

مستشفى الملك فيصل
التخصصي ومركز الأبحاث
King Faisal Specialist
Hospital & Research Centre



Cancer Center of Excellence
Research Unit

Tumor Registry Annual Report 2022





مستشفى الملك فيصل التخصصي ومركز الأبحاث
King Faisal Specialist Hospital & Research Centre

Cancer Center of Excellence
Research Unit
Riyadh

TUMOR REGISTRY

ANNUAL REPORT

2022

Annual Report Prepared by the Staff of the Tumor Registry
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INTRODUCTION

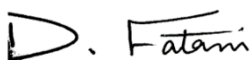
We are pleased to present the 2022 Annual Tumor Registry Report for the King Faisal Specialist Hospital & Research Centre's Oncology Centre in Riyadh. The Cancer Registry maintains a complete database of information on all cancer cases diagnosed and/or treated at KFSH&RC. This database is an important patient care and quality assessment tool used by medical staff and administration for special studies, medical planning, resource allocation and utilization, education, and research for comparing the quality of care, monitoring patient care, and continuous quality improvement. This report highlights the statistical overview of newly diagnosed cancer cases by site, gender, and AJCC Staging for both analytic and non-analytic cases. During 2022, the Tumor Registry abstracted 4,576 new cancer cases. 4,269 cases were analytic, and 307 were non-analytic; the highest incidence of cancer among males by site was NHL, Brain, CNS, and Leukemia, and among females were carcinomas of the Breast, Thyroid, and Brain, CNS. The Tumor Registry database includes over 114,150 cases and reports to the Saudi Cancer Registry (SCR).

Oncology Centre continues to provide comprehensive multidisciplinary care to our cancer patients. The Centre provides the latest advances in radiation therapy, chemotherapy, hematopoietic stem cell transplantation, and palliative and rehabilitation care to our patients. We also continue to be a center of excellence in cancer clinical research. Involvement in clinical trials allows our physicians and researchers to actively advance new cancer treatments and provide the newest and most promising treatment options for our cancer patients. We have maintained our international cooperative group affiliations as a member of Southwest Oncology Group (SWOG), Radiation Therapy Oncology Group (RTOG/ NRG), and Canadian Blood & Marrow Transplantation Group (CBMTG). KFSH&RC has spearheaded the local and regional research consortiums as well, notably the Gulf Oncology Regional Group (GORG) and Eastern Mediterranean Blood and Marrow Transplantation (EMBT) Group. The research unit workload has mounted exponentially to keep pace with this exorbitant expansion of world-class clinical research.

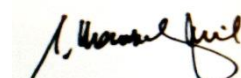
The Oncology Center is committed to serving as the pinnacle of excellence in the entire region. As we look to the future of cancer care in the Kingdom of Saudi Arabia, the Oncology Centre will continue to deliver evidence-based care centered on state-of-the-art clinical and translational research.

We are extremely grateful to the dedicated staff of the Tumor Registry for their hard work and commitment throughout the year. Hats off to our physicians, patient caregivers, and support staff; their commitment and dedication are the foundation for our success.

This report can be accessed online via the Cancer Center of Excellence website at:
<https://www.kfshrc.edu.sa/en/home/hospitals/riyadh/oncologycentreadults/tumorregistryreports>
Comments and suggestions are welcome to improve our future reports and can be sent to dfatani@kfshrc.edu.sa



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I. KING FAISAL SPECIALIST HOSPITAL & RESEARCH CENTRE TUMOR REGISTRY

The King Faisal Specialist Hospital and Research Centre (KFSH&RC) opened in June 1975 to provide specialized medical treatment to the people of Saudi Arabia and promote disease prevention through research and education. It is a national and international tertiary care hospital for Oncology and the principal center for cancer therapy in Saudi Arabia.

The mission of the Tumor Registry, a hospital-wide data system, is to describe the burden of cancer in KFSH&RC by collecting complete and high-quality cancer data and compiling timely statistics so that data-driven, evidence-based cancer prevention and control programs can be implemented to reduce cancer morbidity and mortality.

The Registry was established to meet one of the requirements for an Approved Cancer Program of the American College of Surgeons (ACoS). The database now includes 114,150 malignant cases seen at KFSH&RC from June 1975 through December 31, 2022.

The Registry is primarily staffed with tumor registrars who support the database in case ascertainment, abstracting, follow-up, and statistical analyses. The basic source document is the patient's medical record, from which pertinent information is abstracted for use in the Registry. The electronic data system used was Cansur 3.0, designed by the ACoS, for cases from 1975 to 2007. Starting with 2008 cases, the software used is CNExT, developed by C/NET Solutions, part of the U.S. Public Health Institute.

The data maintained in the Tumor Registry provides the statistics for the publication of the KFSH&RC Annual Report, which summarizes the hospital's cancer experience. The data also supports various reports at the request of physicians, researchers, and ancillary personnel. These reports support patient management and outcomes, basic and clinical research investigations, educational publications and presentations, and resource utilization. In 2022, the Tumor Registry supported a myriad of data requests. It also identified and reported to the Saudi Cancer Registry 4,576 new cases seen in 2022.

II. ACKNOWLEDGEMENTS

The cancer program is a combined effort of the extraordinary team of professionals at the King Faisal Specialist Hospital and Research Centre. It is not possible to enumerate all those involved in providing hope and healing to cancer patients and their families. The Tumor Registry staff greatly appreciates the tireless efforts of caring professionals from all disciplines for their dedication, commitment, and collaboration to ensure the highest standards in community outreach, clinical trials, staff education, patient care improvement, outcome analysis, and tumor registry quality.

Our team's clinical expertise and proficiency, coupled with an incredible dedication to patient care and service excellence, allows the Oncology Centre to achieve remarkable outcomes and consistently exceed the needs and expectations of patients and their families.

The information in this report includes cancer incidence, site, and extent of disease at diagnosis, treatment, cancer trends, and outcomes to understand the changing patterns of cancer better.

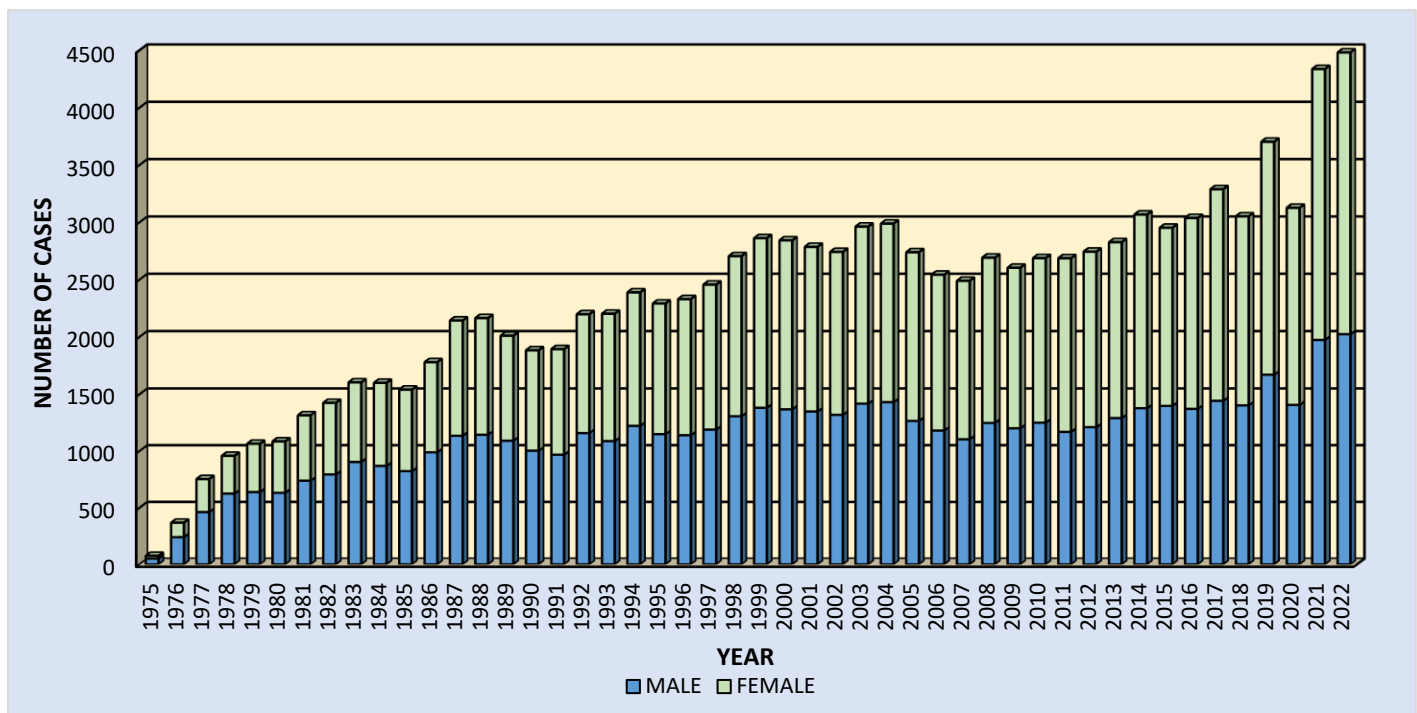
The following departments have assisted throughout the year, and without their support, this report would not have been possible. The Tumor Registry staff takes pride in acknowledging these departments:

- Department of Pathology and Laboratory Medicine
- Medical Records Services
- Patients Acceptance Affairs
- Information Technology Affairs
- Central Data Unit, Department of Pediatric Hematology/Oncology
- Radiation Oncology Department
- Radiology Department
- Saudi Cancer Registry
- Home Health Care
- Cancer Center of Excellence

III. KFSH&RC CANCER PATIENT POPULATION

A total of 4,576 cases were accessioned in 2022, with 2,045 males and 2,531 females or a male/female ratio of 0.8:1.

FIGURE 1
DISTRIBUTION OF CASES ACCESSIONED BY YEAR
1975-2022 (TOTAL CASES = 114,150)



From the hospital's opening (mid-1975) until December 2022, 114,150 cancer cases were registered (55,269 males and 58,881 females), with a male/female ratio of 0.9:1. There were 13,439 (11.8%) pediatric cases (0 to 13 years of age) and 100,706 (88.2%) adults (14 years old and above). In 2022, the proportions were 6.8% (291) for pediatrics and 93.2% (4,285) for adults.

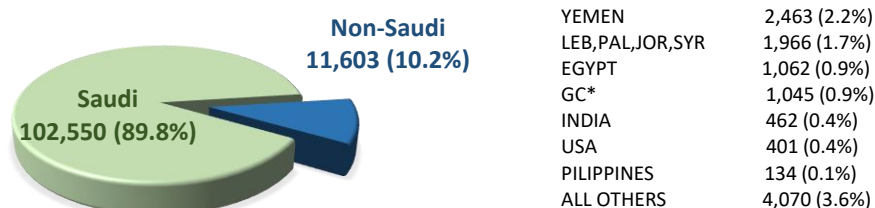
TABLE 1
CASES SEEN AT KFSH&RC (MALE/FEMALE & PEDIATRICS/ADULTS)
BY 5-YEAR PERIOD (1975-2022)

	1975-1976*	1977-1981	1982-1986	1987-1991	1992-1996	1997-2001	2002 - 2006	2007-2011	2012-2016	2017-2021	2022	TOTAL
MALE	293	3,112	4,417	5,414	5,814	6,679	6,680	6,062	6,761	7,992	2,045	55,269
FEMALE	151	2,091	3,613	4,842	5,699	7,185	7,468	7,291	8,157	9,853	2,531	58,881
TOTAL	444	5,203	8,030	10,256	11,513	13,864	14,148	13,353	14,918	17,845	4,576	114,150
M/F RATIO	1.9:1	1.4:1	1.2:1	1.1:1	1.0:1	0.9:1	0.8:1	0.8:1	0.8:1	0.8:1	0.8:1	0.9:1
PEDIATRICS**	59	637	1,086	1,387	1,493	2,003	1,957	1,658	1,432	1,436	291	13,439
(%)	13.29%	12.24%	13.52%	13.52%	12.97%	14.45%	13.83%	12.42%	9.60%	8.05%	6.36%	12.27%
ADULTS	385	4,566	6,944	8,869	10,020	11,861	12,191	11,695	13,486	16,409	4,285	100,711
(%)	86.71%	87.76%	86.48%	86.48%	87.03%	85.55%	86.17%	87.58%	90.40%	91.95%	93.64%	88.23%
TOTAL	444	5,203	8,030	10,256	11,513	13,864	14,148	13,353	14,918	17,845	4,576	114,150

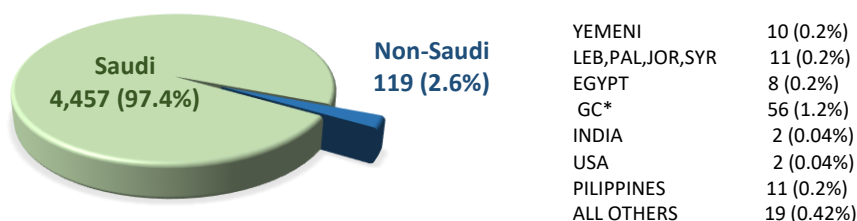
* First two years of KFSH&RC partial operation.

** Pediatrics = 0 to 13 years of age; Adults = 14 years and above.

FIGURE 2
DISTRIBUTION OF CASES BY NATIONALITY
1975-2022 (TOTAL CASES = 114,150)

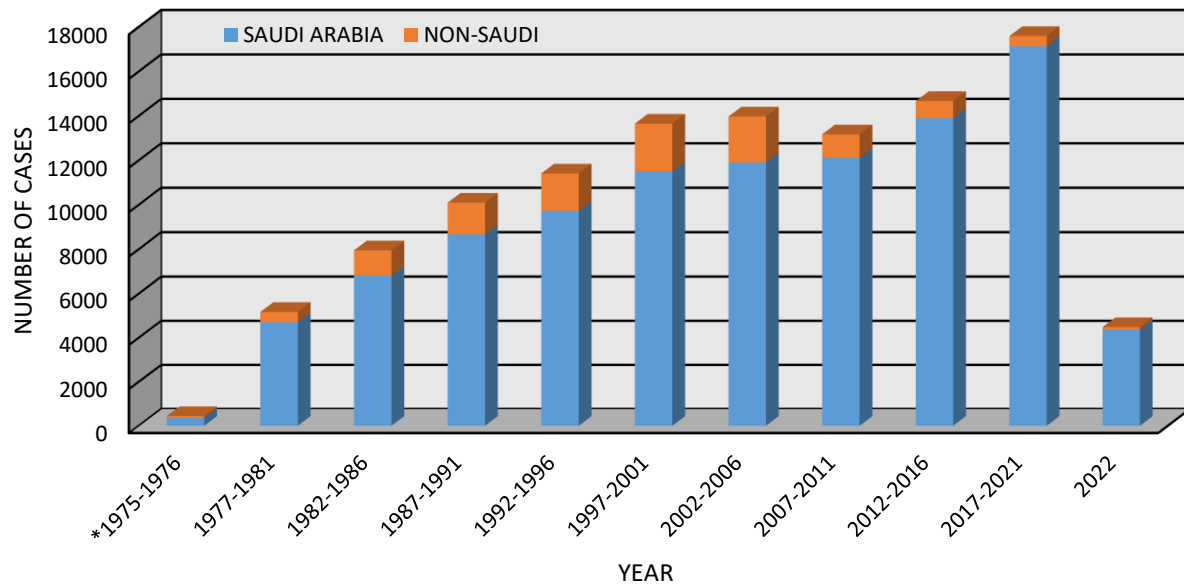


2022 (TOTAL CASES = 4,576)



*GC: Gulf countries (Bahrain, Kuwait, Qatar, Oman and United Arab Emirates).

FIGURE 3
DISTRIBUTION OF CASES BY NATIONALITY
 BY 5-YEAR interval (1975-2022)

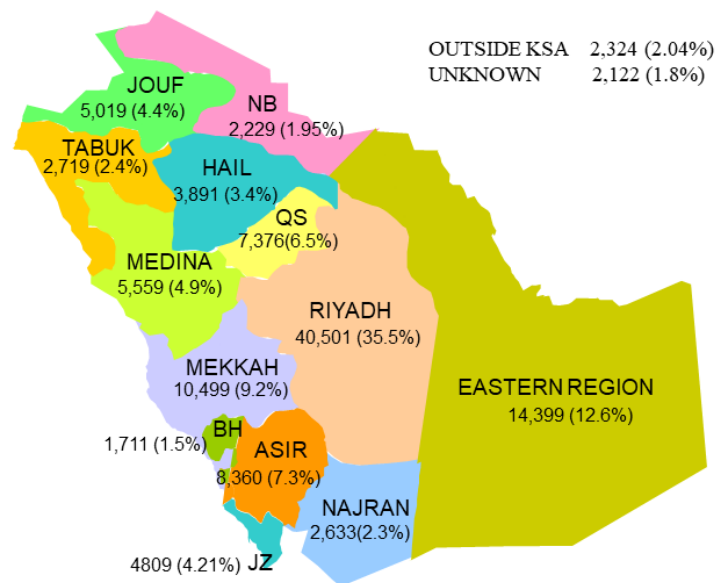


* First two years of KFSH&RC partial operation
 ** Single Year

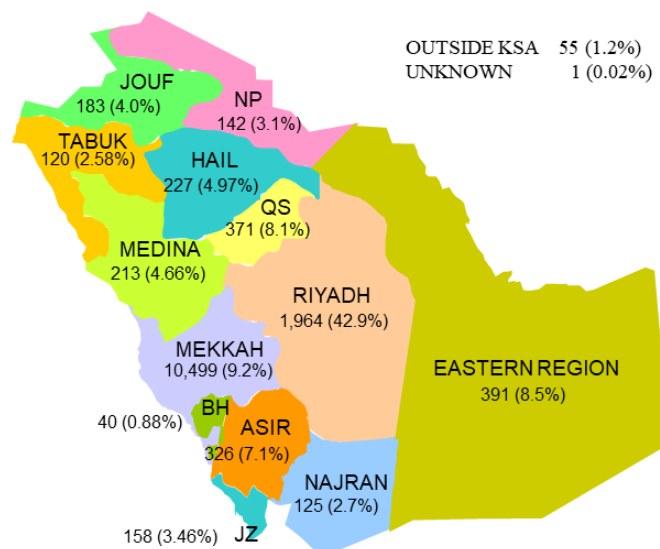
Geographically, the referral pattern in 2022 was mainly from the Riyadh region with 42.9% of all cases, followed by the Eastern Province with 8.5% then Qassim region with 8.1% respectively. During the 46 years in review, 35.5% were referred from Riyadh, 12.6% from the Eastern Province and 9.2% from Mekkah.

These percentages reflect the KFSH&RC actual experience rather than adjusted to reflect the population of those regions.

FIGURE 4
DISTRIBUTION OF CASES BY REGION
 (Based on Given Address at Time of Diagnosis)
 1975-2022 (TOTAL CASES = 114,150)



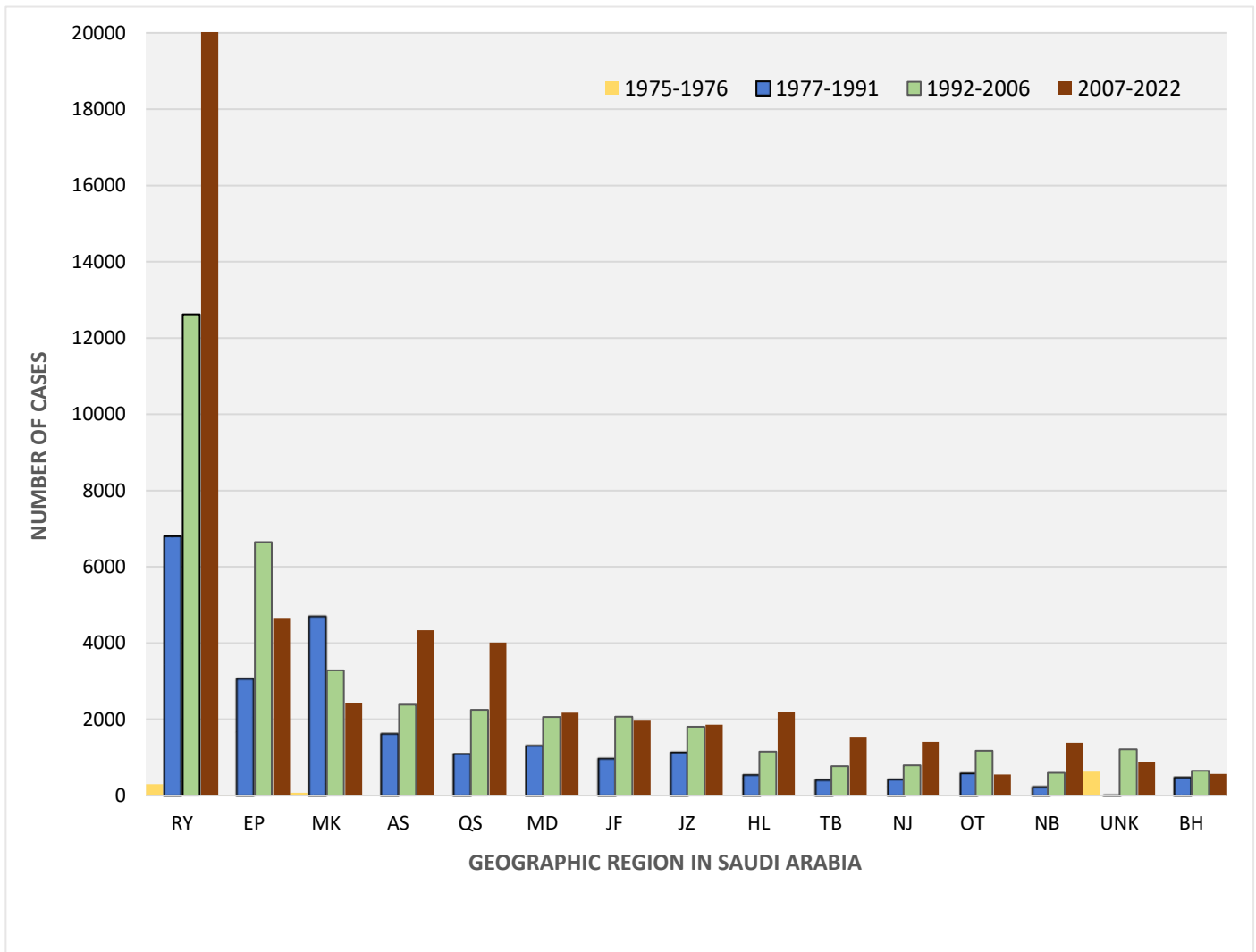
2022 (TOTAL CASES = 4,571)



BH-ALBAHA,
JZ-JAZAN,

NB-NORTHERN BORDERS
QS- QASSIM

FIGURE 5
DISTRIBUTION OF CASES BY REGION
 (1975-2022)



RY: Riyadh, EP: Eastern Region, MK: Makkah, AS: Assir, QS: Qassim, MD: Madinah, JF: Jouf, JZ: Jazan, HL: Hail, TB: Tabouk, NJ: Najran, OT: Other, NB: Northern Borders, UNK: Unknown, BH: Baha

IV. TRENDS IN RELATIVE FREQUENCY OF CANCER AT KFSH&RC

Acceptance of cases to KFSH&RC is based on eligibility criteria, considering the nature of disease and availability of services.

Breast cancer led the list of total cancer cases seen from 1975 to 2022 with (12.5%), followed by Thyroid (7.50%), Brain & CNS (7.47%), Leukemia (6.6%) and Non-Hodgkin's Lymphoma (5.46%).

FIGURE 6
DISTRIBUTION OF 20 MOST COMMON MALIGNANCIES

1975-2022 (TOTAL CASES = 114,150)

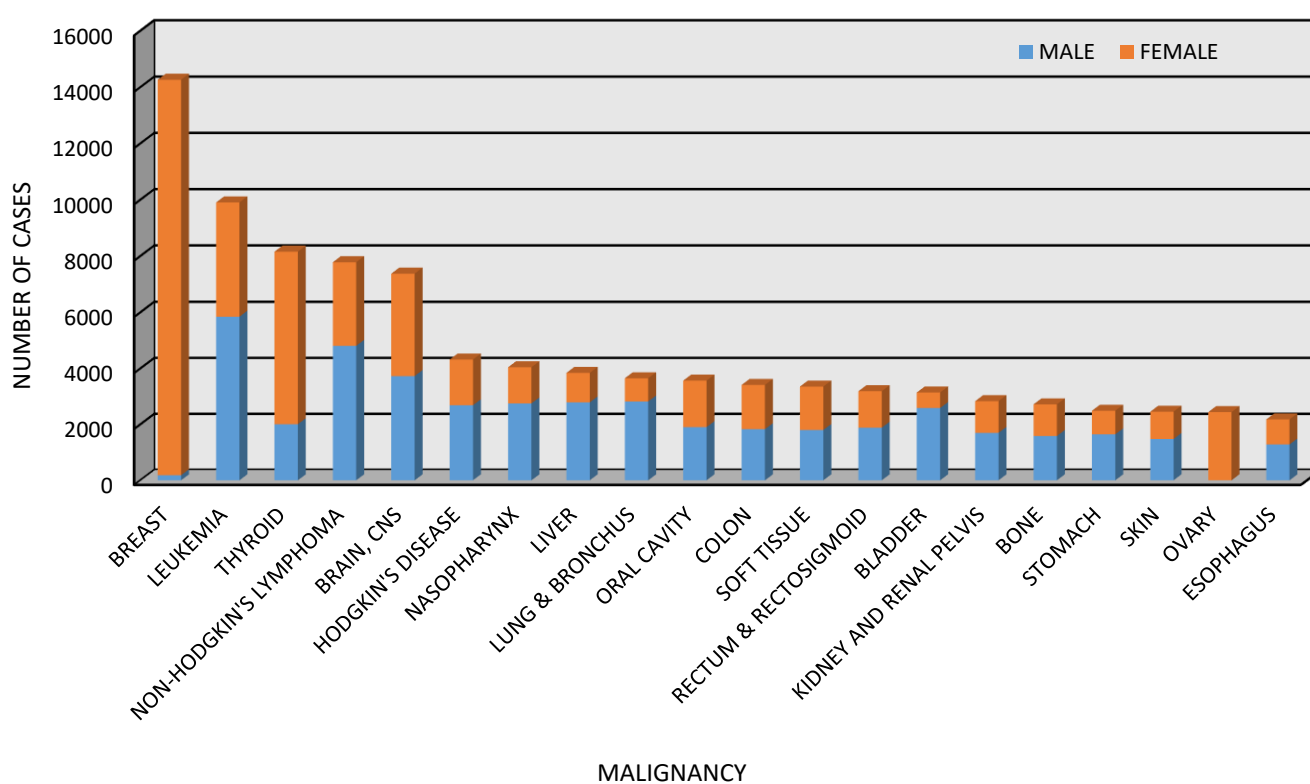
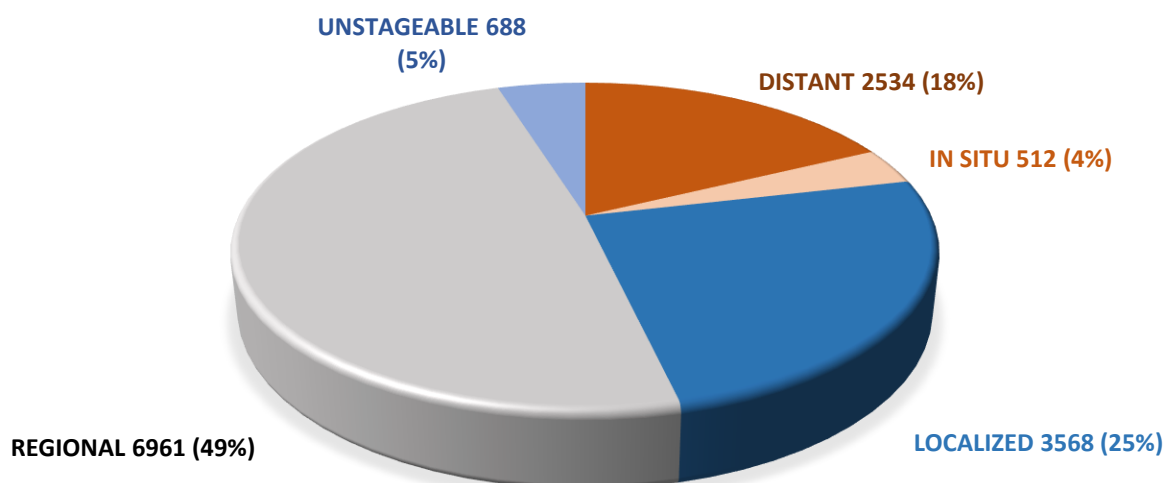
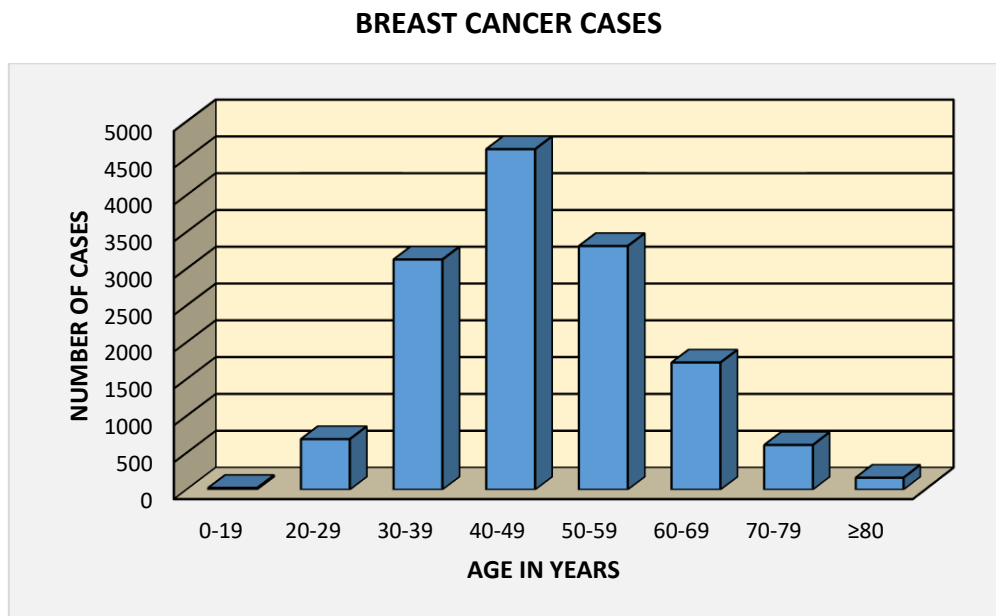
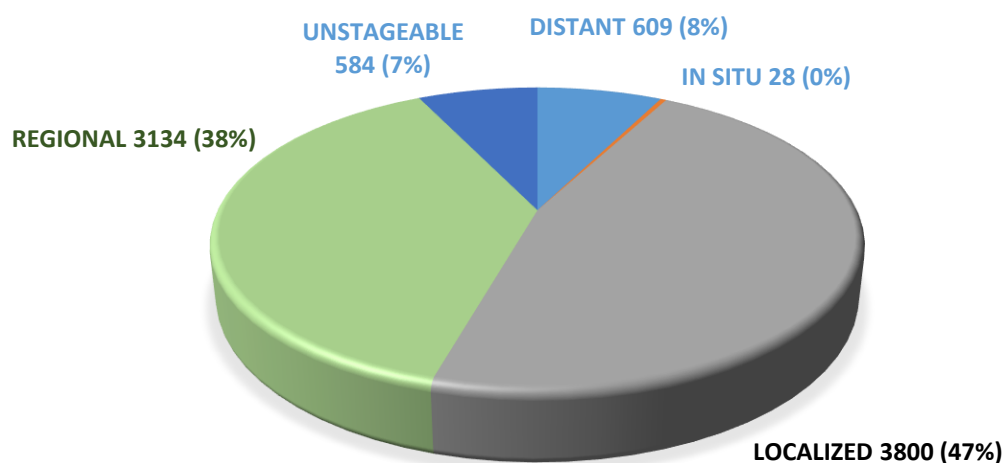
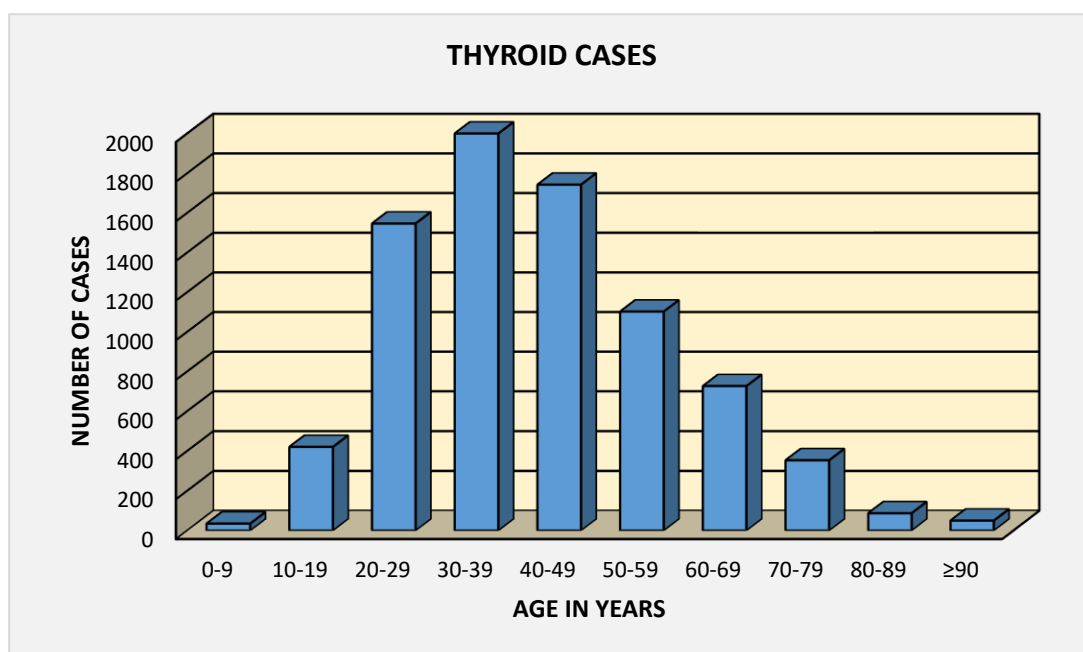
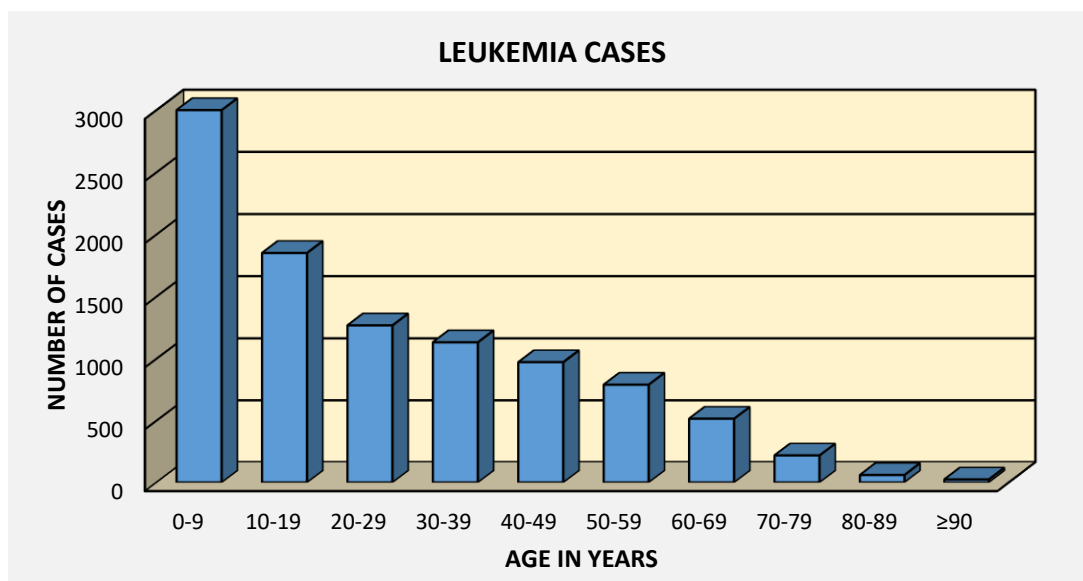
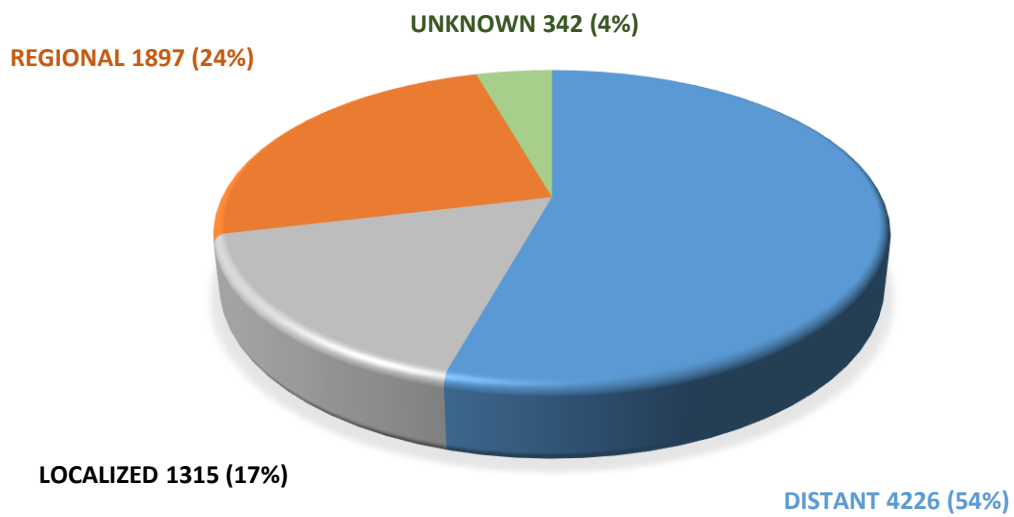
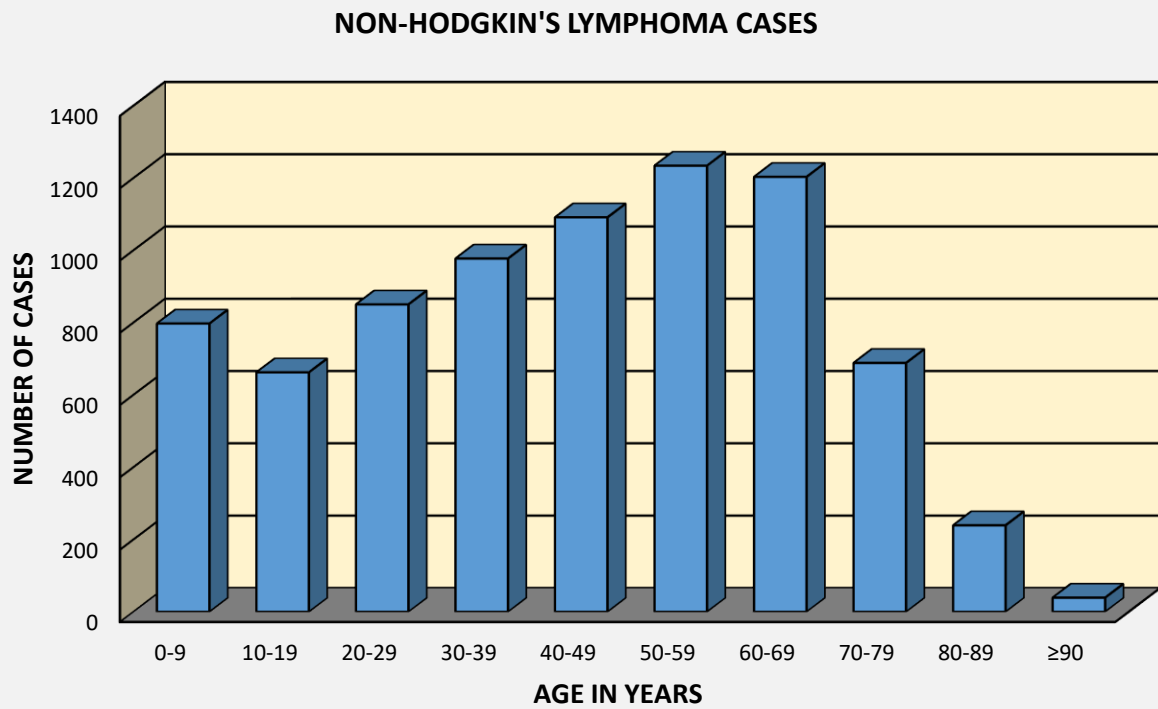
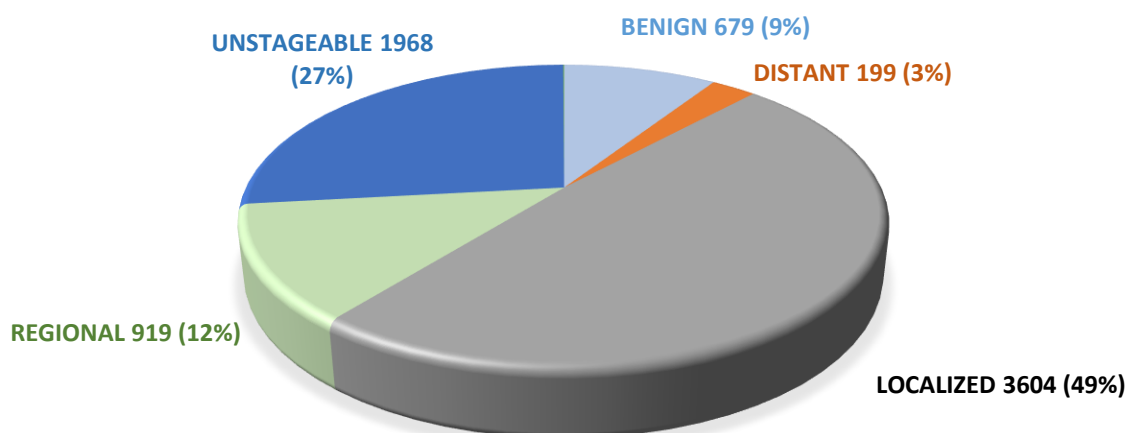
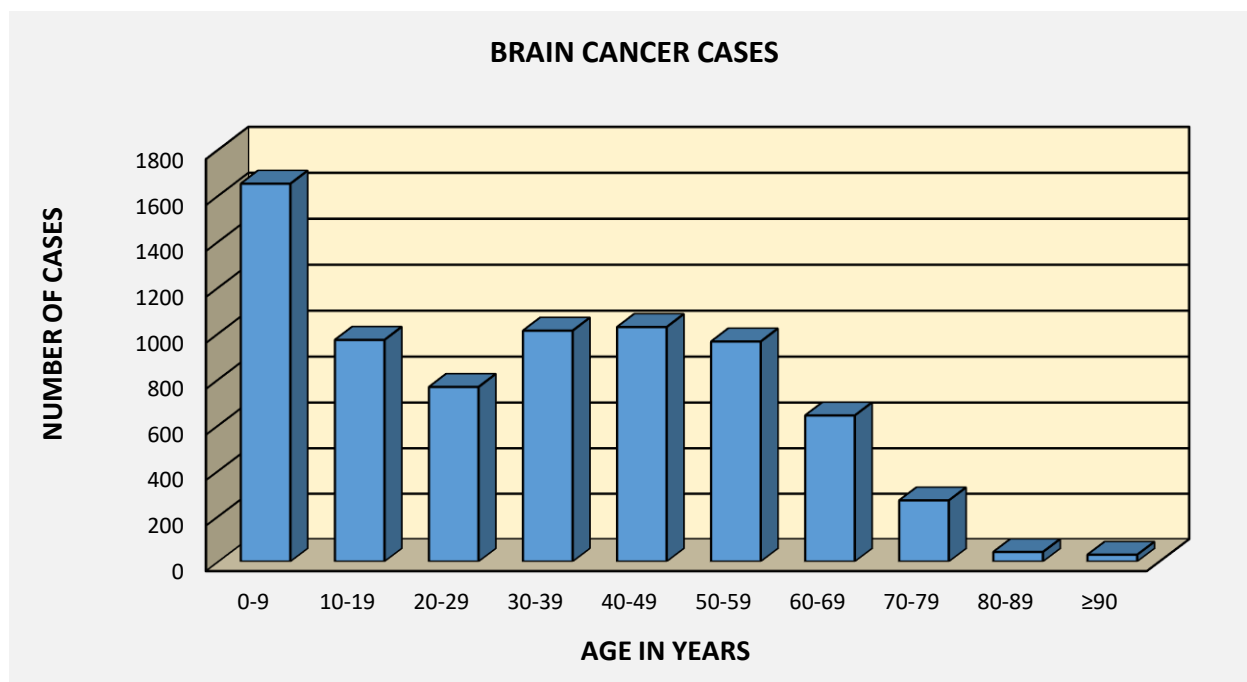


FIGURE 7
DISTRIBUTION OF 5 MOST COMMON MALIGNANCIES
BY AGE AT DIAGNOSIS AND SEER SUMMARY STAGE
(1975 – 2022)





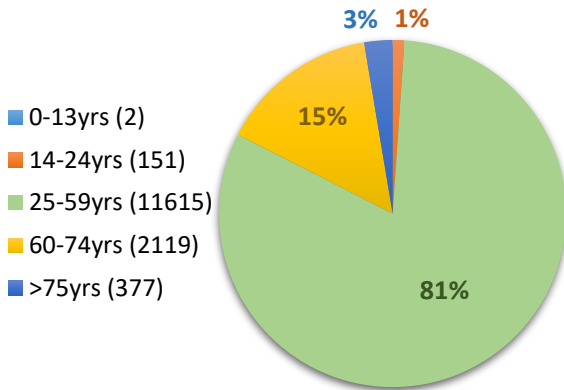




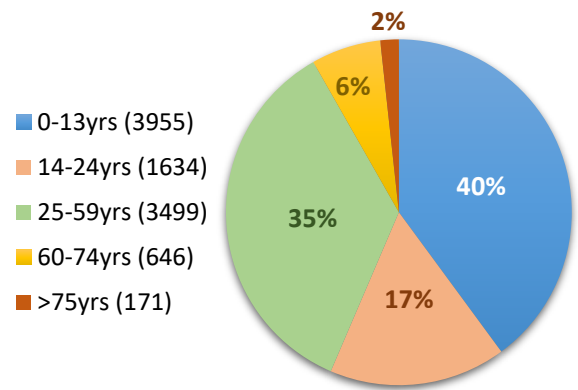
Reference; SEER Summary stage 2018

FIGURE 8
TEN MOST COMMON MALIGNANCIES
BY AGE GROUP AT DIAGNOSIS
(1975-2022)

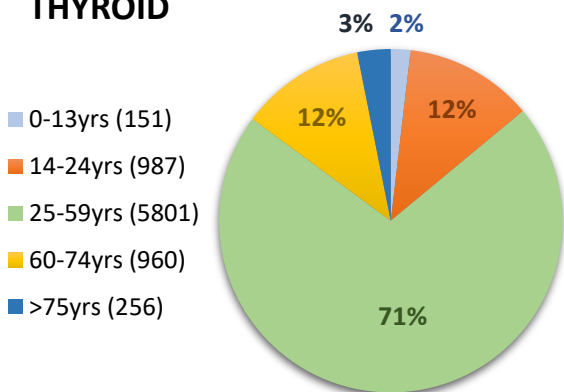
BREAST



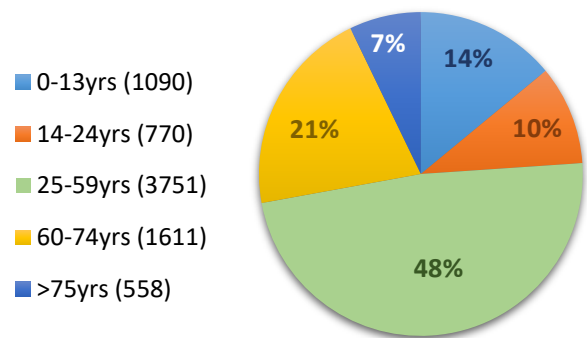
LEUKEMIA



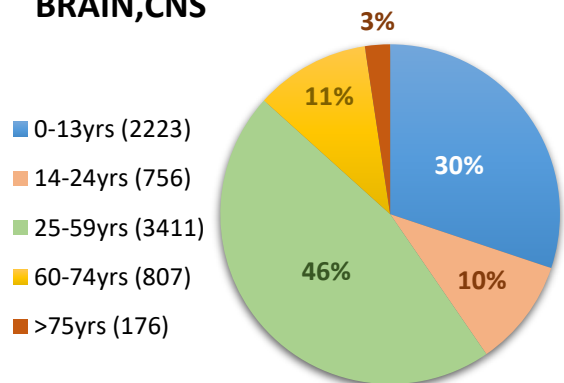
THYROID



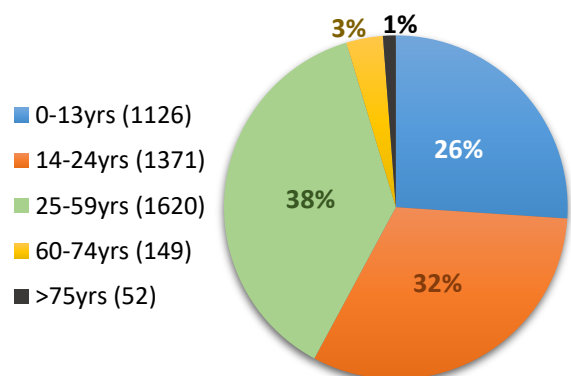
NON-HODGKIN LYMPHOMA



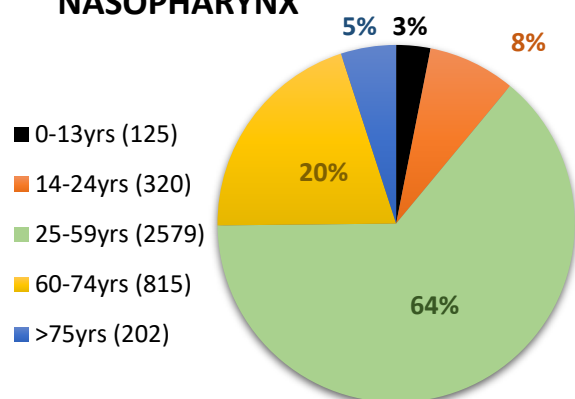
BRAIN,CNS



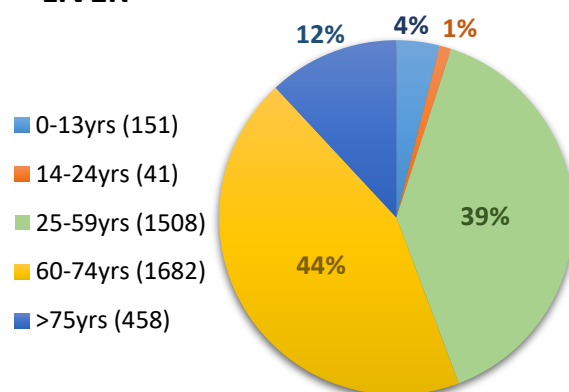
HODGKIN LYMPHOMA



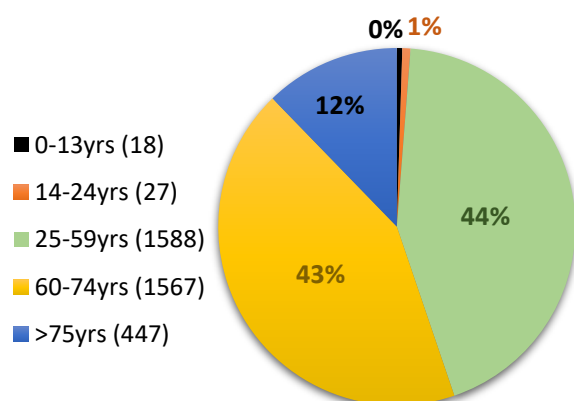
NASOPHARYNX



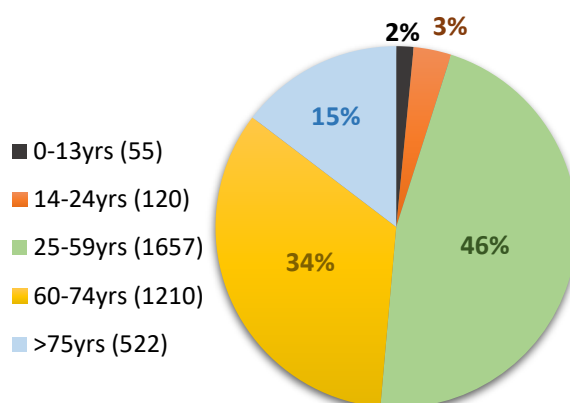
LIVER



LUNG & BRONCHUS



ORAL CAVITY



Cancer among pediatrics (under the age of 14) accounted for 11.7% of all cases from 1975 to 2022. The five most common pediatric malignancies were Leukemia (29.6%), Brain, CNS (16.8%), Non-Hodgkin disease (8.0%), Hodgkin Lymphoma (7.7%), and Soft tissue (7.6%).

FIGURE 9
DISTRIBUTION OF 10 MOST COMMON PEDIATRIC MALIGNANCIES
1975 - 2022 (TOTAL CASES= 12,587)

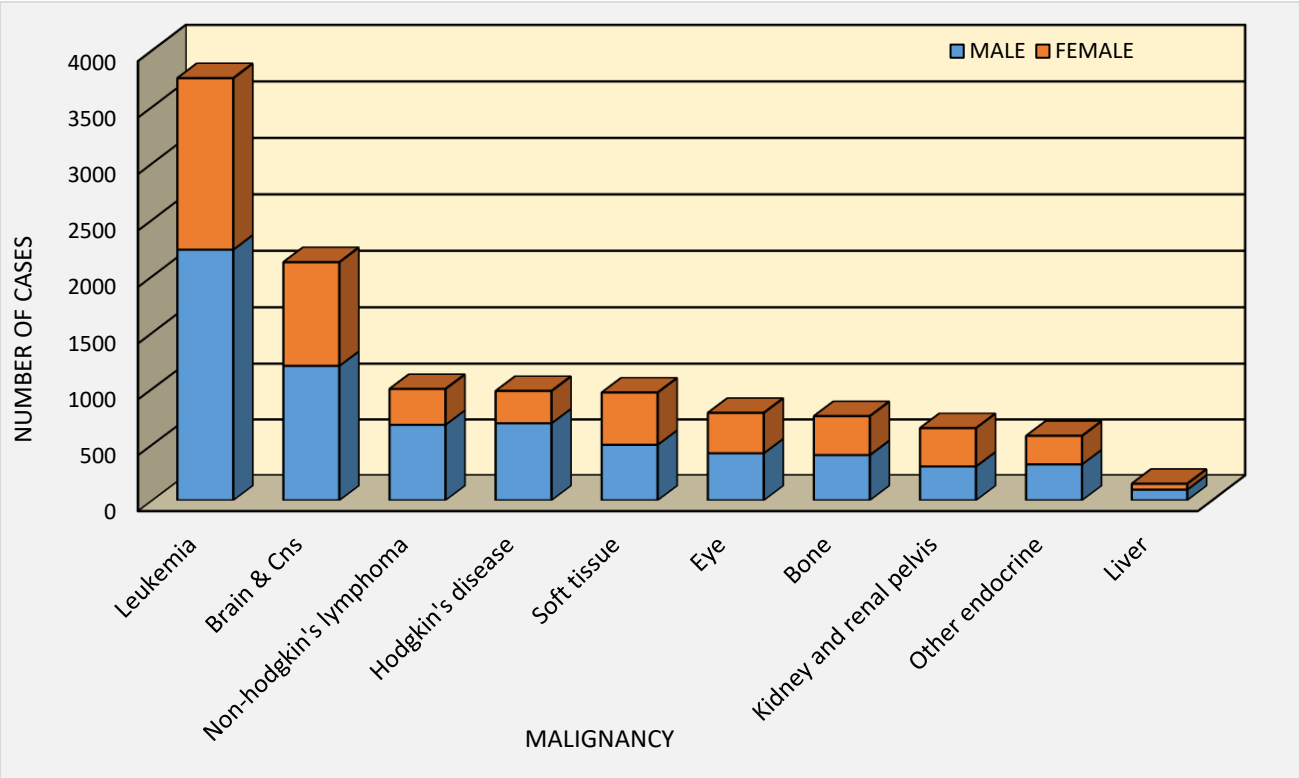


FIGURE 10
DISTRIBUTION OF 10 MOST COMMON PEDIATRIC MALIGNANCIES
BY HISTOLOGY
 1975-2022 (TOTAL CASES = 12,587)

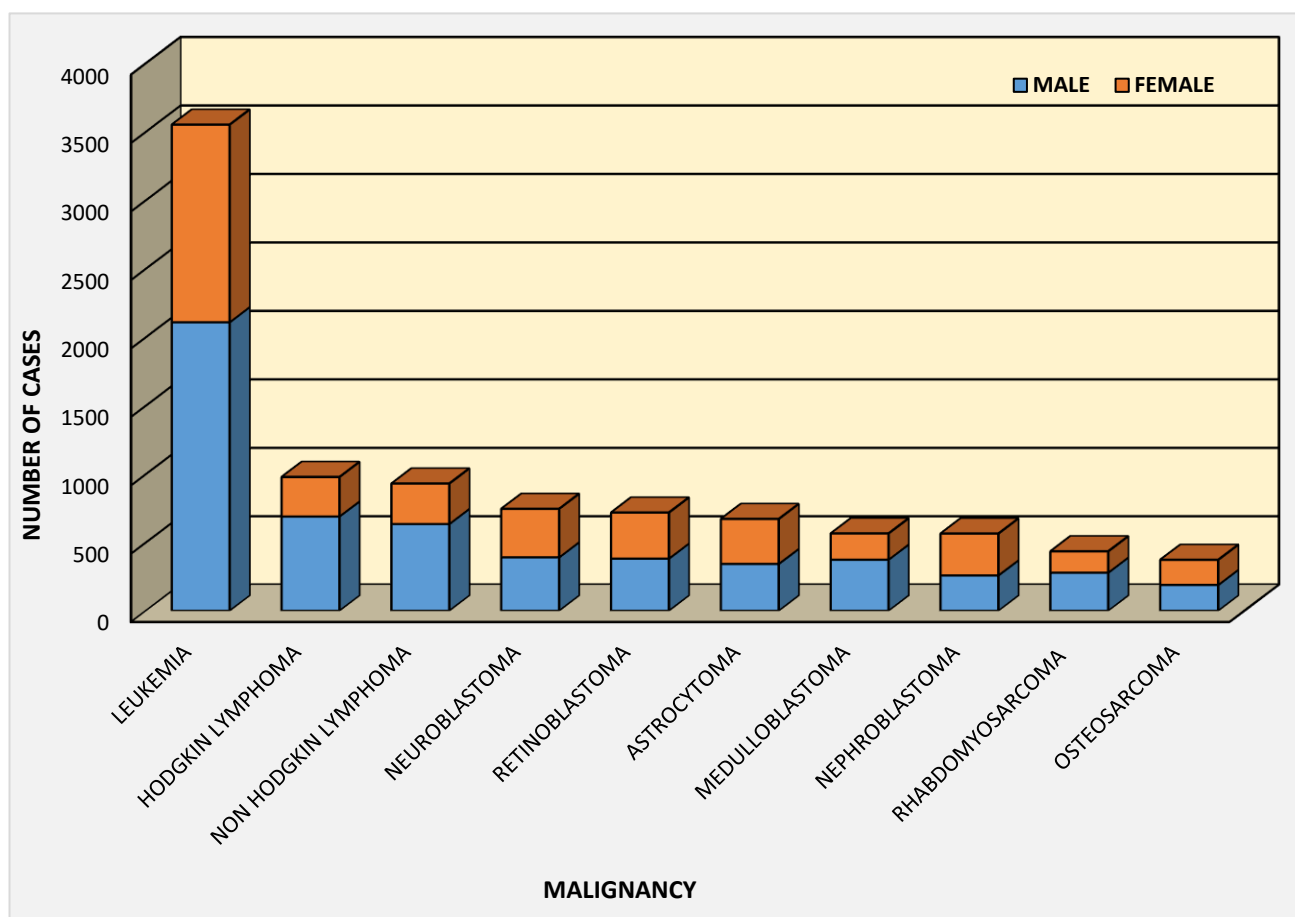


TABLE 2
CASES SEEN AT KFSH&RC BY SITE AND YEAR
(1975-2022)

Site Group	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
Oral Cavity	1	8	21	59	44	53	43	59	74	52	80	56	76	95	83	75	86
Nasopharynx	3	17	51	55	63	54	64	69	93	72	69	74	104	101	87	93	80
Esophagus	1	15	51	62	67	67	57	62	77	78	56	69	76	66	68	72	66
Stomach	2	15	32	35	50	37	49	51	64	60	49	64	61	48	52	53	36
Small intestine	0	0	4	0	2	2	2	1	1	5	3	5	2	1	6	4	1
Colon	1	10	10	12	12	16	21	20	16	25	13	25	41	36	32	25	41
Rectum & rectosigmoid	0	3	11	8	16	21	24	17	20	27	26	20	31	43	26	33	35
Anus,anal canal,anorectum	0	0	1	4	3	1	7	4	7	9	7	7	4	4	5	8	6
Liver	7	15	33	44	49	33	41	54	53	64	57	84	78	71	68	56	69
Gallbladder	0	2	3	4	2	2	4	6	4	4	6	7	14	9	5	9	9
Bile ducts	1	1	0	2	2	4	1	2	3	4	4	6	6	6	2	4	2
Pancreas	1	5	7	11	15	14	20	22	14	20	16	28	20	17	29	13	14
Peritoneum,Retroperitoneum	0	0	2	1	2	1	0	0	2	1	0	1	1	1	1	1	0
Other digestive	0	0	0	2	2	5	4	1	1	0	3	1	4	3	6	2	1
Nasal cavity,sinus,ear	1	3	9	7	5	7	9	10	10	5	7	5	16	14	8	13	12
Larynx	1	5	12	12	12	14	20	13	23	22	25	16	23	33	21	26	35
Lung/bronchus	3	11	23	34	45	40	56	63	74	74	87	84	85	106	90	74	85
Pleura	0	0	1	0	0	0	0	0	1	1	0	1	0	1	2	2	0
Other respir & thoracic	0	0	0	1	1	1	3	1	1	0	4	0	6	2	2	3	9
Leukemia	8	32	48	94	98	94	136	134	132	144	140	197	224	191	187	168	197
Myeloma	1	5	6	11	9	11	8	13	13	12	19	13	29	22	33	15	28
Bone	1	7	15	27	25	21	28	45	36	47	25	39	48	52	49	46	47
Soft tissue	4	19	29	38	39	38	43	46	55	66	65	76	102	92	118	112	105
Skin	2	17	31	40	50	42	55	58	62	64	69	69	54	55	59	47	58
Kaposi sarcoma	0	1	1	0	6	4	2	2	5	4	5	9	5	9	5	4	5
Breast	3	24	53	46	57	65	101	111	111	153	131	127	174	194	137	168	169
Uterus	1	11	20	23	31	22	34	33	44	47	51	65	68	71	54	62	48
Ovary	2	7	11	10	17	21	21	36	31	28	24	36	43	50	54	51	41
Vagina	0	0	5	2	0	1	2	0	2	2	3	1	2	1	2	3	3
Vulva	0	0	0	1	1	0	2	1	3	2	5	5	1	2	1	4	5
Other female genital	0	1	5	4	9	8	7	8	24	9	7	17	24	17	15	9	16
Prostate	0	7	5	4	5	10	11	18	28	19	19	17	22	27	27	24	16
Testis	0	3	9	8	10	11	15	11	7	12	14	14	17	17	9	14	14
Penis	0	1	1	0	1	0	2	2	3	4	0	0	0	2	2	5	2
Other male genital	0	0	0	0	2	0	1	0	1	0	3	0	3	0	2	0	0
Bladder	4	7	12	24	29	40	37	23	41	36	46	51	79	74	73	60	45
Kidney and renal pelvis	0	9	18	18	18	15	18	30	23	20	24	41	31	58	32	36	33
Ureter	0	0	0	0	0	0	0	0	0	1	1	0	3	1	1	0	1
Other urinary	0	0	0	0	0	0	0	0	0	1	0	1	0	0	1	0	1
Eye	0	6	11	19	12	24	29	34	25	17	30	25	35	45	26	30	9
Brain,CNS	4	29	35	57	38	41	56	107	71	73	68	102	135	136	137	116	120
Thyroid	2	8	17	29	37	47	59	54	68	71	64	88	121	117	113	95	114
Other endocrine	2	11	14	11	20	27	30	31	38	47	35	37	41	53	33	40	46
Hodgkin's disease	13	19	40	41	36	42	47	42	54	50	49	45	65	57	76	56	57
Non-hodgkin's lymphoma	4	23	73	75	103	112	128	116	172	139	124	142	157	153	165	154	123
Unknown or ill-defined	3	11	23	24	20	27	34	30	33	26	25	25	38	33	43	39	40
TOTAL	76	368	753	959	1065	1095	1331	1440	1620	1617	1558	1795	2169	2186	2047	1924	1930

Site Group	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Oral Cavity	97	72	74	94	81	87	69	91	100	69	68	99	78	101	82	103
Nasopharynx	84	88	82	89	113	114	126	120	100	147	92	119	117	102	92	89
Esophagus	69	47	50	50	52	52	62	34	52	37	42	43	37	41	36	30
Stomach	49	42	68	61	59	47	42	56	54	40	50	60	68	57	59	48
Small intestine	5	4	4	6	6	4	7	7	9	5	3	5	9	6	4	5
Colon	35	25	34	38	36	34	59	49	77	77	98	107	77	82	98	89
Rectum & rectosigmoid	48	47	54	50	55	62	61	96	76	77	107	99	114	115	93	93
Anus,anal canal,anorectum	7	12	10	5	6	6	7	4	7	7	8	14	5	5	3	5
Liver	83	82	105	102	105	96	84	90	85	92	73	70	60	37	69	50
Gallbladder	13	19	21	9	11	11	12	15	13	11	12	15	14	8	8	11
Bile ducts	7	2	7	3	9	7	10	9	8	9	10	7	4	8	6	11
Pancreas	27	21	23	26	21	24	34	18	38	26	31	30	34	27	42	26
Peritoneum,Retroperitoneum	2	1	0	2	0	0	1	2	2	1	1	1	4	4	3	3
Other digestive	2	4	0	3	0	0	0	0	0	2	0	3	4	2	1	1
Nasal cavity,sinus,ear	9	10	11	10	9	4	10	14	11	9	11	10	9	13	13	12
Larynx	27	31	35	37	36	31	30	36	32	33	26	47	41	36	26	32
Lung/bronchus	79	85	89	87	84	88	106	108	91	80	91	86	94	84	64	60
Pleura	3	4	3	1	2	1	1	2	3	8	1	4	3	3	1	3
Other respir & thoracic	7	7	8	4	4	8	8	9	2	1	5	2	4	3	4	1
Leukemia	176	204	180	225	181	242	257	289	272	252	270	267	230	214	236	213
Myeloma	26	25	40	30	21	14	23	16	28	20	19	20	23	23	22	31
Bone	65	59	68	65	63	74	79	72	80	94	83	66	74	72	72	56
Soft tissue	68	62	83	96	62	80	86	101	85	79	70	83	89	74	58	85
Skin	64	61	68	51	66	57	40	65	57	67	44	57	57	61	74	35
Kaposi sarcoma	14	2	3	6	11	6	8	8	4	7	9	9	6	8	9	7
Breast	188	251	241	232	282	294	337	343	383	362	378	410	433	379	326	351
Uterus	79	70	78	72	68	73	92	90	76	103	100	114	109	94	97	107
Ovary	46	60	57	58	58	66	66	61	68	63	55	65	63	54	60	55
Vagina	2	0	5	5	2	2	1	2	1	0	1	1	2	1	0	0
Vulva	1	4	5	5	2	1	0	1	2	3	2	2	3	2	0	2
Other female genital	15	13	20	7	11	9	7	6	5	5	10	14	13	12	16	8
Prostate	41	27	45	37	49	43	44	63	47	49	49	59	59	75	46	40
Testis	21	25	21	14	15	17	16	19	21	18	28	19	21	17	11	17
Penis	0	1	3	0	1	3	0	0	2	0	1	1	0	2	0	0
Other male genital	0	1	1	0	0	0	1	0	0	1	2	1	2	1	2	0
Bladder	66	88	72	60	56	65	85	91	80	82	71	93	102	89	67	69
Kidney and renal pelvis	52	52	65	48	47	50	59	71	57	72	65	55	70	64	67	70
Ureter	1	1	1	1	1	0	3	1	2	3	2	2	1	2	0	1
Other urinary	1	0	0	0	0	0	0	2	1	0	0	0	1	2	0	0
Eye	15	39	27	15	22	31	17	24	26	17	16	21	18	15	20	11
Brain,CNS	153	140	163	177	178	180	216	212	237	243	218	186	200	164	152	116
Thyroid	143	136	159	134	162	161	192	211	186	189	169	215	214	216	206	229
Other endocrine	46	30	24	20	31	37	27	29	33	29	29	49	42	41	31	24
Hodgkin's disease	75	73	78	88	76	76	98	116	131	121	121	132	144	130	101	118
Non-hodgkin's lymphoma	150	154	160	158	157	193	208	207	204	175	186	206	218	181	167	178
Unknown or ill-defined	52	42	62	36	42	35	50	50	46	49	53	48	49	33	29	19
TOTAL	2213	2223	2407	2317	2353	2485	2741	2910	2894	2834	2780	3016	3019	2760	2573	2514

Site Group	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	TOTAL
Oral Cavity	90	91	62	87	74	81	87	90	96	77	86	78	85	65	86	3565
Nasopharynx	93	68	85	90	71	84	71	70	78	87	76	76	66	105	98	4041
Esophagus	31	31	29	31	30	21	30	25	26	30	33	32	29	26	27	2175
Stomach	52	64	65	59	61	67	76	57	42	39	40	62	42	78	66	2488
Small intestine	6	7	5	9	10	11	21	7	9	12	6	8	14	15	17	285
Colon	83	96	86	104	103	120	133	156	135	141	121	158	131	243	229	3410
Rectum & rectosigmoid	83	92	83	93	99	92	102	112	114	152	84	104	89	125	154	3186
Anus,anal canal,anorectum	5	1	4	2	3	5	7	4	10	6	2	3	5	9	14	268
Liver	74	89	97	112	106	105	95	103	112	108	126	118	119	180	138	3840
Gallbladder	10	6	9	11	5	11	23	17	12	21	22	28	28	25	25	546
Bile ducts	7	12	13	8	10	9	12	17	16	7	9	18	28	35	26	394
Pancreas	33	40	38	31	46	61	62	48	49	63	54	81	68	91	113	1592
Peritoneum,Retroperitoneum	3	2	3	2	6	9	5	5	16	13	11	18	15	10	10	180
Other digestive	4	1	2	0	0	1	0	3	2	9	6	7	1	6	7	105
Nasal cavity,sinus,ear	9	8	5	4	7	4	4	11	10	12	14	5	12	13	5	428
Larynx	31	26	10	17	19	21	18	24	20	18	24	18	19	33	31	1178
Lung/bronchus	63	61	63	73	72	82	92	65	79	82	78	109	71	118	129	3647
Pleura	2	4	1	0	3	3	0	4	1	2	1	2	2	2	2	81
Other respir & thoracic	6	7	9	7	5	5	2	3	6	2	0	6	3	5	6	183
Leukemia	253	241	267	231	292	266	260	253	288	291	281	267	242	277	264	9905
Myeloma	18	39	36	28	16	32	26	25	30	23	30	27	35	47	44	1085
Bone	86	66	72	65	58	51	72	39	54	74	66	73	70	101	70	2714
Soft tissue	63	62	73	68	74	73	64	66	53	47	61	68	60	89	122	3353
Skin	49	47	46	48	43	53	49	56	56	58	36	57	29	36	35	2454
Kaposi sarcoma	7	7	10	5	3	5	12	10	4	8	3	6	5	11	6	286
Breast	358	339	376	414	377	434	488	399	421	507	492	597	499	717	834	14264
Uterus	108	120	89	107	115	98	143	125	118	139	147	171	192	205	231	4214
Ovary	75	64	79	61	65	66	71	56	57	47	64	71	55	90	86	2439
Vagina	0	2	0	2	1	0	1	5	3	1	2	2	0	0	1	74
Vulva	4	4	2	5	4	2	2	1	2	7	1	1	3	7	2	115
Other female genital	6	10	4	4	2	6	4	5	2	0	2	2	4	3	12	416
Prostate	60	45	47	37	38	49	69	68	59	68	89	89	72	129	152	2103
Testis	28	28	30	23	14	28	33	39	25	25	28	43	41	47	51	967
Penis	0	1	0	0	2	0	0	0	1	0	3	1	1	1	1	50
Other male genital	0	0	0	1	1	0	0	2	3	0	1	0	1	0	1	34
Bladder	71	70	87	67	62	80	75	76	93	81	85	104	65	103	104	3140
Kidney and renal pelvis	86	86	85	87	84	78	97	93	102	102	86	132	74	125	122	2827
Ureter	0	2	2	2	0	0	0	1	1	0	0	3	0	0	7	48
Other urinary	0	0	0	0	3	1	1	2	1	1	1	1	3	2	3	30
Eye	19	17	24	32	27	22	23	21	21	27	21	19	24	26	15	1049
Brain,CNS	139	129	173	171	185	155	162	193	187	194	158	325	277	324	342	7372
Thyroid	255	226	214	245	248	247	287	294	298	319	297	308	219	331	343	8155
Other endocrine	47	38	38	28	40	36	36	46	25	50	48	80	49	63	65	1730
Hodgkin's disease	118	122	104	96	117	108	146	114	120	141	129	145	110	133	148	4318
Non-hodgkin's lymphoma	172	149	163	141	155	162	156	190	172	206	178	257	195	329	290	7780
Unknown or ill-defined	25	31	33	25	25	41	30	27	49	44	13	14	30	33	42	1631
TOTAL	2732	2651	2723	2733	2781	2885	3147	3027	3078	3341	3115	3794	3182	4413	4576	114150

The largest number of cases in 2022 was noted in the 6th and 7th decades of life in males and in the 5th in females. The mean age was 47, the median was 55 and the mode was at 57. Pediatric malignancies were most common among children at one year of age and at four year of age.

FIGURE 11
DISTRIBUTION OF ALL CASES BY AGE AT DIAGNOSIS
 2022 (TOTAL CASES = 4,576)

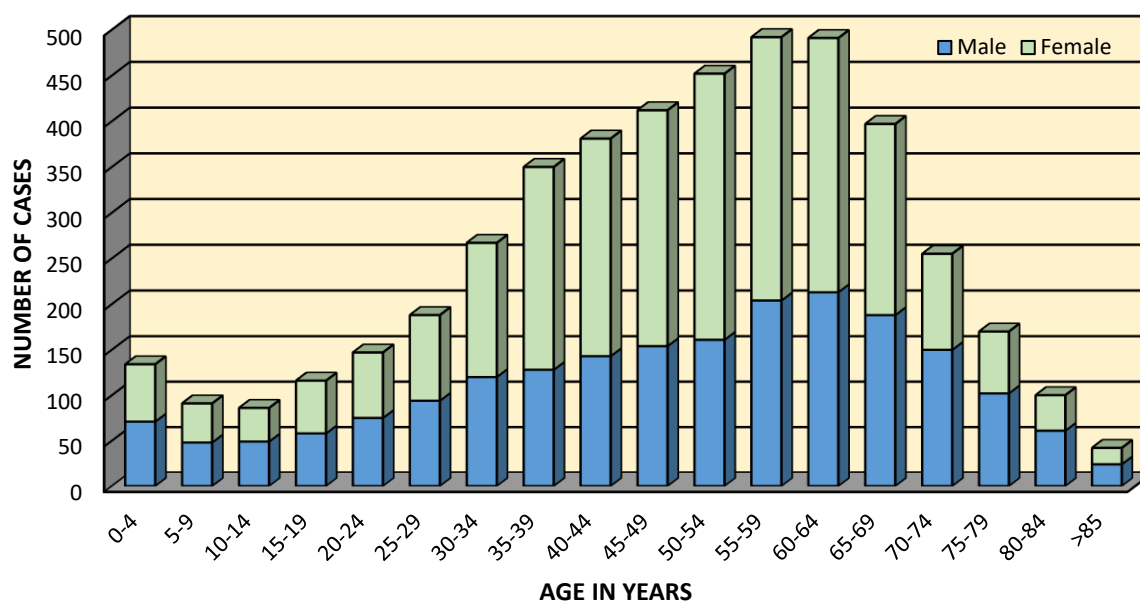
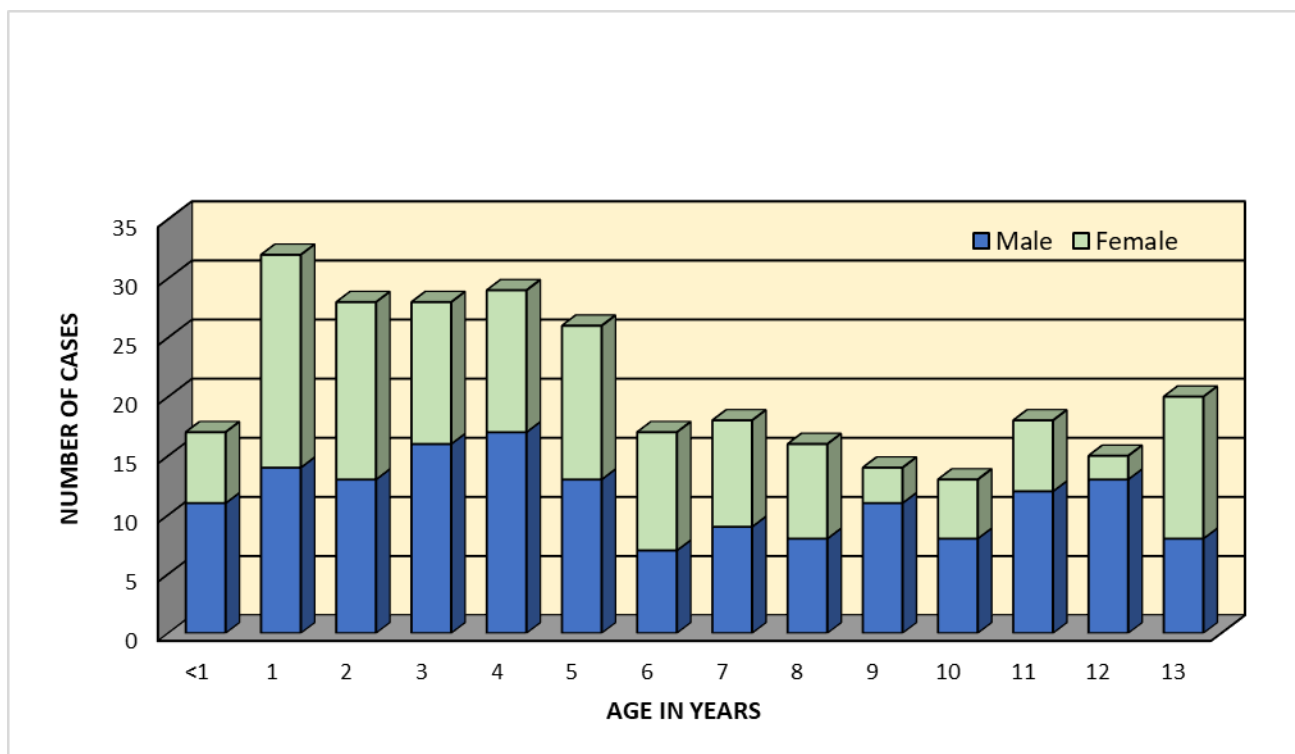


FIGURE 12
DISTRIBUTION OF PEDIATRIC CASES BY AGE AT DIAGNOSIS
 2022 (TOTAL CASES = 291)



Of the 4,576 cases in 2022, 4,269 (93.29%) were analytic (defined as cases which were first diagnosed and/or received all or part of their first course of treatment at KFSH&RC). The remaining 307 cases (6.71%) were non-analytic (defined as cases diagnosed elsewhere and received their entire first course of treatment elsewhere). Pediatric cases totaled 291, with 160 males and 131 females.

See Table 3 for the distribution of cases by site, sex, class of case, and stage at diagnosis.

TABLE 3
CASES SEEN AT KFSH&RC
BY SITE, SEX, CLASS OF CASE, AND SUMMARY STAGE
(2022)

Site Group	Total Cases	Class		Sex		STAGE					
		Analytic	NonAn	M	F	In Situ	Localized	Regional	Distant	Borderline	Unstageable
ORAL CAVITY	85	81	4	52	34	1	35	38	9	0	2
TONSIL	2	2	0	2	0	0	0	1	1	0	0
NASOPHARYNX	96	95	1	71	25	0	5	75	16	0	0
ESOPHAGUS	27	27	0	20	7	0	7	8	12	0	0
STOMACH	65	57	8	40	26	0	16	15	34	0	0
SMALL INTESTINE	17	14	3	9	8	0	8	3	6	0	0
COLON	229	195	34	129	100	1	41	77	110	0	0
RECTUM & RECTOSIGMOID	154	142	12	96	58	2	19	83	50	0	0
ANUS,ANAL CANAL,ANORECTUM	14	14	0	8	6	0	6	7	1	0	0
LIVER	138	134	4	103	34	0	90	16	32	0	0
GALLBLADDER	25	23	2	10	15	0	10	2	13	0	0
BILE DUCTS	26	26	0	18	8	0	9	6	11	0	0
PANCREAS	113	107	6	65	48	0	15	28	70	0	0
PERITONEUM,RETROPERITONEUM	21	21	0	7	14	0	14	1	6	0	0
OTHER DIGESTIVE	7	7	0	3	3	0	2	0	4	0	1
NASAL CAVITY,SINUS,EAR	4	3	1	2	2	0	3	1	0	0	0
LARYNX	31	31	0	31	0	0	16	14	1	0	0
LUNG & BRONCHUS	129	123	6	94	35	0	18	12	97	0	2
PLEURA	2	1	1	2	0	0	0	0	2	0	0
OTHER RESPIR & THORACIC	6	6	0	3	3	0	4	1	1	0	0
LEUKEMIA	263	252	11	156	108	0	0	0	264	0	0
MYELOMA	44	43	1	22	22	0	0	0	44	0	0
BONE	68	62	6	39	28	0	38	7	23	0	0
SOFT TISSUE	122	114	8	64	61	0	77	12	31	2	0
SKIN	34	30	4	16	19	2	23	2	7	0	0
KAPOSIS SARCOMA	6	5	1	5	1	0	5	0	1	0	0
BREAST	835	785	50	14	818	54	272	360	146	0	3
UTERUS	230	214	16	0	230	10	141	19	60	0	0
OVARY	80	70	10	0	80	0	31	12	37	0	0
VAGINA	1	1	0	0	1	0	0	1	0	0	0
VULVA	2	2	0	0	2	0	0	2	0	0	0
OTHER FEMALE GENITAL	11	10	1	0	11	1	2	0	8	0	0
PROSTATE	152	139	13	152	0	2	73	23	54	0	0
TESTIS	52	48	4	50	0	1	35	5	11	0	0
PENIS	1	1	0	1	0	0	0	0	1	0	0
OTHER MALE GENITAL	1	1	0	1	0	1	0	0	0	0	0
BLADDER	104	92	12	90	14	35	49	6	14	0	0
KIDNEY AND RENAL PELVIS	123	119	4	79	43	0	79	16	28	0	0
URETER	7	7	0	4	3	2	3	0	2	0	0
OTHER URINARY	3	2	1	2	1	1	1	0	1	0	0
EYE	15	14	1	10	5	0	10	5	0	0	0
BRAIN, CNS	341	329	12	158	182	0	164	9	2	166	0
THYROID	343	306	37	91	251	3	192	123	23	0	3
PITUITARY GLAND	68	64	4	39	29	0	19	4	13	32	0
HODGKIN'S DISEASE	148	139	9	87	61	0	23	48	77	0	0
NON-HODGKIN'S LYMPHOMA	290	271	19	175	115	0	65	40	184	0	1
UNKNOWN OR ILL-DEFINED	41	40	1	23	17	0	2	4	9	0	25
TOTAL	4576	4269	307	2043	2528	116	1622	1086	1516	200	37

TABLE 5
ANALYTIC MALE CASES SEEN AT KFSH&RC BY SITE AND AGE
(2022)

Site Group	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
Oral cavity	0	0	1	0	0	2	3	0	6	2	3	6	5	7	4	2	3	5	49
Tonsil	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	2
Nasopharynx	0	0	0	2	1	2	7	9	9	10	9	8	6	2	3	2	0	0	70
Esophagus	0	0	0	0	1	0	0	1	1	0	3	4	1	5	1	1	2	0	20
Stomach	0	0	0	0	0	0	2	2	2	2	2	4	8	3	5	5	1	0	36
Small intestine	0	0	0	0	0	0	1	1	0	1	1	1	1	0	0	1	0	0	7
Colon	0	0	0	0	1	1	3	2	15	18	14	17	9	3	14	6	3	1	107
Rectum & rectosigmoid	0	0	0	0	1	0	1	5	5	13	7	19	10	14	5	7	2	0	89
Anus,anal canal,anorectum	0	0	0	0	0	0	2	0	0	0	0	4	0	0	0	2	0	0	8
Liver	0	3	0	0	0	1	1	1	3	4	5	18	18	13	18	8	7	1	101
Gallbladder	0	0	0	0	0	0	0	0	1	1	0	0	2	1	1	2	0	0	8
Bile ducts	0	0	0	0	0	0	0	3	1	2	2	0	2	3	4	1	0	0	18
Pancreas	0	0	0	0	0	0	2	0	7	6	7	8	8	8	8	5	1	1	61
Retroperitoneum & Peritoneum	0	0	0	0	0	0	1	0	0	1	0	0	1	0	0	0	0	0	3
Other digestive	0	0	0	0	0	0	0	0	1	0	2	0	1	0	0	0	0	0	4
Nasal cavity,sinus,ear	0	0	0	0	0	0	0	0	1	0	1	0	1	0	0	0	0	0	3
Larynx	0	0	0	0	0	0	0	0	2	0	4	3	9	8	1	0	2	2	31
lung and brochuse	0	0	0	0	0	1	0	7	3	5	10	9	10	16	13	7	5	3	89
Pleura	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
Other respir & thoracic	1	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	3
Myeloma	0	0	0	0	0	1	3	2	3	2	3	2	2	0	2	1	1	0	22
leukemia	28	7	13	18	12	17	10	8	8	9	9	7	9	6	2	3	1	1	168
Bone	0	5	8	7	4	3	4	1	0	2	2	2	0	0	1	0	1	0	40
Soft tissue	4	3	3	5	2	8	7	8	1	5	3	2	5	2	0	0	0	0	58
Kaposi sarcoma	0	0	0	0	0	1	0	0	0	0	0	2	0	0	1	0	0	0	4
Skin	0	0	0	0	1	0	0	1	1	0	0	0	2	4	2	0	2	1	14
Breast	0	0	0	0	0	1	0	1	1	2	1	0	3	2	1	0	1	0	13
Prostate	0	0	0	0	0	0	0	0	2	2	14	9	25	32	22	18	11	4	139
Testis	1	0	0	0	8	12	13	10	3	0	0	0	0	0	0	0	0	0	47
Penis	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
Other male genital	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
Bladder	0	0	0	0	0	0	0	1	3	5	9	11	16	12	12	4	5	2	80
Kidney and renal pelvis	3	1	1	0	0	0	2	3	8	12	9	10	10	8	3	5	2	0	77
Ureter	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	1	0	4
Other urinary	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
Eye	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9
Brain & CNS	7	12	6	3	13	10	8	16	11	10	8	16	13	5	6	5	3	0	152
Thyroid	0	1	0	2	4	7	13	11	10	11	6	4	3	4	3	4	1	0	84
Other endocrine	3	1	1	3	0	2	2	4	2	6	2	2	3	2	0	3	0	0	36
Hodgkin's disease	1	6	13	13	8	5	10	6	7	3	2	5	1	1	0	1	0	0	82
Non-hodgkin's lymphoma	3	6	2	1	8	12	16	14	12	10	11	13	11	10	6	0	3	3	141
Unknown or ill-defined	7	0	0	0	0	0	1	0	2	0	1	4	3	1	1	2	1	0	23
TOTAL	67	45	48	54	65	87	112	117	131	144	150	191	199	176	141	96	59	24	1906

TABLE 6
ANALYTIC FEMALE CASES SEEN AT KFSH&RC BY SITE AND AGE
 (2022)

Site Group	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
Oral Cavity	0	0	0	0	0	1	2	1	2	2	6	5	3	4	1	2	2	1	32
Nasopharynx	0	0	0	2	1	2	1	0	1	6	4	2	3	1	0	0	0	2	25
Esophagus	0	0	0	0	0	0	0	0	1	0	0	0	1	1	3	0	1	0	7
Stomach	0	0	0	0	1	1	1	1	4	2	1	1	2	3	0	2	3	0	22
Small intestine	0	0	0	0	0	0	0	2	1	0	2	2	0	0	0	0	1	0	8
Colon	0	1	1	0	0	2	5	5	5	8	14	14	12	9	6	2	0	3	87
Rectum & rectosigmoid	0	0	0	0	0	0	1	1	6	8	5	8	8	9	4	0	3	0	53
Anus,anal canal,anorectum	0	0	0	0	0	0	0	0	0	0	1	1	0	1	2	1	0	0	6
Liver	2	0	0	0	0	0	1	0	2	1	0	6	8	8	0	3	1	1	33
Gallbladder	0	0	0	0	0	0	0	0	1	1	1	4	3	2	2	1	0	0	15
Bile ducts	0	0	0	0	0	0	0	0	1	1	2	2	0	1	1	0	0	0	8
Pancreas	0	0	1	1	1	0	0	2	1	2	4	13	7	5	4	3	2	0	46
Retroperitoneum, Peritoneum	1	0	1	0	0	0	0	0	1	0	2	0	0	0	1	0	0	0	6
Other digestive	0	0	0	1	0	0	0	0	0	0	0	0	1	1	1	0	0	0	4
Nasal cavity,sinus,ear	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
Lung/ Bronchus	0	0	0	0	1	1	2	3	2	3	3	2	3	7	3	1	2	0	33
Other respir & thoracic	2	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	4
Leukemia	21	19	5	4	4	4	7	11	8	5	13	7	6	3	1	1	0	0	119
Myeloma	0	0	0	0	0	0	0	0	0	2	6	6	5	0	1	0	1	0	21
Bone	2	0	4	1	3	4	5	2	1	0	1	0	1	1	0	0	0	0	25
Soft tissue	5	2	2	7	6	3	3	4	4	3	4	5	2	1	1	1	2	0	54
Skin	0	0	0	0	0	1	0	1	0	1	3	2	2	3	4	0	0	0	17
Kaposi sarcoma	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Breast	0	0	0	2	7	11	44	78	109	115	115	93	99	50	20	21	6	2	772
Uterus	0	0	0	0	1	3	5	11	12	10	25	34	34	37	24	9	8	1	216
Ovary	2	0	1	4	3	7	0	10	5	9	7	4	11	7	3	3	0	0	76
Vagina	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
Vulva	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	2
Other female genital	0	0	0	1	1	0	0	0	1	1	0	0	1	3	1	0	2	0	11
Bladder	0	0	0	0	0	0	1	0	0	0	0	1	2	0	3	2	0	3	12
Kidney and renal pelvis	8	3	1	2	0	1	0	4	3	2	1	5	3	3	2	4	0	0	42
Ureter	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	2
Other urinary	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
Eye	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
Brain and CNS	9	10	7	2	4	2	14	15	17	25	14	18	15	9	9	6	2	0	178
Thyroid	0	1	3	14	14	25	29	27	17	23	23	19	13	8	3	1	2	0	222
Other endocrine	1	1	0	2	0	3	3	4	3	1	3	0	3	1	0	0	0	0	25
Hodgkin's disease	0	3	6	5	12	8	6	7	4	1	2	2	0	1	0	0	0	0	57
Non-hodgkin's lymphoma	1	0	3	4	5	7	6	6	5	10	11	12	12	7	1	1	3	1	95
Unknown or ill-defined	3	0	1	1	0	0	0	0	0	2	0	4	2	4	1	0	0	1	19
TOTAL	63	40	36	53	64	86	136	195	217	244	274	274	265	192	103	64	41	15	2363

TRENDS IN RELATIVE FREQUENCY OF CANCER AT KFSH&RC (CONT'D)

The crude relative frequencies of primary cancers seen at KFSH&RC are slightly different from cases of USA. Most common tumors of USA are (Breast, colorectal, and Thyroid), while Breast, Colorectal and NHL cancers are more common at KFSH&RC. The following 2022 cases exhibit significant differences:

TABLE 7
COMPARATIVE DATA - KFSH&RC VS USA
(% to TOTAL CANCER CASES)

SITE	KFSH&RC 2022 (Hospital Level)	USA 2022 (National Level)
BREAST	18.20%	15%
THYROID	7.50%	2.30%
CNS, BRAIN	7.50%	1.30%
LEUKEMIA	6.60%	3.20%
NON-HODGKIN'S LYMPHOMA	5.40%	4.20%
UTERUS	5%	4.20%
COLON	5%	5.50%
RECTUM	3.37%	2.30%
PROSTATE	3.32%	14%
HODGKIN LYMPHOMA	3.23%	0.45%

Breast - The most common malignancy seen at KFSH&RC is breast cancer, comprising 18.2% of all cases, as compared to 15% of all neoplasms diagnosed in the U.S.A. It affects mostly women under the age of 50, while in the U.S.A., those more than 50 years of age are most frequently affected. KFSH&RC as in the Western countries, it is the number one cancer among women.

Thyroid – 7.5% of all malignancies in KFSH&RC are thyroid cancer, much higher than in the West, it accounts for only 2.3% of all cases in the U.S.A.

Brain, CNS – The incidence of Brain & CNS is comparatively more frequent at KFSH&RC than in Western countries. In the U.S.A., it constitutes 1.3% of all cancers, compared to 7.5% at KFSH&RC.

Leukemia - The most striking feature is the high crude relative frequency of leukemia cases, 6.6% of all cases seen at KFSH&RC, as compared to 3.2% of all neoplasms diagnosed in the U.S.A. It is the most common malignancy among pediatric cases.

Non-Hodgkin Lymphoma - Cases of non-Hodgkin's lymphoma account for 4.2% of all cases in the U.S.A., whereas at KFSH&RC NHL accounts for 5.4% of all cancers.

Uterus - Primary malignant neoplasms of the Uterus at KFSH&RC account for 5% of all malignancies. This is somewhat higher than in the U.S.A., with only 4.2% of all cases.

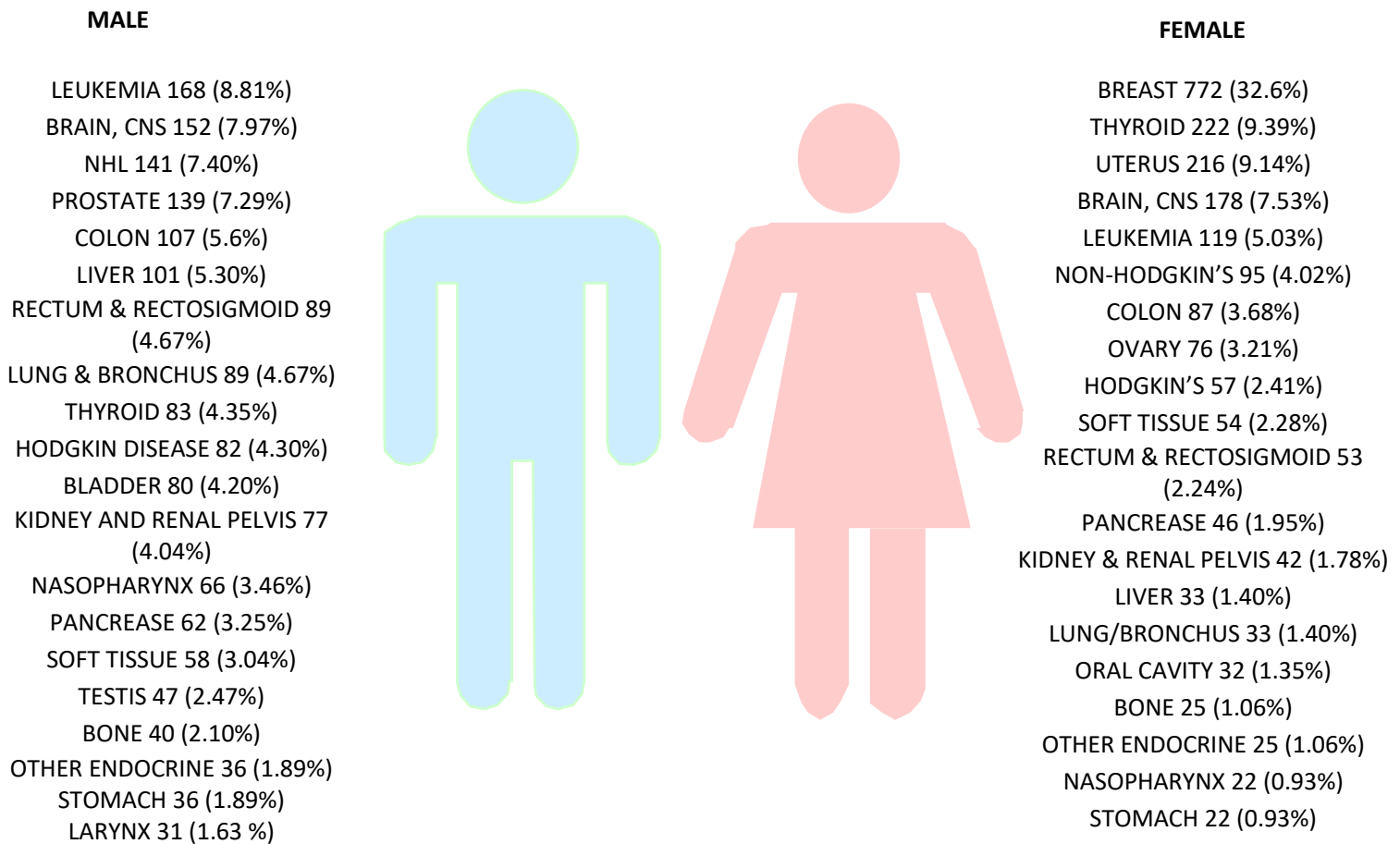
Colon - In United States it accounts for 5.5% of all cancers, whereas at KFSH&RC represents 5% of the cases.

Rectum - In United States it accounts for 2.3% of all cancers, whereas at KFSH&RC represents 3.3% of the cases.

Prostate – Frequency of Prostate cancer in U.S.A. is 14%, while in KFSH&RC it accounts only for 3.3% of all cancers.

Hodgkin Disease – The relative frequency of Hodgkin Disease cases at KFSH&RC is 3.2% as compared to the U.S.A. recorded as 0.45%.

FIGURE 13
DISTRIBUTION OF 20 MOST COMMON MALIGNANCIES
 2022 ANALYTIC CASES (TOTAL CASES = 4,265)



This figure only categories analytic cases seen at KFSH&RC. Table 3 clearly differentiate analytic and non-analytic cases

FIGURE 14
DISTRIBUTION OF MOST COMMON PEDIATRIC MALIGNANCIES
 2022 ANALYTIC CASES (TOTAL CASES= 277)

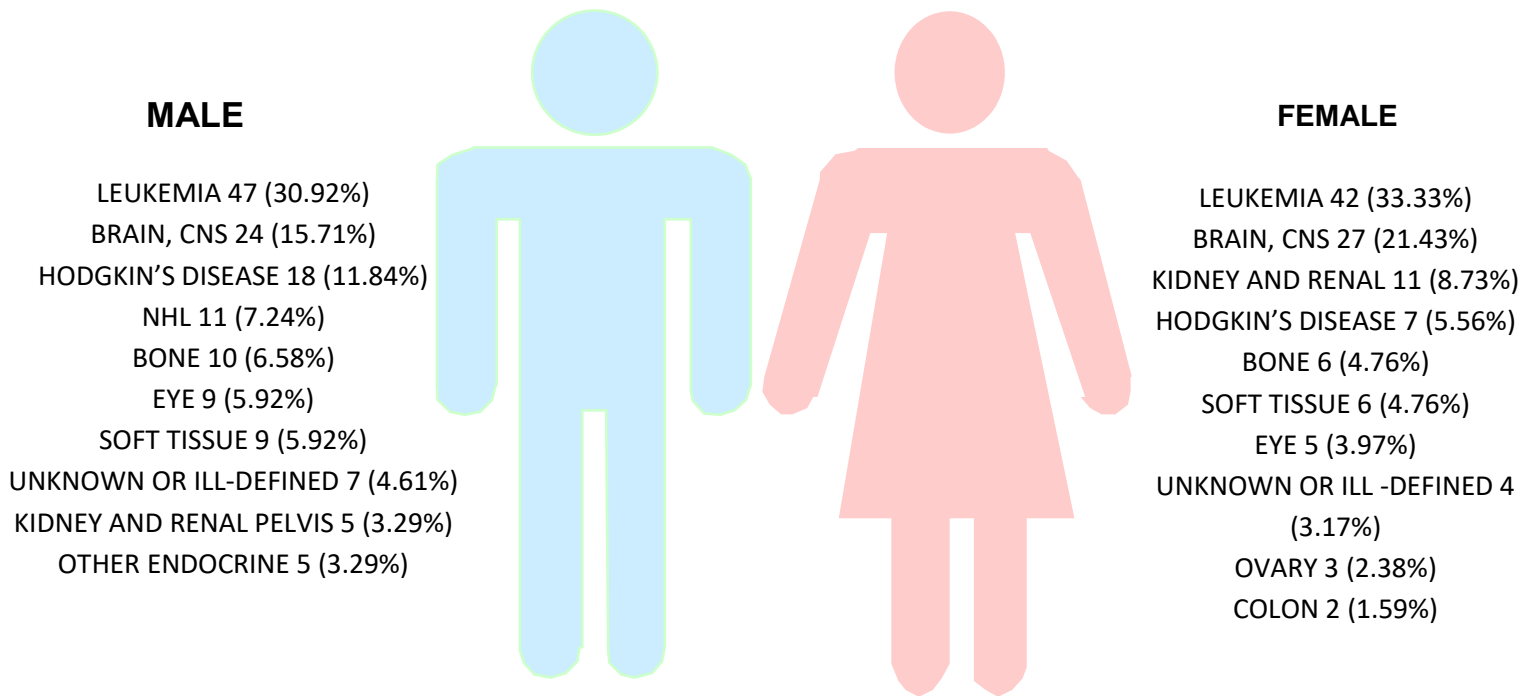


FIGURE 15
DISTRIBUTION OF MOST COMMON PEDIATRIC MALIGNANCIES BY HISTOLOGY
 2022 ANALYTIC CASES (TOTAL CASES= 277)

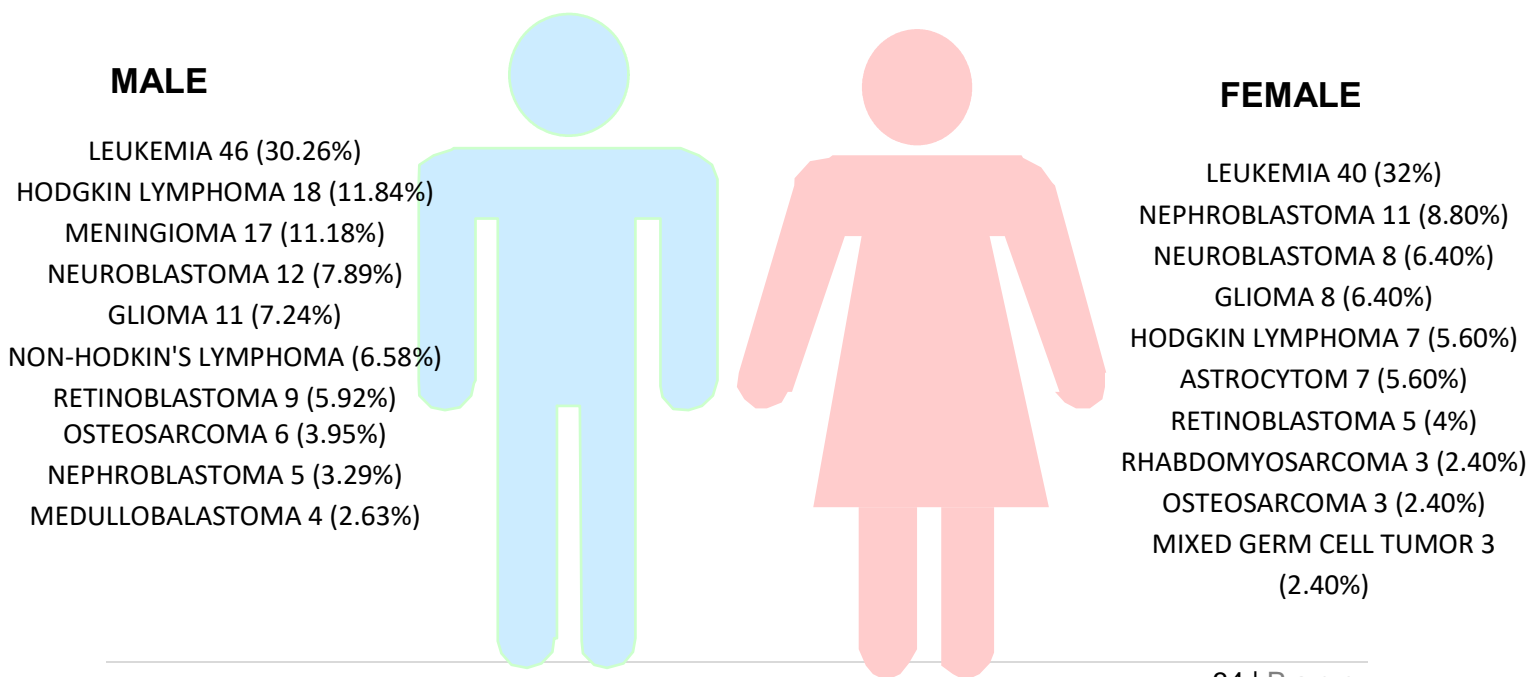


TABLE 8
PRIMARY SITE (2022)
(INCLUDES MULTIPLE PRIMARIES)

SITE	HISTOLOGY (NOS - Not Otherwise Specified)	ALL CASES	ADULTS		PEADIATRICS	
			MALE	FEMALE	MALE	FEMALE
		4,576	1,881	2,401	160	133
SALIVARY GLANDS		9	4	4	1	0
	MUCOEPIDERMOID CARCINOMA	3	1	1	1	0
	SQUAMOUS CELL CARCINOMA KERATINIZING	1	1	0	0	0
	LYMPHOEPITHELIAL CARCINOMA	1	0	1	0	0
	INVASIVE CARCINOMA	1	1	0	0	0
	ADENOID CYSTIC CARCINOMA	1	0	1	0	0
	ADENOCARCINOMA NOS	1	1	0	0	0
	ACINAR CELL CARCINOMA	1	0	1	0	0
BONE		72	33	23	10	6
	SMALL CELL SARCOMA	2	0	0	1	1
	OSTEOSARCOMA	24	11	7	3	3
	CENTRAL OSTEOSARCOMA	1	1	0	0	0
	MIXED GERM CELL TUMOR	1	0	0	0	1
	EWING SARCOMA	14	7	4	2	1
	CHONDROSARCOMA	4	2	2	0	0
	GIANT CELL TUMOR OF BONE	3	0	3	0	0
	SARCOMA NOS	1	1	0	0	0
	FIBROSARCOMA NOS	2	1	1	0	0
	SPINDLE CELL SARCOMA	5	4	1	0	0
	RHABDOMYOSARCOMA	1	1	0	0	0
	CHORDOMA NOS	3	2	1	0	0
	EPITHELIOID SARCOMA	1	0	1	0	0
	NEOPLASM MALIGNANT	1	0	1	0	0
	CHONDROSARCOMA, GRADE 1	2	1	1	0	0
	CHONDROID CHORDOMA	1	0	1	0	0
	SQUAMOUS CELL CARCINOMA NOS	1	1	0	0	0
	OSTEOSARCOMA IN PAGETS DISEASE	4	1	0	3	0
	CHONDROBLASTIC OSEOSARCOMA	1	0	0	1	0
BONE MARROW		263	114	74	42	33
	LANGERHANS CELL HISTIOCYTOSIS	2	1	0	0	1
	ACUTE LEUKEMIA	63	13	7	24	19
	ACUTE MYELOID LEUKEMIA	68	39	18	5	6
	LEUKEMIA NOS	22	5	3	9	5
	BURKITT CELL LEUKEMIA	2	1	0	0	1
	ESSENTIAL THROMBOCYTHEMIA	7	3	3	1	0
	CHRONIC MYELOID LEUKEMIA	35	22	11	2	0
	MYELOYDPLASTIC SYNDROME	15	9	5	1	0
	ACUTE MYELOID LEUKEMIA MINIMAL DIFF.	1	0	0	0	1
	T-CELL LARGE GRAN LYMPH LEUK/3	2	1	1	0	0
	PROLYMPHOCYTIC LEUKEMIA NOS	1	0	1	0	0
	POLYCYTHEMIA VERA	6	4	2	0	0
	MYELOSCLEROSIS WITH MYELOID METAPLASIA	1	0	1	0	0
	MYELOPROLIFERATIVE NEOPLASM	18	10	8	0	0
	HAIRY CELL LEUKEMIA	3	2	1	0	0
	CHRONIC MYELOMONOCYTIC LEUKEMIA	1	1	0	0	0
	ACUTE MYELOMONOCYTIC LEUKEMIA	6	1	5	0	0
	ACUTE MYELOID LEUKEMIA MINIMAL DIFF.	2	0	2	0	0
	ACUTE MYELOID LEUKEMIA M6 TYPE	5	1	4	0	0
	ACUTE MONOCYTIC LEUKEMIA	3	1	2	0	0

SITE	HISTOLOGY (NOS - Not Otherwise Specified)	ALL CASES	ADULTS		PEADIATRICS	
			MALE	FEMALE	MALE	FEMALE
		4,576	1,881	2,401	160	133
BRAIN,CNS		342	134	153	25	30
	TERATOMA BENIGN	1	0	0	0	1
	PILOCYTIC ASTROCYTOMA	9	2	2	2	3
	PAPILLARY GLIONEURONAL TUMOR	1	0	0	0	1
	NEUROBLASTOMA	2	0	0	1	1
	MENINGIOMA NOS	98	30	66	0	2
	MENINGIOMA MALIGNANT	7	2	5	0	0
	MEDULLOBLASTOMA NOS	9	2	1	4	2
	MALIGNANT RHABDOID TUMOR	1	0	0	1	0
	GLIOSARCOMA	2	1	0	1	0
	GLIOMA MALIGNANT	39	13	11	7	8
	GLIOMA BENIGN	4	2	0	0	2
	GLIOBLASTOMA NOS	54	33	18	0	3
	GIANT CELL TUMOR	1	0	0	0	1
	GERMINOMA	2	0	0	2	0
	GANGLIONEUROBLASTOMA	1	0	0	1	0
	GANGLIOGLIOMA	7	2	2	2	1
	EPENDYMOMA	10	3	4	0	3
	DYSEMBRYOPLASTIC NEUROEPITHELIAL TUMOR	4	1	2	1	0
	DIFFUSE MIDLINE GLIOMA	3	0	1	2	0
	CRANIOPHARYNGIOMA	4	3	0	0	1
	ASTROCYTOMA	22	10	11	0	1
	ANGIOMATOUS MENINGIOMA	1	0	0	1	0
	SUBEPENDYMOMA	2	1	1	0	0
	SOLITARY FIBROUS TUMOR	3	2	1	0	0
	PSAMMOMATOUS MENINGIOMA	1	0	1	0	0
	OSTEOSARCOMA NOS	1	1	0	0	0
	OLIGODENDROGLIOMA NOS	9	7	2	0	0
	OLIGODENDROGLIOMA ANAPLASTIC	2	1	1	0	0
	NEURILEMOMA	16	9	7	0	0
	NERVE SHEATH TUMOR, NOS	1	1	0	0	0
	NEOPLASM BENIGN	1	0	1	0	0
	MENINGOTHELIAL MENINGIOMA	5	2	3	0	0
	HEMANGIOBLASTOMA	1	0	1	0	0
	GLOMUS JUGULARE TUMOR	1	0	1	0	0
	FIBROUS MENINGIOMA	2	0	2	0	0
	CHOROID PLEXUS PAPILLOMA NOS	1	1	0	0	0
	CENTRAL NEUROCYTOMA	1	1	0	0	0
	ATYPICAL MENINGIOMA	13	4	9	0	0
HODGKIN'S DISEASE		148	69	53	18	8
	HODGKIN LYMPHOMA NODULAR SCLEROSIS	51	20	22	6	3
	HODGKIN LYMPHOMA NOS	72	38	20	9	5
	HODGKIN LYMPHOMA NODULAR LYMOHOCYTE	14	5	6	3	0
	HODGKIN LYMPHOMA MIXED CELLULARITY	8	4	4	0	0
	HODGKIN LYMPHOMA LYMPHOCYTE-RICH	3	2	1	0	0

SITE	HISTOLOGY (NOS - Not Otherwise Specified)	ALL CASES	ADULTS		PEADIATRICS	
			MALE	FEMALE	MALE	FEMALE
		4,576	1,881	2,401	160	133
NON-HODGKIN'S LYMPHOMA		290	154	104	21	11
	MATURE T-CELL LYMPHOMA	13	7	2	3	1
	B LYMPHOBLASTIC LEUKEMIA/LYMPHOMA	30	10	2	9	9
	BURKITT LYMPHOMA	8	4	1	2	1
	MALIGNANT LYMPHOMA LARGE B-CELL DIFFUSE	99	56	39	4	0
	PRECURSOR CELL LYMPHOBLASTIC LYMPHOMA	2	1	1	0	0
	CORTICAL T ALL	7	1	4	2	0
	MALIGNANT LYMPHOMA NON-HODGKIN NOS	41	25	15	1	0
	SMALL LYMPHOCYTIC LYMPHOMA	6	3	3	0	0
	T-CELL LYMPHOPROLIFERATIVE DISORDER	1	1	0	0	0
	NK/T-CELL LYMPHOMA NASAL AND NASAL-TYPE	1	1	0	0	0
	MYCOSIS FUNGOIDES	21	11	10	0	0
	MARGINAL ZONE B-CELL LYMPHOMA NOS	2	0	2	0	0
	MANTLE CELL LYMPHOMA	4	2	2	0	0
	MALIGNANT LYMPHOMA NOS	14	5	9	0	0
	LARGE B-CELL LYMPHOMA	3	2	1	0	0
	INTESTINAL T-CELL LYMPHOMA	1	1	0	0	0
	FOLLICULAR LYMPHOMA NOS	32	22	10	0	0
	CUTANEOUS T-CELL LYMPHOMA	1	0	1	0	0
	ANGIOIMMUNOBLASTIC T-CELL LYMPHOMA	1	0	1	0	0
	LG CELL LYMPHOMA T & NULL CELL TYPE	3	2	1	0	0
OTHER ENDOCRINE		66	33	25	5	3
	NEUROBLASTOMA	5	1	0	3	1
	PITUITARY ADENOMA	30	16	12	1	1
	RENAL CELL CARCINOMA CHROMOPHOBE TYPE	1	0	0	0	1
	PINEOBLASTOMA	1	0	0	1	0
	THYMOMA TYPE B3 MALIGNANT	2	1	1	0	0
	THYMOMA TYPE B2 MALIGNANT	3	3	0	0	0
	THYMOMA TYPE B1 MALIGNANT	1	0	1	0	0
	THYMOMA MALIGNANT NOS	2	1	1	0	0
	SQUAMOUS CELL CARCINOMA NOS	1	0	1	0	0
	SMALL CELL CARCINOMA NOS	1	1	0	0	0
	PROLACTINOMA	1	0	1	0	0
	PITUITARY CARCINOMA NOS	6	4	2	0	0
	PHEOCHROMOCYTOMA MALIGNANT	3	3	0	0	0
	PAPILLARY MICROCARCINOMA	0	0	0	0	0
	GERMINOMA	1	1	0	0	0
	GANGLIONEUROBLASTOMA	1	0	1	0	0
	CRANIOPHARYNGIOMA ADAMANTINOMATOUS	1	1	0	0	0
	CHORDOMA NOS	0	0	0	0	0
	CHONDROID CHORDOMA	0	0	0	0	0
	CARCINOMA NOS	0	0	0	0	0
	ASTROCYTOMA NOS	1	0	1	0	0
	ADRENAL CORTICAL CARCINOMA	5	1	4	0	0

SITE	HISTOLOGY (NOS - Not Otherwise Specified)	ALL CASES	ADULTS		PEADIATRICS	
			MALE	FEMALE	MALE	FEMALE
		4,576	1,881	2,401	160	133
PERITONEUM & RETROPERITONEUM		10	3	5	0	2
	EXTRA-ADRENAL PARAGANGLIOMA	1	0	1	0	0
	NEUROBLASTOMA NOS	1	0	0	0	1
	PARAGANGLIOMA MALIGNANT	1	1	0	0	0
	NEOPLASM MALIGNANT	0	0	0	0	0
	MESOTHELIOMA MALIGNANT	1	0	1	0	0
	EPITHELIOID MESOTHELIOMA MALIGNANT	1	0	1	0	0
	DYSGERMINOMA	0	0	0	0	0
	CARCINOMA NOS	0	0	0	0	0
	MUCINOUS ADENOCARCINOMA	4	2	2	0	0
	CARCINOID TUMOR NOS	0	0	0	0	0
	MIXED GERM CELL TUMOR	1	0	0	0	1
	ADENOCARCINOMA NOS	0	0	0	0	0
SOFT TISSUE		118	51	52	9	6
	RHABDOMYOSARCOMA	9	1	0	4	4
	SARCOMA NOS	13	3	9	1	0
	EMBRYONAL RHABDOMYOSARCOMA	4	0	0	2	2
	CLEAR CELL SARCOMA	3	1	1	1	0
	SPINDLE CELL SARCOMA	11	6	4	1	0
	SYNOVIAL SARCOMA SPINDLE CELL	1	0	1	0	0
	SYNOVIAL SARCOMA	7	5	2	0	0
	SYNOVIAL SARCOMA BIPHASIC	2	2	0	0	0
	SPINDLE CELL CARCINOMA NOS	1	1	0	0	0
	SOLITARY FIBROUS TUMOR MALIGNANT	1	1	0	0	0
	SMALL CELL SARCOMA	4	2	2	0	0
	NEUROENDOCRINE CARCINOMA NOS	0	0	0	0	0
	NEUROECTODERMAL TUMOR	1	0	1	0	0
	MYXOID LIPOSARCOMA	6	2	4	0	0
	MALIGNANT FIBROUS HISTIOCYTOMA	3	1	2	0	0
	LIPOSARCOMA WELL DIFFERENTIATED	3	1	2	0	0
	LIPOSARCOMA NOS	7	5	2	0	0
	LEIOMYOSARCOMA NOS	4	0	4	0	0
	HEMANGIOSARCOMA	5	1	4	0	0
	GIANT CELL SARCOMA	3	2	1	0	0
	FIBROMYXOSARCOMA	5	2	3	0	0
	FIBROBLASTIC OSTEOSARCOMA	1	0	1	0	0
	EWING SARCOMA	11	7	4	0	0

SITE	HISTOLOGY (NOS - Not Otherwise Specified)	ALL CASES	ADULTS		PEADIATRICS	
			MALE	FEMALE	MALE	FEMALE
		4,576	1,881	2,401	160	133
	ENDOMETRIAL STROMAL SARCOMA NOS	0	0	0	0	0
	LANGERHANS CELL SARCOMA	1	0	1	0	0
	DESMOPLASTIC SMALL ROUND CELL TUMOR	2	2	0	0	0
	DERMATOFIBROSARCOMA	5	4	1	0	0
	CHONDROSARCOMA NOS	1	1	0	0	0
	CHONDROBLASTIC OSTEOSARCOMA	1	1	0	0	0
	CARCINOSARCOMA NOS	3	0	3	0	0
	ADENOSARCOMA	1	0	1	0	0
	KAPOSIS SARCOMA	6	5	0	0	1
	KAPOSI SARCOMA	6	5	0	0	1
	OVARY	86	0	83	0	3
	MIXED GERM CELL TUMOR	5	0	3	0	2
	YOLK SAC TUMOR	3	0	2	0	1
	SMALL CELL CARCINOMA	2	0	2	0	0
	SEROUS CYSTADENOCARCINOMA	44	0	44	0	0
	SEROMUCINOUS CARCINOMA	1	0	1	0	0
	MUCINOUS ADENOCARCINOMA	6	0	6	0	0
	MICROPAPILLARY SEROUS CARCINOMA NON-INV.	2	0	2	0	0
	GRANULOSA CELL TUMOR MALIGNANT	7	0	7	0	0
	GRANULOSA CELL TUMOR ADULT TYPE	1	0	1	0	0
	ENDOMETRIOID ADENOCARCINOMA	3	0	3	0	0
	DYSGERMINOMA	4	0	4	0	0
	CLEAR CELL ADENOCARCINOMA	2	0	2	0	0
	CHORIOCARCINOMA NOS	1	0	1	0	0
	ADENOCARCINOMA NOS	5	0	5	0	0
	LIVER	138	101	32	3	2
	HEPATOBLASTOMA	1	0	0	0	1
	HEPATOCELLULAR CARCINOMA	115	89	22	3	1
	NEUROENDOCRINE CARCINOMA	3	0	3	0	0
	HCC & CHOLANGIOCARCINOMA	2	1	1	0	0
	CHOLANGIOCARCINOMA	8	6	2	0	0
	ATYPICAL CARCINOID TUMOR	1	1	0	0	0
	ADENOCARCINOMA	8	4	4	0	0
	PANCREAS	113	65	47	0	1
	NEUROENDOCRINE CARCINOMA	5	1	3	0	1
	SOLID PSEUDOPAPILLARY CARCINOMA	1	0	1	0	0
	SMALL CELL CARCINOMA	1	0	1	0	0
	PANCREATIC ENDOCRINE TUMOR MALIGNANT	1	1	0	0	0
	INTRADUCTAL PAPILLARY MUCINOUS CARCINOMA	1	0	1	0	0
	INTRADUCTAL ONCOCYTIC PAPILLARY NEOPLASM	1	0	1	0	0
	CARCINOMA UNDIFFERENTIATED NOS	1	1	0	0	0
	CARCINOID TUMOR NOS	6	5	1	0	0
	ATYPICAL CARCINOID TUMOR	2	2	0	0	0
	ADENOSQUAMOUS CARCINOMA	1	1	0	0	0
	ADENOCARCINOMA NOS	93	54	39	0	0
	PHARYNX & ILL-DEFINED	1	0	1	0	0
	SQUAMOUS CELL CARCINOMA KERATINIZING NOS	1	0	1	0	0

SITE	HISTOLOGY (NOS - Not Otherwise Specified)	ALL CASES	ADULTS		PEADIATRICS	
			MALE	FEMALE	MALE	FEMALE
		4,576	1,881	2,401	160	133
PLEURA		2	2	0	0	0
	ADENOCARCINOMA WITH MIXED SUBTYPES	1	1	0	0	0
	MESOTHELIOMA MALIGNANT	1	1	0	0	0
SKIN (MELANOMA)		7	3	4	0	0
	MALIGNANT MELANOMA NOS	7	3	4	0	0
SKIN (NON MELANOMA)		28	13	15	0	0
	SQUAMOUS CELL CARCINOMA NOS	12	8	4	0	0
	SQUAMOUS CELL CARCINOMA IN SITU NOS	2	1	1	0	0
	NODULAR HIDRADENOMA MALIGNANT	1	0	1	0	0
	EPITHELIOID HEMANGIOENDOTHELIOMA	1	0	1	0	0
	DERMATOFIBROSARCOMA NOS	2	1	1	0	0
	BASAL CELL CARCINOMA NOS	8	2	6	0	0
	BASAL CELL CARCINOMA NODULAR	1	0	1	0	0
	ADENOID CYSTIC CARCINOMA	1	1	0	0	0
SMALL INTESTINE		18	10	8	0	0
	ADENOCARCINOMA NOS	12	6	6	0	0
	ADENOCARCINOMA INTESTINAL TYPE	1	0	1	0	0
	CARCINOID TUMOR NOS	3	3	0	0	0
	GASTROINTESTINAL STROMAL SARCOMA	2	1	1	0	0
STOMACH		66	41	25	0	0
	SQUAMOUS CELL CARCINOMA NOS	2	0	2	0	0
	SMALL CELL CARCINOMA NOS	2	1	1	0	0
	SIGNET RING CELL CARCINOMA	12	7	5	0	0
	NEUROENDOCRINE CARCINOMA NOS	3	2	1	0	0
	GASTROINTESTINAL STROMAL SARCOMA	2	2	0	0	0
	CARCINOMA DIFFUSE TYPE	2	1	1	0	0
	CARCINOID TUMOR NOS	2	1	1	0	0
	ATYPICAL CARCINOID TUMOR	1	1	0	0	0
	ADENOCARCINOMA NOS	30	19	11	0	0
	ADENOCARCINOMA INTESTINAL TYPE	10	7	3	0	0
THYROID		341	90	248	1	2
	PAPILLARY MICROCARCINOMA	7	1	6	0	0
	PAPILLARY CARCINOMA NOS	2	0	2	0	0
	PAPILLARY CARCINOMA FOLLICULAR VARIANT	4	0	4	0	0
	PAPILLARY CARCINOMA COLUMNAR CELL	7	1	6	0	0
	PAPILLARY ADENOCARCINOMA NOS	278	78	197	1	2
	PAPILLARY ADENOCARCINOMA IN SITU	1	0	1	0	0
	OXYPHILIC ADENOCARCINOMA	9	2	7	0	0
	MICROPAPILLARY CARCINOMA, NOS	2	1	1	0	0
	MEDULLARY CARCINOMA NOS	3	1	2	0	0
	PAPILLARY THYROID CARCINOMA (INVASIVE EFVPTC)	4	1	3	0	0
	FOLLICULAR THYROID CARCINOMA ANGOINVASIVE	4	0	4	0	0
	FOLLICULAR CARCINOMA MINIMALLY INVASIVE	3	0	3	0	0
	FOLLICULAR ADENOCARCINOMA NOS	4	1	3	0	0
	CARCINOMA NOS	9	2	7	0	0
	CARCINOMA ANAPLASTIC NOS	4	2	2	0	0

SITE	HISTOLOGY (NOS - Not Otherwise Specified)	ALL CASES	ADULTS		PEADIATRICS	
			MALE	FEMALE	MALE	FEMALE
		4,576	1,881	2,401	160	133
UTERUS NOS		5	0	5	0	0
	LEIOMYOSARCOMA NOS	3	0	3	0	0
	CARCINOSARCOMA NOS	1	0	1	0	0
	SMALL CELL CARCINOMA NOS	1	0	1	0	0
VAGINA		1	0	1	0	0
	SQUAMOUS CELL CA. LG CELL NONKERATINIZING NOS	1	0	1	0	0
VULVA		2	0	2	0	0
	SQUAMOUS CELL CARCINOMA KERATINIZING NOS	2	0	2	0	0
BILE DUCTS		26	18	8	0	0
	ADENOCARCINOMA NOS	18	13	5	0	0
	CHOLANGIOCARCINOMA	7	4	3	0	0
	ADENOCARCINOMA IN VILLOUS ADENOMA	1	1	0	0	0
BREAST		834	14	820	0	0
	SQUAMOUS CELL CARCINOMA NOS	1	0	1	0	0
	SPINDLE CELL CARCINOMA NOS	2	0	2	0	0
	SOLID PAPILLARY CARCINOMA WITH INVASION	2	1	1	0	0
	SMALL CELL CARCINOMA NOS	1	0	1	0	0
	SECRETORY CARCINOMA OF BREAST	1	0	1	0	0
	PHYLLODES TUMOR MALIGNANT	5	0	5	0	0
	PAPILLARY CARCINOMA NOS	3	0	3	0	0
	PAPILLARY CARCINOMA IN SITU	2	0	2	0	0
	IN SITU INTRADUCTAL PAPILLARY ADENOCARCINOMA	2	0	2	0	0
	NONINFILTRATING INTRACYSTIC CARCINOMA	1	1	0	0	0
	NEOPLASM MALIGNANT	2	0	2	0	0
	MUCINOUS ADENOCARCINOMA	2	0	2	0	0
	METAPLASTIC CARCINOMA NOS	3	0	3	0	0
	LOBULAR CARCINOMA NOS	42	0	42	0	0
	LOBULAR CARCINOMA IN SITU NOS	4	0	4	0	0
	INVASIVE MICROPAPILLARY CARCINOMA	2	0	2	0	0
	INVASIVE CARCINOMA OF NO SPECIAL TYPE	702	12	690	0	0
	INTRADUCTAL CARCINOMA NONINFILTRATING NOS	44	0	44	0	0
	INFILTRATING DUCT AND LOBULAR CARCINOMA	3	0	3	0	0
	CARCINOMA NOS	4	0	4	0	0
	ADENOID CYSTIC CARCINOMA	1	0	1	0	0
	ADENOCARCINOMA WITH MIXED SUBTYPES	4	0	4	0	0
	ADENOCARCINOMA NOS	1	0	1	0	0

SITE	HISTOLOGY (NOS - Not Otherwise Specified)	ALL CASES	ADULTS		PEADIATRICS	
			MALE	FEMALE	MALE	FEMALE
		4,576	1,881	2,401	160	133
CERVIX UTERI		67	0	67	0	0
	SQUAMOUS INTRAEPITHELIAL NEOPLASIA GRADE III	5	0	5	0	0
	SQUAMOUS CELL CARCINOMA, HPV-(+)	8	0	8	0	0
	SQUAMOUS CELL CARCINOMA NOS	16	0	16	0	0
	SQUAMOUS CELL CARCINOMA LG CELL NONKERATINIZING	6	0	6	0	0
	SQUAMOUS CELL CARCINOMA KERATINIZING NOS	1	0	1	0	0
	SQUAMOUS CELL CARCINOMA IN SITU NOS	2	0	2	0	0
	SPINDLE CELL CARCINOMA NOS	1	0	1	0	0
	SEROUS CYSTADENOCARCINOMA NOS	5	0	5	0	0
	ENDOMETRIOID ADENOCARCINOMA NOS	4	0	4	0	0
	CLEAR CELL ADENOCARCINOMA NOS	1	0	1	0	0
	CARCINOMA NOS	2	0	2	0	0
	CARCINOMA IN SITU NOS	1	0	1	0	0
	ADENOSQUAMOUS CARCINOMA	1	0	1	0	0
	ADENOSQUAMOUS CARCINOMA	14	0	14	0	0
CORPUS UTERI		160	0	160	0	0
	TROPHOBLASTIC TUMOR EPITHELIOID	1	0	1	0	0
	SQUAMOUS INTRAEPITHELIAL NEOPLASIA GRADE III	1	0	1	0	0
	SQUAMOUS CELL CARCINOMA NOS	4	0	4	0	0
	SQUAMOUS CELL CARCINOMA KERATINIZING NOS	2	0	2	0	0
	SPINDLE CELL CARCINOMA NOS	1	0	1	0	0
	SEROUS CYSTADENOCARCINOMA NOS	27	0	27	0	0
	MIXED CELL ADENOCARCINOMA	2	0	2	0	0
	LEIOMYOSARCOMA NOS	1	0	1	0	0
	ENDOMETRIOID ADENOCARCINOMA NOS	78	0	78	0	0
	ENDOMETRIAL STROMAL SARCOMA NOS	1	0	1	0	0
	ENDOMETRIAL STROMAL SARCOMA LOW GRADE	2	0	2	0	0
	CLEAR CELL ADENOCARCINOMA NOS	1	0	1	0	0
	CARCINOSARCOMA NOS	5	0	5	0	0
	CARCINOSARCOMA EMBRYONAL	1	0	1	0	0
	CARCINOMA NOS	6	0	6	0	0
	ADENOSARCOMA	1	0	1	0	0
	ADENOCARCINOMA NOS	24	0	24	0	0
	ADENOCARCINOMA IN TUBULOVILLOUS ADENOMA	1	0	1	0	0
	ADENOCARCINOMA IN SITU IN ADENOMATOUS POLYP	1	0	1	0	0
HYPOPHARYNX		5	3	2	0	0
	SQUAMOUS CELL CARCINOMA NOS	4	2	2	0	0
	SQUAMOUS CELL CARCINOMA KERATINIZING NOS	1	1	0	0	0
LARYNX		31	31	0	0	0
	SQUAMOUS CELL CARCINOMA NOS	21	21	0	0	0
	SQUAMOUS CELL CARCINOMA KERATINIZING NOS	10	10	0	0	0

SITE	HISTOLOGY (NOS - Not Otherwise Specified)	ALL CASES	ADULTS		PEADIATRICS	
			MALE	FEMALE	MALE	FEMALE
		4,576	1,881	2,401	160	133
LUNG & BRONCHUS		128	93	35	0	0
	SQUAMOUS CELL CARCINOMA NOS	11	7	4	0	0
	SMALL CELL CARCINOMA NOS	10	8	2	0	0
	NON-SMALL CELL CARCINOMA	21	19	2	0	0
	NEUROENDOCRINE CARCINOMA NOS	3	3	0	0	0
	MUCOEPIDERMOID CARCINOMA	1	1	0	0	0
	MUCINOUS ADENOCARCINOMA	3	2	1	0	0
	MESOTHELIOMA MALIGNANT	1	0	1	0	0
	GIANT CELL SARCOMA	1	1	0	0	0
	CARCINOMA NOS	2	1	1	0	0
	CARCINOID TUMOR NOS	7	5	2	0	0
	ATYPICAL CARCINOID TUMOR	1	0	1	0	0
	ADENOSQUAMOUS CARCINOMA	1	1	0	0	0
	ADENOID CYSTIC CARCINOMA	1	0	1	0	0
	ADENOCARCINOMA NOS	65	45	20	0	0
OTHER RESPIR & THORACIC		6	2	2	1	1
	GERMINOMA	1	1	0	0	0
	GANGLIONEUROBLASTOMA	1	0	0	0	1
	GERM CELL TUMOR NONSEMINOMATOUS	1	1	0	0	0
	ENDOMETRIOID ADENOCARCINOMA	1	0	1	0	0
	SEROUS CYSTADENOCARCINOMA	1	0	1	0	0
	NEUROBLASTOMA NOS	1	0	0	1	0
MYELOMA		44	22	22	0	0
	MULTIPLE MYELOMA	44	22	22	0	0
NASAL CAVITY		5	3	2	0	0
	SQUAMOUS CELL CARCINOMA NOS	2	1	1	0	0
	SQUAMOUS CELL CARCINOMA KERATINIZING NOS	1	1	0	0	0
	OLFACTORY NEUROBLASTOMA	1	1	0	0	0
	BASAL CELL CARCINOMA NOS	1	0	1	0	0
NASOPHARYNX		91	69	22	0	0
	SQUAMOUS CELL CARCINOMA NOS	5	5	0	0	0
	SQUAMOUS CELL CARCINOMA LG CELL NONKERATINIZING	78	58	20	0	0
	CARCINOMA NOS	6	4	2	0	0
	ADENOID CYSTIC CARCINOMA	1	1	0	0	0
	ADENOCARCINOMA NOS	1	1	0	0	0
OTHER DIGESTIVE		8	4	4	0	0
	NEUROENDOCRINE CARCINOMA NOS	1	1	0	0	0
	GASTROINTESTINAL STROMAL SARCOMA	2	1	1	0	0
	ADENOCARCINOMA NOS	4	2	2	0	0
	PREIPHERAL NEUROECTODERMAL TUMOR	1	0	1	0	0
OTHER FEMALE GENITAL		12	0	12	0	0
	TROPHOBLASTIC PLACENTA MALIGNANT	1	0	1	0	0
	SEROUS CYSTADENOCARCINOMA NOS	4	0	4	0	0
	SEROUS CA IN SITU	1	0	1	0	0
	ENDOMETRIOID ADENOCARCINOMA NOS	1	0	1	0	0
	CHORIOCARCINOMA NOS	1	0	1	0	0
	ADENOCARCINOMA NOS	4	0	4	0	0
OTHER URINARY		3	2	1	0	0
	TRANSITIONAL CELL CARCINOMA NOS	2	1	1	0	0
	PAPILLARY TRANSITIONAL CELL CARCINOMA NON-INV.	1	1	0	0	0

SITE	HISTOLOGY (NOS - Not Otherwise Specified)	ALL CASES	ADULTS		PEADIATRICS	
			MALE	FEMALE	MALE	FEMALE
		4,576	1,881	2,401	160	133
RECTUM & RECTOSIGMOID		154	96	58	0	0
	SQUAMOUS CELL CARCINOMA LG CELL NONKERATINIZING	1	0	1	0	0
	SIGNET RING CELL CARCINOMA	1	0	1	0	0
	NEUROENDOCRINE CARCINOMA NOS	1	1	0	0	0
	MUCINOUS ADENOCARCINOMA	1	1	0	0	0
	CARCINOMA NOS	1	1	0	0	0
	CARCINOMA IN SITU NOS	1	0	1	0	0
	CARCINOID TUMOR NOS	1	1	0	0	0
	ADENOSQUAMOUS CARCINOMA	1	0	1	0	0
	ADENOCARCINOMA NOS	145	91	54	0	0
	ADENOCARCINOMA IN SITU NOS	1	1	0	0	0
ANUS, ANAL CANAL, ANORECTUM		14	8	6	0	0
	ADENOCARCINOMA NOS	5	1	4	0	0
	SQUAMOUS CELL CARCINOMA NOS	8	7	1	0	0
	MALIGNANT MELANOMA NOS	1	0	1	0	0
KIDNEY AND RENAL PELVIS		124	74	33	5	12
	NEPHROBLASTOMA NOS	17	0	1	5	11
	NEUROBLASTOMA NOS	1	0	0	0	1
	SQUAMOUS CELL CARCINOMA NOS	1	1	0	0	0
	RENAL CELL CARCINOMA	80	57	23	0	0
	RENAL CELL CARCINOMA CHROMOPHOBE TYPE	12	7	5	0	0
	PAPILLARY ADENOCARCINOMA	2	1	1	0	0
	MIXED CELL ADENOCARCINOMA	1	1	0	0	0
	CLEAR CELL ADENOCARCINOMA	9	7	2	0	0
	ADENOCARCINOMA NOS	1	0	1	0	0
BLADDER		104	90	14	0	0
	PAPILLARY TRANSITIONAL CELL CA. NON-INV.	31	29	2	0	0
	ADENOCARCINOMA NOS	4	3	1	0	0
	TRANSITIONAL CELL CARCINOMA IN SITU	4	4	0	0	0
	SQUAMOUS CELL CARCINOMA NOS	2	2	0	0	0
	SMALL CELL CARCINOMA NOS	1	1	0	0	0
	PAPILLARY TRANSITIONAL CELL CARCINOMA	38	32	6	0	0
	TRANSITIONAL CELL CARCINOMA NOS	24	19	5	0	0
UNKNOWN PRIMARY SITE		44	17	15	7	5
	NEUROBLASTOMA	11	0	0	7	4
	EWING SARCOMA	1	0	0	0	1
	SQUAMOUS CELL CARCINOMA NOS	3	1	2	0	0
	SQUAMOUS CELL KERATINIZING	1	0	1	0	0
	SMALL CELL CARCINOMA NOS	1	0	1	0	0
	SEROUS CYSTADENOCARCINOMA	1	0	1	0	0
	NEUROENDOCRINE CARCINOMA NOS	3	2	1	0	0
	NEUROECTODERMAL TUMOR NOS	1	0	1	0	0
	MESONEPHROMA MALIGNANT	1	1	0	0	0
	CARCINOMA NOS	3	2	1	0	0
	ATYPICAL CARCINOID TUMOR	3	2	1	0	0
	ADENOCARCINOMA NOS	15	9	6	0	0

SITE	HISTOLOGY (NOS - Not Otherwise Specified)	ALL CASES	ADULTS		PEADIATRICS	
			MALE	FEMALE	MALE	FEMALE
		4,576	1,881	2,401	160	133
EYE		15	0	0	10	5
	RETINOBLASTOMA	11	0	0	8	3
	RETINOBLASTOMA UNDIFFERENTIATED	3	0	0	1	2
	RETINOBLASTOMA DIFFERENTIATED	1	0	0	1	0
PENIS		1	1	0	0	0
	SQUAMOUS CELL CARCINOMA NOS	1	1	0	0	0
TESTIS		51	50	0	1	0
	YOLK SAC TUMOR	2	1	0	1	0
	SEX CORD STROMAL TUMOR MALIGNANT	1	1	0	0	0
	SEMINOMA	15	15	0	0	0
	NEOPLASM IN SITU	1	1	0	0	0
	MIXED GERM CELL TUMOR	26	26	0	0	0
	LEYDIG CELL TUMOR MALIGNANT	1	1	0	0	0
	EMBRYONAL CARCINOMA NOS	4	4	0	0	0
	CHORIOCARCINOMA NOS	1	1	0	0	0
OTHER MALE GENITAL		1	1	0	0	0
	SQUAMOUS CELL CARCINOMA IN SITU NOS	1	1	0	0	0
PROSTATE		151	151	0	0	0
	GLANDULAR INTRAEPITHELIAL NEOPLASIA GR3	2	2	0	0	0
	ADENOCARCINOMA NOS	147	147	0	0	0
	ACINAR CELL CARCINOMA	2	2	0	0	0
GLALLBLADDER		25	10	15	0	0
	MUCINOUS ADENOCARCINOMA	1	0	1	0	0
	CHOLANGIOCARCINOMA	3	1	2	0	0
	CARCINOMA NOS	1	1	0	0	0
	ADENOCARCINOMA NOS	20	8	12	0	0
URETER		7	4	3	0	0
	PAPILLARY TRANSITIONAL CELL CARCINOMA NON-INV.	2	2	0	0	0
	TRANSITIONAL CELL CARCINOMA NOS	2	1	1	0	0
	PAPILLARY TRANSITIONAL CELL CARCINOMA	1	1	0	0	0
	LEIOMYOSARCOMA NOS	1	0	1	0	0
	SPINDLE CELL CARCINOMA NOS	1	0	1	0	0
ESOPHAGUS		27	20	7	0	0
	SQUAMOUS CELL CARCINOMA NOS	13	7	6	0	0
	ADENOCARCINOMA NOS	14	13	1	0	0

SITE	HISTOLOGY (NOS - Not Otherwise Specified)	ALL CASES	ADULTS		PEADIATRICS	
			MALE	FEMALE	MALE	FEMALE
		4,576	1,881	2,401	160	133
MOUTH & OTHER ORAL CAVITY		22	14	8	0	0
	SQUAMOUS CELL CARCINOMA NOS	7	5	2	0	0
	SQUAMOUS CELL CARCINOMA KERATINIZING NOS	8	5	3	0	0
	POLYMORPHOUS LOW GRADE ADENOCARCINOMA	1	0	1	0	0
	MUCOEPIDERMOID CARCINOMA	1	0	1	0	0
	CARCINOMA NOS	1	1	0	0	0
	BASAL CELL CARCINOMA NOS	2	1	1	0	0
	BASAL CELL CARCINOMA NODULAR	1	1	0	0	0
	ADENOCARCINOMA NOS	1	1	0	0	0
LIP		5	4	1	0	0
	SQUAMOUS CELL CARCINOMA KERATINIZING NOS	4	4	0	0	0
	SQUAMOUS CELL CARCINOMA NOS	1	0	1	0	0
FLOOR OF MOUTH		3	3	0	0	0
	SQUAMOUS CELL CARCINOMA KERATINIZING NOS	3	3	0	0	0
TONGUE		46	25	21	0	0
	SQUAMOUS CELL CARCINOMA NOS	26	15	11	0	0
	SQUAMOUS CELL CARCINOMA LG CELL NONKRATINIZING	1	1	0	0	0
	SQUAMOUS CELL CARCINOMA KERATINIZING NOS	15	8	7	0	0
	MUCOEPIDERMOID CARCINOMA	1	0	1	0	0
	CARCINOMA IN SITU NOS	1	0	1	0	0
	ADENOSQUAMOUS CARCINOMA	1	0	1	0	0
	ADENOID CYSTIC CARCINOMA	1	1	0	0	0
COLON		228	127	98	1	2
	ADENOCARCINOMA	205	114	89	0	2
	CARCINOID TUMOR	2	0	1	1	0
	SIGNET RING CELL CARCINOMA	2	2	0	0	0
	NEUROENDOCRINE CARCINOMA NOS	1	1	0	0	0
	MUCINOUS ADENOCARCINOMA	15	7	8	0	0
	GASTROINTESTINAL STROMAL SARCOMA	1	1	0	0	0
	CARCINOMA NOS	1	1	0	0	0
	CARCINOMA IN SITU	1	1	0	0	0

TABLE 9
MULTIPLE PRIMARY SITE TABLE
2022

PRIMARY SITE 2022	HISTOLOGY (NOS - Not Otherwise Specified)	OTHER PRIMARIES (PREVIOUS OR CONCURRENT)	ALL CASES	MALE	FEMALE
			90	20	70
THYROID			7	2	5
Papillary adenocarcinoma	Thyroid - Invasive encapsulated papillary carcinoma		1	0	1
Papillary adenocarcinoma	Rt Breast - Invasive ductal carcinoma		2	0	2
Papillary adenocarcinoma	Lt Breast - Invasive ductal carcinoma		1	0	1
Papillary adenocarcinoma	Lymph Node - Hodgkin lymphoma nodular sclerosis		1	1	0
Papillary adenocarcinoma	Thyroid - Medullary thyroid carcinoma		2	1	1
SALIVARY GLANDS			1	0	1
Mucoepidermoid carcinoma	Thyroid - Papillary carcinoma follicular variant		1	0	1
MOUTH			1	1	0
Squamous cell carcinoma	Anal Canal - Squamous cell carcinoma		1	1	0
BREAST			38	0	38
Invasive ductal carcinoma	Lt Breast - Invasive ductal carcinoma		14	0	14
Invasive ductal carcinoma	Rt Breast - Invasive ductal carcinoma		5	0	5
Invasive ductal carcinoma	Lt Breast - Ductal carcinoma in situ		4	0	4
Invasive ductal carcinoma	Rt Breast - Ductal carcinoma in situ		3	0	3
Invasive ductal carcinoma	Lt Breast - Lobular carcinoma		4	0	4
Invasive ductal carcinoma	Rt Breast - Lobular carcinoma		1	0	1
Lobular carcinoma	Lt Breast - Lobular carcinoma		1	0	1
Invasive ductal carcinoma	Lt Lung - Mucinous adenocarcinoma		1	0	1
Invasive ductal carcinoma	Gallbladder - Adenocarcinoma		1	0	1
Ductal carcinoma in situ	Colon - Adenocarcinoma		1	0	1
Lobular carcinoma in situ	Lt Breast - Phyllodes tumor malignant		1	0	1
Invasive ductal carcinoma	Thyroid - Papillary adenocarcinoma		1	0	1
Invasive metaplastic carcinoma	Rt Breast - Ductal carcinoma in situ		1	0	1
OVARY			14	0	14
Yolk sac tumor	Lt Ovary - Yolk sac tumor		1	0	1
Serous cystadenocarcinoma	Lt Ovary - Serous cystadenocarcinoma		10	0	10
Micropapillary serous CA	Rt Ovary - Micropapillary serous carcinoma		1	0	1
Mixed germ cell tumor	Lt Ovary - Mixed germ cell tumor		1	0	1
Adenocarcinoma	Lt Ovary - Adenocarcinoma		1	0	1
NASOPHARYNX			1	1	0
Squamous cell carcinoma large	Thyroid - Papillary adenocarcinoma		1	1	0
LARYNX			1	1	0
Squamous cell carcinoma	Rt Kidney - Renal cell carcinoma		1	1	0
BONE			2	0	2
Spindle cell sarcoma	Lt Breast - Invasive ductal carcinoma		1	0	1
Spindle cell sarcoma	Rt Breast - Ductal carcinoma in situ		1	0	1
BRAIN			1	1	0
High grade glioma	Pituitary Gland - Pituitary adenoma		1	1	0

PRIMARY SITE 2022	HISTOLOGY (NOS - Not Otherwise Specified)	OTHER PRIMARIES (PREVIOUS OR CONCURRENT)	ALL CASES .	MALE	FEMALE
			90	20	70
COLON			1	0	1
Adenocarcinoma		Corpus uteri - Endometrioid adenocarcinoma	1	0	1
ABDOMEN			1	0	1
Gastrointestinal stromal tumor		Lt Breast - Invasive ductal carcinoma	1	0	1
PROSTATE			1	1	0
Adenocarcinoma		Pancreas - Adenocarcinoma	1	1	0
Testis			2	2	0
Seminoma		Lt Testis - Seminoma	2	2	0
BONE MARROW			2	1	1
Multiple myeloma		Thyroid - Papillary adenocarcinoma	1	0	1
Blastic plasmacytoid dendritic		Rt Kidney - Renal cell carcinoma	1	1	0
LYMPH NODES			1	1	0
Malignant lymphoma		Brain - Meningioma	1	1	0
KIDNEY			2	1	1
Renal cell carcinoma		Liver - Hepatocellular carcinoma	1	1	0
Renal cell carcinoma		Bone - Giant cell carcinoma	1	0	1
LIVER			1	0	1
Hepatocellular carcinoma		Lt Breast - Ductal carcinoma in situ	1	0	1
CERVIX UTERI			1	0	1
Adenocarcinoma		Thyroid - Papillary adenocarcinoma	1	0	1
BLADDER			4	4	0
Papillary transitional cell		Prostate - Adenocarcinoma	1	1	0
Papillary transitional cell		Prostate - Adenocarcinoma	1	1	0
Transitional cell carcinoma in		Prostate - Adenocarcinoma	1	1	0
Papillary transitional cell		Thyroid - Follicular adenocarcinoma	1	1	0
LUNG			4	2	2
Adenocarcinoma		Lt Breast - Invasive ductal carcinoma	1	0	1
Adenocarcinoma		Rt Breast - Invasive ductal carcinoma	1	0	1
Non-small cell carcinoma		Lt Lung - Non-small cell carcinoma	1	1	0
Carcinoid tumor		Thyroid - Papillary adenocarcinoma	1	1	0
SKIN			1	0	1
Basal cell carcinoma		Anal Canal - Melanoma	1	0	1
SOFT TISSUE			3	2	1
Kaposi sarcoma		Lymph Node - B-cell lymphoma	1	1	0
Kaposi sarcoma		LymphNode - Diffuse large B-cell Lymphoma	1	1	0
Carcinosarcoma		Rt Breast - Invasive ductal carcinoma	1	0	1

V. STAGE OF DISEASE AT DIAGNOSIS

Stage in any malignant process may be defined as the particular step, phase, or extent in a tumor's development, which is one of the predictors for outcome and treatment selection assigned at the time of initial diagnosis. The microscopic appearance, extent, and biological behavior of a tumor, as well as host factors, play a part in prognosis and are therefore important in staging.

The SEER (Surveillance, Epidemiology and End Results) Summary Staging Guide was utilized for all stageable cases. This system summarizes the disease categories into four general staging groups (i.e., in situ, localized, regional and distant). Stage categories are based on a combination of clinical observations and operative-pathological evaluation.

Summary Staging Definitions:

IN SITU: Intraepithelial, noninvasive, noninfiltrating

LOCALIZED: Within organ

- a. Invasive cancer confined to the organ of origin
- b. Intraluminal extension where specified

REGIONAL: Beyond the organ of origin

- a. By direct extension to adjacent organs/tissues
- b. To regional lymph nodes
- c. Both (a) and (b)

DISTANT: Direct extension or metastasis

- a. Direct continuity to organs other than above
- b. Discontinuous metastasis
- c. To distant lymph nodes

In addition to the SEER Summary Staging, the cases were also staged according to the American Joint Committee on Cancer (AJCC) TNM system. This scheme is based on the premise that cancers of similar histology or site of origin share similar patterns of growth and extension. This system is based on the assessment of three components:

T: Extent of the primary tumor

N: Absence or presence and extent of regional lymph node involvement

M: Absence or presence of distant metastasis

Cases of Major sites of 2022, i.e., Breast, Thyroid, Brain& CNS, NHL, Leukemia, Uterus, Colon and Rectum are presented in Table 10 with their clinical group stages and yearly comparative figures from 2018 to 2022.

FIGURE 16
DISTRIBUTION OF CASES BY (SEER) STAGE AT DIAGNOSIS
2022 (TOTAL CASES = 4,571)

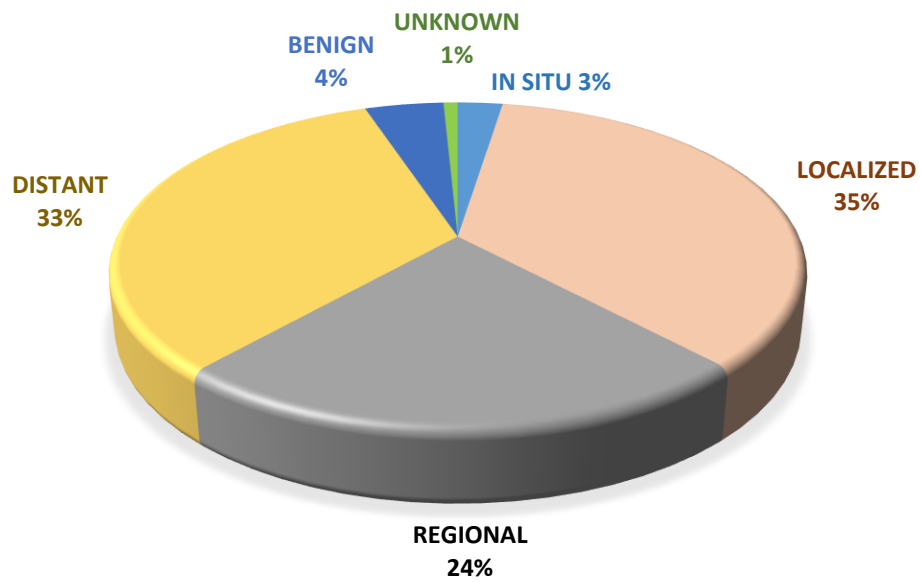


TABLE 10
AJCC TNM GROUP STAGE OF ANALYTIC CASES OF MAJOR SITES
 *BY YEAR
 (2018-2022)

BREAST						
STAGE	2018	2019	2020	2021	2022	TOTAL
0	25	34	33	26	53	171
1	87	112	122	195	226	742
2	146	165	121	164	184	780
3	133	163	124	200	195	815
4	93	115	85	125	145	563
UNKNOWN	8	8	14	7	29	66
TOTAL	492	597	499	717	832	3137

THYROID						
STAGE	2018	2019	2020	2021	2022	TOTAL
0	2	1	8	4	1	16
1	211	249	186	262	288	1196
2	30	31	11	32	23	127
3	22	6	0	5	5	38
4	20	15	10	18	22	85
UNKNOWN	12	6	4	10	2	34
Total	297	308	219	331	341	1496

UTERUS						
STAGE	2018	2019	2020	2021	2022	TOTAL
0	1	8	11	12	4	36
1	60	75	93	94	123	445
2	16	23	19	21	15	94
3	17	35	19	31	29	131
4	27	25	45	40	59	196
UNK	26	5	5	7	0	43
TOTAL	147	171	192	205	230	945

COLON						
STAGE	2018	2019	2020	2021	2022	TOTAL
0	2	0	2	2	1	7
1	9	15	9	16	11	60
2	10	32	24	49	32	147
3	35	33	29	68	72	237
4	55	72	66	100	110	403
UNK	10	6	1	8	3	28
TOTAL	121	158	131	243	229	882

RECTUM & RECTOSIGMOID						
STAGE	2018	2019	2020	2021	2022	TOTAL
0	1	2	0	0	2	5
1	5	4	3	8	12	32
2	7	8	8	12	9	44
3	47	59	42	60	77	285
4	24	28	35	43	52	182
UNK	0	3	1	2	2	8
TOTAL	84	104	89	125	154	556

- Brain, CNS, 2nd top cancer site at KFSH&RC, but not staged according to TNM staging.
- NHL, 3rd top cancer site at KFSH&RC, but not staged according to TNM staging.
- LEUKEMIA, 4th top cancer site at KFSH&RC, but not staged according to TNM staging.

VI. CANCER SURVIVAL AT KFSH&RC

Five years observed* survival for some cancer sites at KFSH & RC, Riyadh 2022

The observed survival rates represent the percentage of people alive 5 years after diagnosis, regardless of the cause of death, according to the stage at presentation.

TABLE 11
TRENDS IN 5-YEAR OBSERVED SURVIVAL RATES (%)**
BY STAGE AT DIAGNOSIS, KFSH&RC
2022

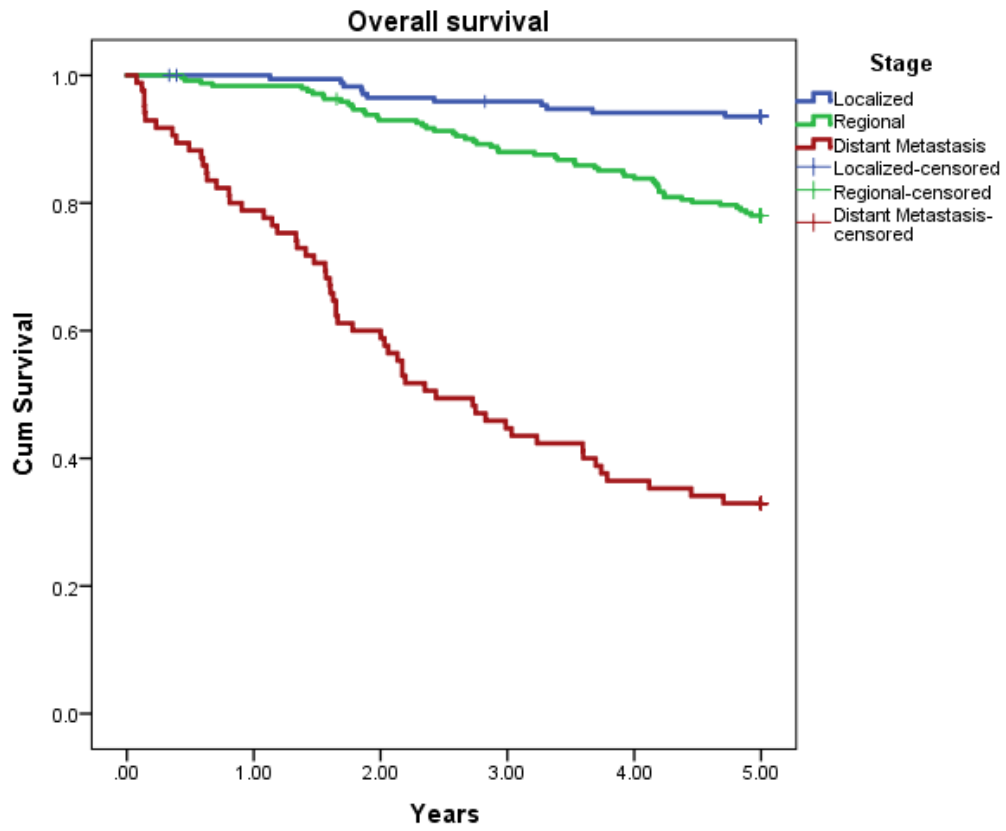
	2022 at KFSH (Hospital Level)		
	Localized	Regional	Distant
Breast Cancer	93.6%	78%	32.9%
Colorectal Cancer	72.5%	71%	35.5%
Hodgkin Lymphoma	95.5%	94.5%	91.1%
Non-Hodgkin Lymphoma	91.3%	89.7%	75.4%

*Observed survival does not take into account death from other causes, the likelihood for which varies by cancer type due to differences in age distribution, and should be interpreted with caution.

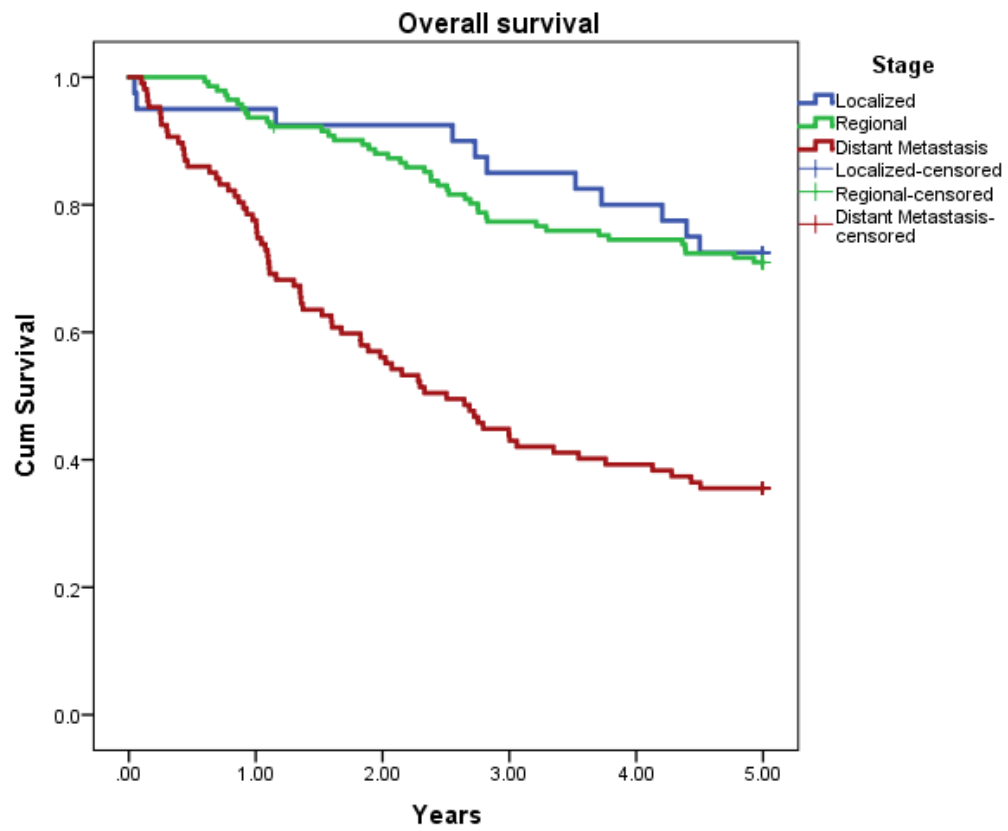
**Observed survival shown are for cases diagnosed in 2017 and followed through 2022.

FIGURE 17
TRENDS IN 5-YEAR OBSERVED SURVIVAL RATES (%)
BY STAGE AT DIAGNOSIS, KFSH&RC
2022

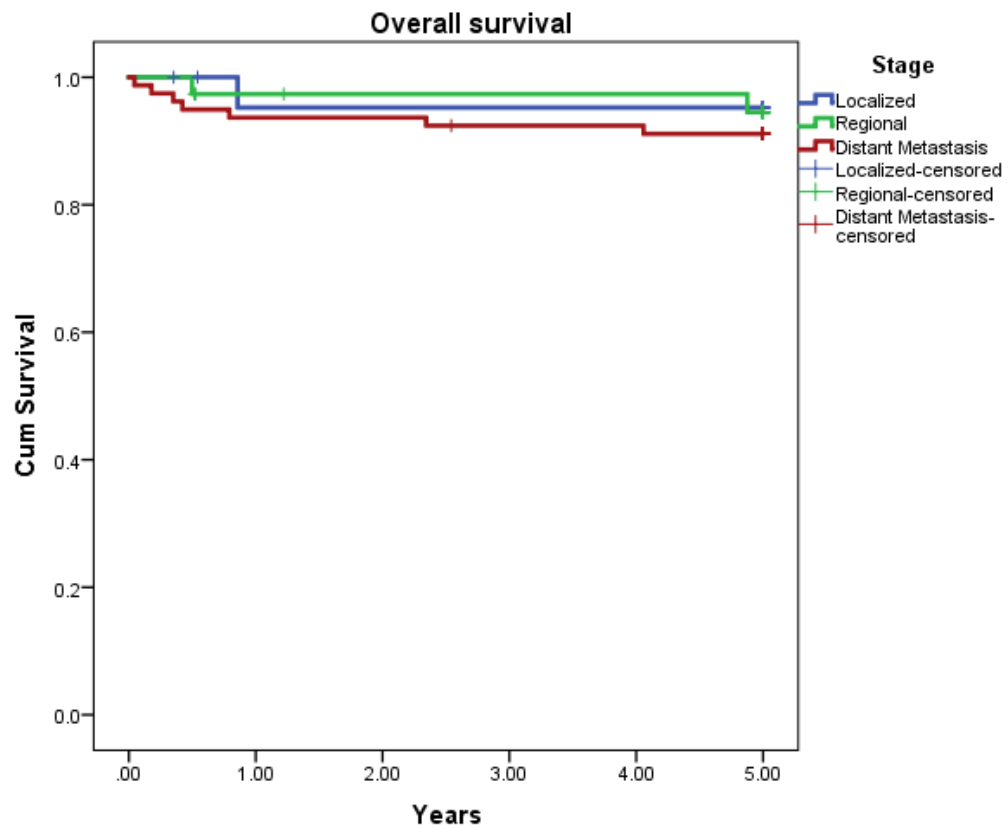
Breast



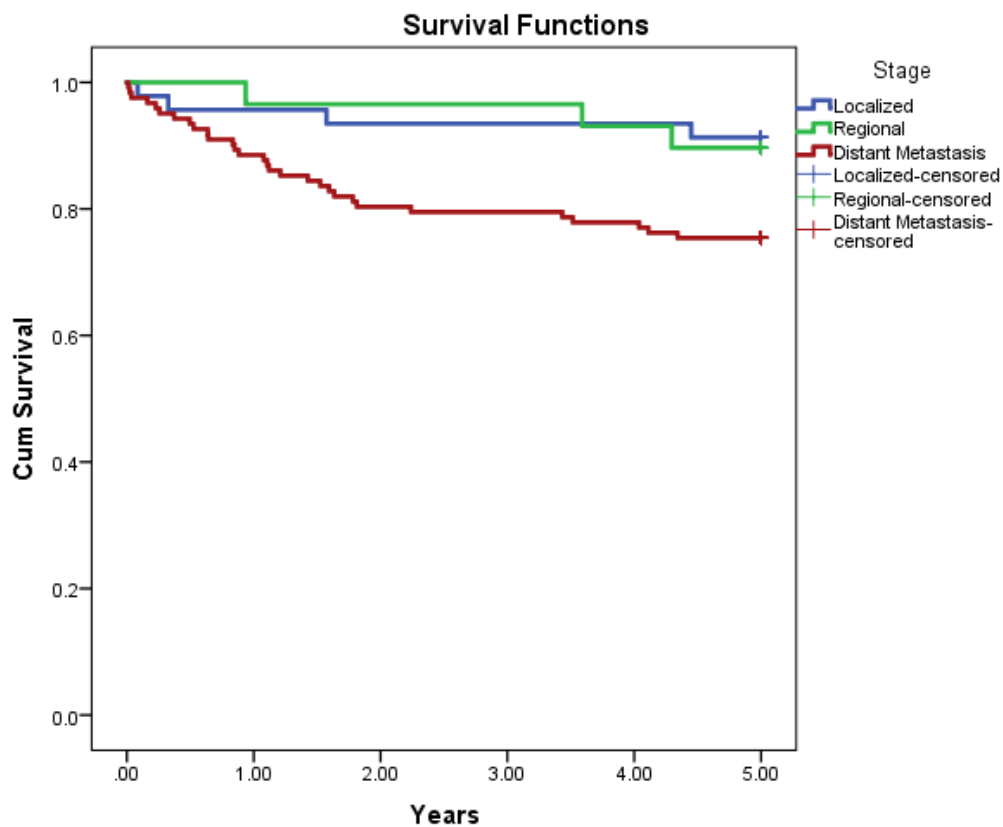
Colorectal



Hodgkin Lymphoma



Non-Hodgkin Lymphoma



VII. APPENDIX

REQUESTS FOR TUMOR REGISTRY DATA 2022

January

- Graft-versus-host disease (GVHD) is a common complication post stem cell transplantation (SCT) and associated with significant morbidity and mortality. The purpose of this study is to evaluate correlation of lymphocyte subsets and CD4:CD8 ratio by flow cytometry at D+120 and D+ 365 after transplantation with chronic GVHD incidence and other SCT outcomes in patients transplanted 2005-2021. Also, to determine which subsets may be influenced by GVHD or its treatment on follow up. Syed Osman Ahmed, MD
- The incidence and significance of MCV elevation (macrocytosis) after allogeneic hematopoietic stem cell transplantation (ASCT) is an area of limited data. The purpose of this study is to evaluate prognostic impact of macrocytosis noted at different time points post ASCT; D+30, D+60, D+90, D+180 and D+ 365 in patients transplanted 2005-2021. MCV is a routine parameter of CBC done for ASCT patients with regular clinic visits from peripheral blood samples.
Syed Osman Ahmed, MD
- The incidence and significance of MCV elevation (macrocytosis) after allogeneic hematopoietic stem cell transplantation (ASCT) is an area of limited data. Syed Osman Ahmed, MD

Feb

- Neoadjuvant cases seen in 2015, 2016 & 2017 List of MRN/cases with complete data (all variables in CRF. Kausar Suleman, MD
- Adult patients > 14 years with Classic Hodgkin Lymphoma since 2022. Riad Elfakih, MD

March

- Stem cell processing and cord blood bank request the engraftments Data for all transplanted patients in years **2020** and **2021**. Sahar Al Alem, MD

May

- 2019 Breast Cancer in all stages. Taher Twegieri, MD
- All thyroid cancer patients seen between 1 January 2003 till the latest available data. The information needed includes MRN, names of the patients, age and sex, disease status (localized, locoregional metastases, distant metastases), and tumor type (if available). Ali Alzahrani, MD
- All Cases of Medulloblastoma, age 18 years and below, from 2010–2020. Mohammad Alshabanah, MD

June

- Severe aplastic anemia transplant data base for all patient. Ali Alahmari, MD
- Outcome of lung transplantation for Lung GVHD. Aamer Bugnah, MD
- All adult patients with Ph+ ALL managed in KFSHRC-R adult hematology and SCT department during 2005-2020. Riad Elfakih, MD
- Cervix cancer all stages (Gyne) from 2010 – 2021. Mohammed Almahmoud, MD

July

- 2000 – 2019 Patients diagnosed with Breast cancer and Thyroid cancer. Taher Twegieri, MD

August

- Request for breast cancer cases from 2009-2019. List of MRN/cases with complete data (all variables in CRF). Taher Twegieri, MD
- Metastatic CRPC 18 Jan 2016 – 31 Dec 2018 Prostate Cancer. Ayman Omar, MD

September

- Request for cases in random from 2017-2020 (each year 10-15 patients), to be able to get information of second cohort of pregnant & non-pregnant cases. Kausar Suleman, MD
- BMT data base for 200 Patients 6 months before start Covid 19 vaccine. Ali Alahmari, MD

October

- Neoadjuvant tripple negative breast cancer cases from 2005-2017. List of MRN/cases with complete data (all variables in CRF). Kausar Suleman, MD

November

- Data from 2002 to 2017. All patients with BCLM, underwent liver resection or RFA or received systemic chemotherapy or radiation therapy in KFSHRC. Exclude patients with multiple metastasis, PS >2, age above 75, 2nd malignancy, patient treated outside KFSHRC.
List of MRN/cases with complete data (all variables in CRF). Kausar Suleman, MD
- MRNs of all cases of localized (M0) gastric/gastroesophageal cancer diagnosed from 1/1/2018 till 30 June 2022. Shouki Bazarbashi, MD

VIII. REFERENCES

- American Joint Committee on Cancer (AJCC) TNM 8TH EDITION (www.cancerstaging.org)
- ICD-O: International Classification of Diseases for Oncology. Used to code the histology, behavior, and grade of a tumor. Registries are currently using the third edition of the ICD-O, ICD-O-3.1 VERSION (www.naaccr.org)
- Summary stage 2018 SEER (www.seer.cancer.gov)
- Grade Coding Instructions and Tables (naaccr.org)
- Site-Specific Data Items (naaccr.org)
- SEER Program Coding and Staging Manual 2022
- Class Of Case (www.seer.cancer.gov/seertools/glossary)
- Multiple Primary and Histology Coding Rules Manual
- Solid Tumor Rules
- Standards for Oncology Registry Entry STORE
- American Cancer Society (<https://www.cancer.org/research/cancer-facts-statistics/all-cancer-facts-figures/cancer-facts-figures-2021.html>)

IX. GLOSSARY OF TERMS

Accessioned: Cases are entered into the Tumor Registry by the year in which they were first seen at KFSH&RC for each primary cancer.

Age of Patient: Recorded in completed years at the time of diagnosis, and age group used as per international standard.

Analytic Cases: Cases that were first diagnosed and/or received all or part of their first course of treatment at KFSH&RC.

Non-Analytic Cases: Cases diagnosed elsewhere and received their entire first course of treatment elsewhere.

Case: A diagnosis or finished abstract. A patient who has more than one primary is reported as multiple cases.

Crude Relative Frequency: The proportion of a given cancer in relation to all cases in a clinical or pathological series.

First Course of Treatment: The initial tumor-directed treatment or series of treatments, usually initiated within four months after diagnosis.

Stage of Disease: The extent of the disease process is determined at the first course of treatment.

SEER (Surveillance, Epidemiology and End Results) Summary Staging:

In Situ: Tumor meets all microscopic criteria for malignancy except invasion.

Local: Tumor is confined to organ of origin.

Regional: Tumor has spread by direct extension to immediately adjacent organs and/or lymph nodes and appears to have spread no further.

Distant: Tumor has spread beyond immediately adjacent organs or tissues by direct extension and/or has either developed secondary or metastatic tumors, metastasized to distant lymph nodes or has been determined to be systemic in origin.

AJCC (American Joint Committee on Cancer) TNM Staging: A classification scheme based on the premise that cancers of similar histology or site or origin share similar patterns of growth and extension.

T+N+M = Stage

T: Extent of primary tumor

N: Extent of regional lymph node involvement

M: Distant Metastasis

Clinical Stage: Classification based on the evidence acquired before treatment. Such evidence arises from physical examination, imaging, endoscopy, biopsy, surgical exploration and other relevant findings.

Pathologic Stage: Classification based on the evidence acquired before treatment, supplemented or modified by the additional evidence acquired from surgery and from pathologic examination of the resected specimen.