	4,755
	75-79	1,774	2,389	4,163
80-84	1,195	1,984	3,179	
85 +	986	2,423	3,409	
	All Ages	50,836	52,152	102,988

Region 2	0-4	7,069	6,663	13,732
	5-9	6,950	6,428	13,378
	10-14	6,814	6,129	12,943
	15-19	6,687	6,042	12,729
	20-24	5,399	4,745	10,144
	25-29	5,567	5,142	10,709
	30-34	5,671	5,083	10,754
	35-39	5,867	5,525	11,392
	40-44	5,649	5,314	10,963
	45-49	4,925	4,596	9,521
	50-54	3,892	3,635	7,527
	55-59	2,862	2,923	5,785
	60-64	2,401	2,356	4,757
	65-69	1,938	2,312	4,250
	70-74	1,786	2,095	3,881
	75-79	1,415	1,911	3,326
80-84	872	1,459	2,331	
85 +	708	1,708	2,416	
	All Ages	76,472	74,066	150,538

Region	Age Group	Males	Females	Total
Region 3	0-4	3,154	2,900	6,054
	5-9	3,436	3,356	6,792
	10-14	4,112	4,009	8,121
	15-19	4,471	4,146	8,617
	20-24	2,789	2,381	5,170
	25-29	2,435	2,277	4,712
	30-34	2,649	2,547	5,196
	35-39	3,734	3,621	7,355
	40-44	4,234	4,123	8,357
	45-49	4,065	3,648	7,713
	50-54	3,200	3,012	6,212
	55-59	2,553	2,647	5,200
	60-64	2,424	2,612	5,036
	65-69	2,340	2,714	5,054
	70-74	2,205	2,538	4,743
	75-79	1,844	2,510	4,354
	80-84	1,177	2,182	3,359
85 +	961	2,454	3,415	
	All Ages	51,783	53,677	105,460

Region 4	0-4	3,874	3,613	7,487
	5-9	4,341	4,008	8,349
	10-14	4,768	4,621	9,389
	15-19	5,125	4,534	9,659
	20-24	3,316	2,927	6,243
	25-29	3,263	3,114	6,377
	30-34	3,638	3,505	7,143
	35-39	4,542	4,561	9,103
	40-44	4,887	4,768	9,655
	45-49	4,563	4,505	9,068
	50-54	3,912	3,833	7,745
	55-59	3,073	3,170	6,243
	60-64	2,667	2,850	5,517
	65-69	2,561	2,849	5,410
	70-74	2,413	2,973	5,386
	75-79	1,947	2,702	4,649
	80-84	1,372	2,210	3,582
85 +	1,088	2,720	3,808	
	All Ages	61,350	63,463	124,813

Region	Age Group	Males	Females	Total
Region 5	0-4	22,497	21,252	43,749
	5-9	22,880	21,789	44,669
	10-14	22,819	21,675	44,494
	15-19	21,824	21,122	42,946
	20-24	19,714	19,028	38,742
	25-29	20,229	19,278	39,507
	30-34	20,046	19,123	39,169
	35-39	22,777	22,191	44,968
	40-44	23,928	23,368	47,296
	45-49	21,104	20,808	41,912
	50-54	17,271	17,061	34,332
	55-59	12,385	12,960	25,345
	60-64	9,588	10,552	20,140
	65-69	8,675	10,325	19,000
	70-74	7,933	9,939	17,872
	75-79	6,497	9,303	15,800
	80-84	3,956	6,741	10,697
85 +	2,720	6,724	9,444	
	All Ages	286,843	293,239	580,082

Region 6	0-4	4,128	4,040	8,168
	5-9	4,686	4,511	9,197
	10-14	5,303	4,933	10,236
	15-19	5,196	4,962	10,158
	20-24	3,507	3,052	6,559
	25-29	3,315	3,072	6,387
	30-34	3,665	3,634	7,299
	35-39	4,829	4,671	9,500
	40-44	5,176	5,013	10,189
	45-49	4,687	4,411	9,098
	50-54	3,779	3,610	7,389
	55-59	2,788	2,749	5,537
	60-64	2,260	2,475	4,735
	65-69	2,037	2,270	4,307
	70-74	1,916	2,254	4,170
	75-79	1,468	2,106	3,574
	80-84	940	1,721	2,661
85 +	708	1,847	2,555	
	All Ages	60,388	61,331	121,719

Region	Age Group	Males	Females	Total
Region 7	0-4	5,351	5,061	10,412
	5-9	5,697	5,651	11,348
	10-14	6,463	6,063	12,526
	15-19	6,520	5,878	12,398
	20-24	4,552	3,729	8,281
	25-29	4,656	3,790	8,446
	30-34	5,325	4,782	10,107
	35-39	7,188	6,286	13,474
	40-44	6,972	6,123	13,095
	45-49	6,169	5,471	11,640
	50-54	5,048	4,642	9,690
	55-59	3,830	3,748	7,578
	60-64	3,124	3,152	6,276
	65-69	2,602	2,854	5,456
	70-74	2,474	2,814	5,288
	75-79	2,003	2,607	4,610
	80-84	1,162	2,018	3,180
85 +	988	2,410	3,398	
	All Ages	80,124	77,079	157,203

Region 8	0-4	3,944	3,628	7,572
	5-9	3,581	3,321	6,902
	10-14	3,504	3,381	6,885
	15-19	5,748	5,398	11,146
	20-24	11,318	8,531	19,849
	25-29	5,085	3,957	9,042
	30-34	3,616	3,220	6,836
	35-39	3,559	3,461	7,020
	40-44	3,343	3,442	6,785
	45-49	2,996	2,926	5,922
	50-54	2,411	2,400	4,811
	55-59	1,729	1,812	3,541
	60-64	1,377	1,497	2,874
	65-69	1,198	1,373	2,571
	70-74	1,053	1,317	2,370
	75-79	859	1,176	2,035
	80-84	579	848	1,427
85 +	419	992	1,411	
	All Ages	56,319	52,680	108,999

Region	Age Group	Males	Females	Total
Region 9	0-4	3,915	3,711	7,626
	5-9	4,378	4,096	8,474
	10-14	4,874	4,587	9,461
	15-19	5,048	4,950	9,998
	20-24	3,892	3,873	7,765
	25-29	3,288	3,160	6,448
	30-34	3,358	3,274	6,632
	35-39	4,425	4,596	9,021
	40-44	4,814	4,640	9,454
	45-49	4,419	4,150	8,569
	50-54	3,820	3,683	7,503
	55-59	3,188	3,188	6,376
	60-64	2,702	2,806	5,508
	65-69	2,439	2,618	5,057
	70-74	2,262	2,589	4,851
	75-79	1,849	2,373	4,222
	80-84	1,233	2,076	3,309
85 +	1,090	2,501	3,591	
	All Ages	60,994	62,871	123,865

Region 10	0-4	10,590	10,102	20,692
	5-9	10,870	10,462	21,332
	10-14	11,545	10,814	22,359
	15-19	13,481	13,410	26,891
	20-24	16,565	15,980	32,545
	25-29	11,274	10,891	22,165
	30-34	10,675	10,453	21,128
	35-39	11,471	12,373	23,844
	40-44	12,142	12,690	24,832
	45-49	11,390	11,878	23,268
	50-54	9,900	9,845	19,745
	55-59	7,077	7,463	14,540
	60-64	5,533	5,962	11,495
	65-69	4,772	5,376	10,148
	70-74	4,185	5,284	9,469
	75-79	3,342	4,683	8,025
	80-84	1,996	3,383	5,379
85 +	1,387	3,724	5,111	
	All Ages	158,195	164,773	322,968

Region	Age Group	Males	Females	Total
Region 11	0-4	23,872	22,528	46,400
	5-9	24,114	22,660	46,774
	10-14	23,995	22,851	46,846
	15-19	21,635	20,347	41,982
	20-24	17,657	18,043	35,700
	25-29	22,212	22,145	44,357
	30-34	23,272	23,069	46,341
	35-39	25,777	26,601	52,378
	40-44	24,944	26,615	51,559
	45-49	22,356	24,019	46,375
	50-54	19,392	20,152	39,544
	55-59	13,175	14,082	27,257
	60-64	9,507	10,359	19,866
	65-69	7,703	9,227	16,930
	70-74	6,767	8,960	15,727
	75-79	5,584	8,083	13,667
	80-84	3,264	5,880	9,144
85 +	2,174	5,947	8,121	
	All Ages	297,400	311,568	608,968

Region 12	0-4	5,739	5,471	11,210
	5-9	6,190	5,854	12,044
	10-14	6,921	6,361	13,282
	15-19	7,721	7,245	14,966
	20-24	6,458	5,823	12,281
	25-29	5,067	4,807	9,874
	30-34	5,052	5,128	10,180
	35-39	6,194	6,216	12,410
	40-44	6,375	6,479	12,854
	45-49	6,030	6,166	12,196
	50-54	5,428	5,618	11,046
	55-59	4,553	4,813	9,366
	60-64	3,767	4,034	7,801
	65-69	3,116	3,909	7,025
	70-74	3,151	4,168	7,319
	75-79	2,775	3,925	6,700
	80-84	1,850	3,320	5,170
85 +	1,383	3,708	5,091	
	All Ages	87,770	93,045	180,815
Total Population		1,328,474	1,359,944	2,688,418

*2000 Population from U.S. Census Bureau 2001 (Census 2000 Summary File 1)