



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

**Oncology Center
Research Unit
Riyadh**

TUMOR REGISTRY

Annual Report

2020





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

**Oncology Centre
Research Unit
Riyadh**

TUMOR REGISTRY ANNUAL REPORT 2020

Annual Report Prepared by the Staff of the Tumor Registry
Research Unit, Oncology Centre
King Faisal Specialist Hospital and Research Centre
P.O. Box 3354, Riyadh 11211
Kingdom of Saudi Arabia
464-7272 ext. 80778
ORU@kfshrc.edu.sa

Tumor Registry Staff:

Salma Aljared, Tumor Registrar
Mohamed Alammari, Tumor Registrar
Abdul Rasim Thurakkal, Tumor Registrar
Rehab Alsawi, Ass.Tumor Registrar
Faisal Alanazi, Ass.Tumor Registrar

Doha Fatani, RPh, CCRP

Supervisor - Research Unit

SEP, 2022

TABLE OF CONTENTS

Introduction	7
I. KFSH&RC Tumor Registry	8
II. Acknowledgements	9
III. KFSH&RC Cancer Patient Population	10
Figure 1 - Distribution of Cases Accessioned By Year (1975-2020)	10
Table 1 - Cases Seen at KFSH&RC (Male/Female and Pediatrics/ Adults) By 5-Year Period (1975-2020)	11
Figure 2 - Distribution of Cases By Nationality (1975-2020 and 2020)	11
Figure 3 - Distribution of Cases By Region (1975-2020 and 2020)	12
Trends in Relative Frequency of Cancer at KFSH&RC	13
Figure 4 - Distribution of 20 Most Common Malignancies (1975-2020)	13
Figure 5 - Distribution of 5 Most Common Malignancies By Age at Diagnosis and SEER Summary Stage (1975-2020)	14
Table 2 - Ten Most Common Malignancies By Age Group at Diagnosis (1975-2020)	18
Figure 6 - Distribution of 10 Most Common Pediatric Malignancies (1975-2020)	19
Figure 7 - Distribution of 10 Most Common Pediatric Malignancies By Histology (1975-2020)	20
Table 3 - Cases Seen at KFSH&RC By Site and Year (1975-2020)	21
Figure 8 - Distribution of All Cases By Age at Diagnosis (2020)	24
Figure 9 - Distribution of Pediatric Cases By Age at Diagnosis (2020)	24
Table 4 - Cases Seen at KFSH&RC By Site, Sex, Class of Case and SEER Summary Stage (2020)	25
Table 5 - Analytic Cases Seen at KFSH&RC By Site and Age (2020)	26
Table 6 - Analytic Male Cases Seen at KFSH&RC By Site and Age (2020)	27

Table 7 - Analytic Female Cases Seen at KFSH&RC By Site and Age (2020)	28
Table 8 - Comparative Data – KFSH&RC vs USA	29
Figure 10 - Distribution of 20 Most Common Malignancies (2020 Cases)	30
Figure 11 - Distribution of Most Common Pediatric Malignancies (2020 Cases)	31
Figure 12 - Distribution of Most Common Pediatric Malignancies By Histology (2020 Cases)	31
Table 9 - Primary Site Table (2020)	32
Table 10 - Multiple primary site table (2020)	43
Stage of Disease at Diagnosis	45
Figure 13 - Distribution of Cases By Stage at Diagnosis (2020)	46
Table 11 - AJCC Clinical TNM Group Stage of Cases of Major Sites By Year (2015-2020)	47
Survival Rate	50
Breast Cancer Statistic	50
Figure 14 - Breast Cancer Cases Seen 2015 at KFSH&RC, By Stage at Diagnosis	50
Figure 15 - Mortality of Breast Cancer Cases Diagnosed in 2015 Within 5 Years of Follow Up	51
Figure 16 - Five-Year Survival of Breast Cancer By Stage For Patients Diagnosed in 2015	51
Colorectal Cancer Statistic	52
Figure 17 - Colorectal Cancer Cases Seen 2015 at KFSH&RC, By Stage at Diagnosis	52
Figure 18 - Mortality of Colorectal Cancer Cases Diagnosed in 2015 Within 5 Years of Follow Up	52
Figure 19 - Five-Year Survival of Colorectal Cancer By Stage For Patients Diagnosed in 2015	52

Hodgkin’s Lymphoma Statistic	53
Figure 20 - Hodgkin’s Lymphoma Cases Seen 2015 at KFSH&RC, By Stage at Diagnosis..	53
Figure 21 - Mortality of Hodgkin’s Lymphoma Cases Diagnosed in 2015 Within 5 Years of Follow Up	53
Figure 22 - Five-Year Survival of Hodgkin’s Lymphoma By Stage For Patients Diagnosed in 2015.	53
NON Hodgkin’s Lymphoma Statistic	54
Figure 23 - Non Hodgkin’s Lymphoma Cases Seen 2015 at KFSH&RC, By Stage at Diagnosis..	54
Figure 24 - Mortality of Non Hodgkin’s Lymphoma Cases Diagnosed in 2015 Within 5 Years of Follow Up	54
Figure 25 - Five-Year Survival of Non Hodgkin’s Lymphoma By Stage For Patients Diagnosed in 2015.	54
IV. Appendix	
Requests for Tumor Registry Data	55
V. Glossary	58

INTRODUCTION

We are pleased to present 2020 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 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 2020, the Tumor Registry abstracted 3,066 new cancer cases. 2,948 cases were analytic and 118 were non analytic; the highest incidence of cancer among males by site was Brain, CNS, Leukemia and NHL and among females was carcinomas of Breast, Thyroid, and Corpus Uteri. The Tumor Registry database includes over 104,802 cases and reports to the Saudi Cancer Registry (SCR).

Oncology Centre continues to provide comprehensive multidisciplinary care to our cancer patients. The Centre provides latest advances in radiation therapy, chemotherapy, hematopoietic stem cell transplantation, 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 play an active role in advancing new cancer treatments and in providing the newest and most promising treatment options for our cancer patients. We have maintained our international cooperative group affiliations as the 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, Gulf Oncology Regional Group (GORG) and Eastern Mediterranean Blood and Marrow Transplantation (EMBMT) Group. Research unit work load has mounted exponentially to keep pace with this exorbitant expansion of world class clinical research.

The Oncology Center is committed to serve as the pinnacle of excellence in the entire region. As we look to the future of cancer care in the Kingdom of Saudi Arabia, Oncology Centre will continue to deliver evidence based care centered upon the 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. Special thanks are due to the superb staff of Medical Records, a key component of the Registry's continued success. Hats off to our physicians, patient caregivers and support staff; it is their commitment and dedication that is the foundation for our success.

This report can be accessed online via Oncology Centre's website at <https://www.kfshrc.edu.sa/en/home/hospitals/riyadh/oncologycentreadults/tumorregistryreports>
Your comments and suggestions are welcome to improve our future reports and can be sent to dfatani@kfshrc.edu.sa or f1515605@kfshrc.edu.sa

Doha Fatani, RPh, CCRP
Supervisor, Research Unit
Oncology Centre

Shouki Bazarbashi
Director
Oncology Centre

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 to promote the prevention of disease 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 104,802 malignant cases seen at KFSH&RC from June 1975 through December 31, 2020.

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 the Cansur 3.0 designed by the ACoS, for cases seen from 1975 to 2007. Starting with 2008 cases, the software being used is CNExT, developed by C/NET Solutions which is 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 a wide variety of reports at the request of physicians, researchers and ancillary personnel. These reports support patient management and outcome, basic and clinical research investigations, educational publications and presentations, and resource utilization. In 2020, the Tumor Registry supported myriad of data requests. It also identified and reported to the Saudi Cancer Registry 3,066 new cases seen in 2020.

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 all the caring professionals from all disciplines for their dedication, commitment and collaboration to ensure highest standards in community outreach, clinical trials, staff education, patient care improvement, outcome analysis and tumor registry quality.

The clinical expertise and proficiency demonstrated by our team, coupled with an incredible dedication to patient care and service excellence, allows the Oncology Centre to achieve remarkable outcomes and to 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 better understand the changing patterns of cancer.

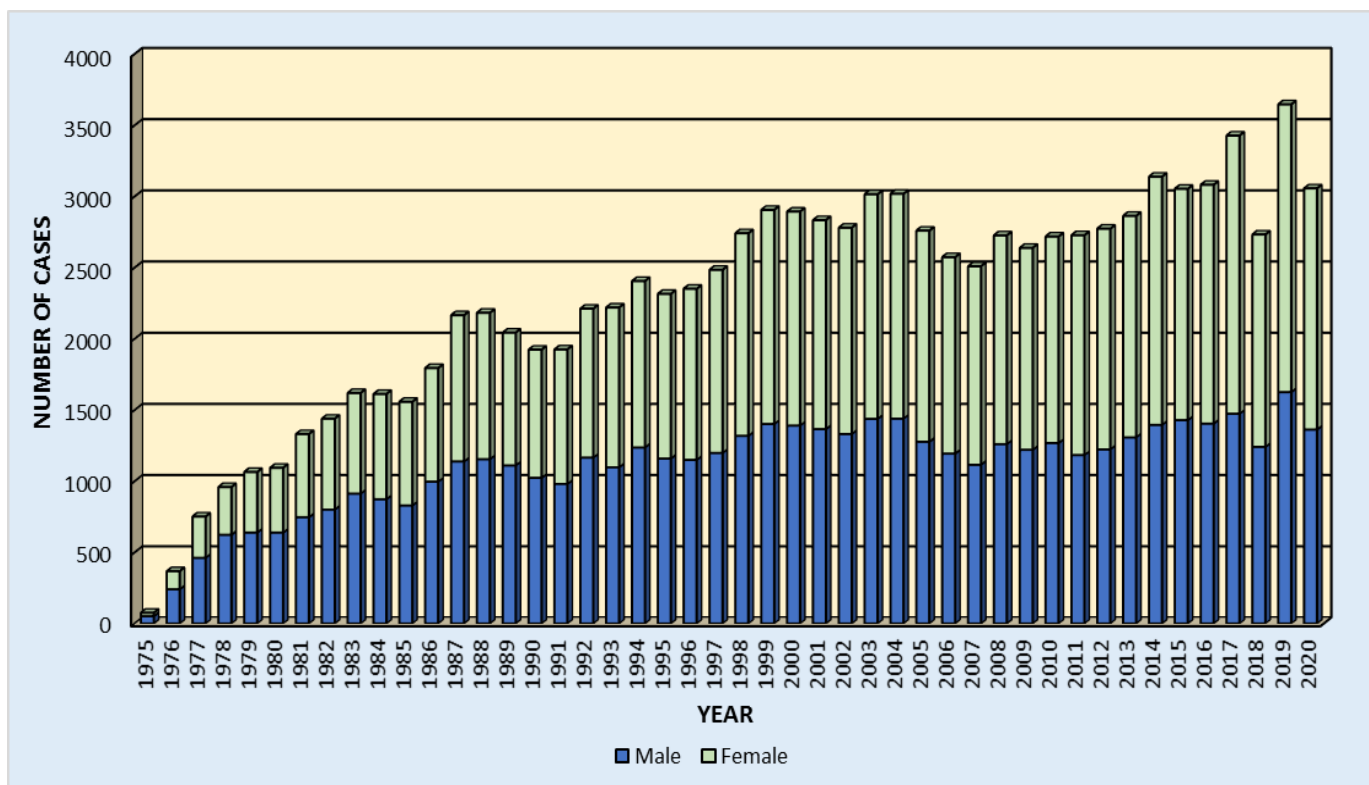
The following departments have assisted throughout the year and without their support this report would not have been possible. The Tumor Registry staff takes pride in acknowledging these departments:

- Department of Pathology and Laboratory Medicine
- Medical Records Services
- Information Technology Affairs
- Department of Pediatric Hematology/Oncology
- Central Data Unit, Dept. of Ped. Hem/Onc
- Saudi Cancer Registry
- Oncology Centre

III. KFSH&RC CANCER PATIENT POPULATION

A total of 3,066 cases were accessioned in 2020, with 1,365 males and 1,701 females or a male/female ratio of 0.8:1.

**FIGURE 1
DISTRIBUTION OF CASES ACCESSIONED BY YEAR
1975-2020 (TOTAL CASES = 104,802)**



From the opening of the hospital (mid 1975) until December 2020, 104,802 cancer cases were registered (51,075 males and 53,727 females) with a male/female ratio of 0.9:1.

There were 12,789 (12.2%) pediatric cases (0 to 14 years of age) and 92,013 (87.8%) adults (15 years old and above). In 2020, the proportions were 8.9% (273) for pediatrics and 91.1% (2,793) for adults.

TABLE 1
CASES SEEN AT KFSH&RC (MALE/FEMALE & PEDIATRICS/ADULTS) BY 5-YEAR PERIOD
1975-2020

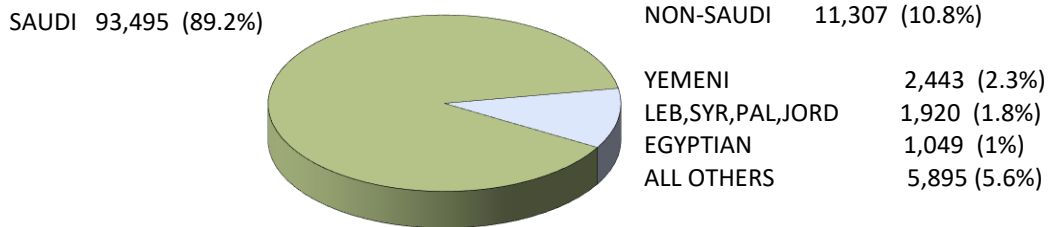
	1975-1976*	1977-1981	1982-1986	1987-1991	1992-1996	1997-2001	2002 - 2006	2007-2011	2012-2016	2017-2020	TOTAL
MALE	293	3,112	4,415	5,410	5,810	6,677	6,681	6,053	6,735	5,889	51,075
FEMALE	151	2,089	3,610	4,833	5,696	7,184	7,468	7,282	8,124	7,290	53,727
TOTAL	444	5,201	8,025	10,243	11,506	13,861	14,149	13,335	14,859	13,179	104,802
M/F RATIO	2.1:1	1.5:1	1.2:1	1.1:1	1.0:1	0.9:1	0.9:1	0.8:1	0.8:1	0.8:1	0.9:1
PEDIATRICS**	59	637	1,086	1,382	1,493	2,004	1,957	1,656	1,430	1,085	12,789
(%)	13.29%	12.25%	13.53%	13.49%	12.98%	14.46%	13.83%	12.42%	9.62%	8.23%	12.27%
ADULTS	385	4,564	6,939	8,861	10,013	11,857	12,192	11,679	13,427	12,096	92,013
(%)	86.71%	87.75%	86.47%	86.51%	87.02%	85.54%	86.17%	87.58%	90.36%	91.78%	87.80%
TOTAL	444	5,201	8,025	10,243	11,506	13,861	14,149	13,335	14,859	13,179	104,802

* First two years of KFSH&RC partial operation.

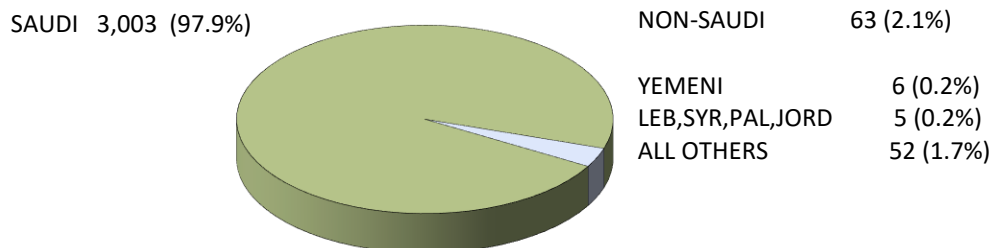
** Pediatrics = 0 to 14 years of age; Adults = 15 years and above.

FIGURE 2

DISTRIBUTION OF CASES BY NATIONALITY
1975 - 2020 (TOTAL CASES = 104,802)



2020 (TOTAL CASES = 3,066)

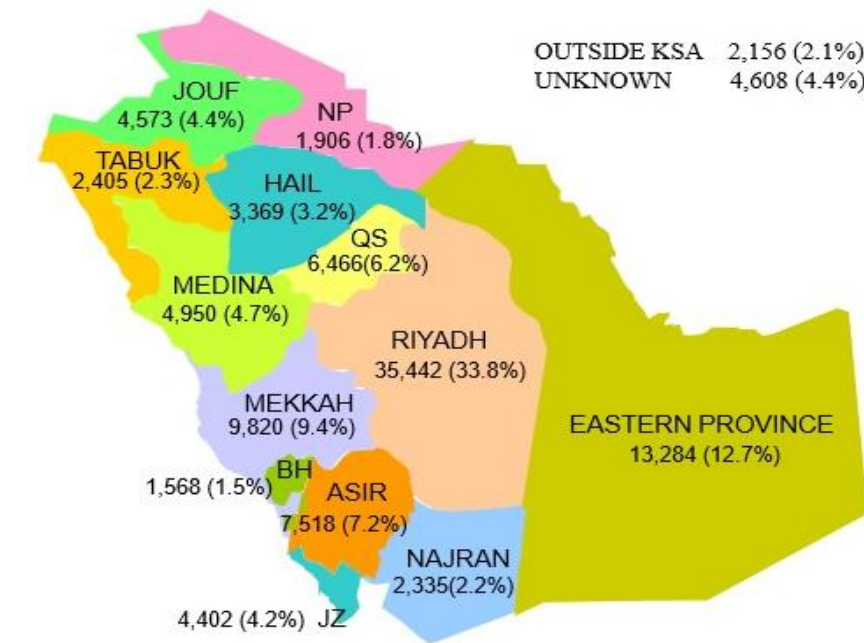


Saudi nationals totaled 3,003 (97.9%) in 2020 and the non-Saudi, 63 (2.1%). During the period 1975 to 2020, the former accounted for 89.2% (93,495) while the latter, 10.8% (11,307).

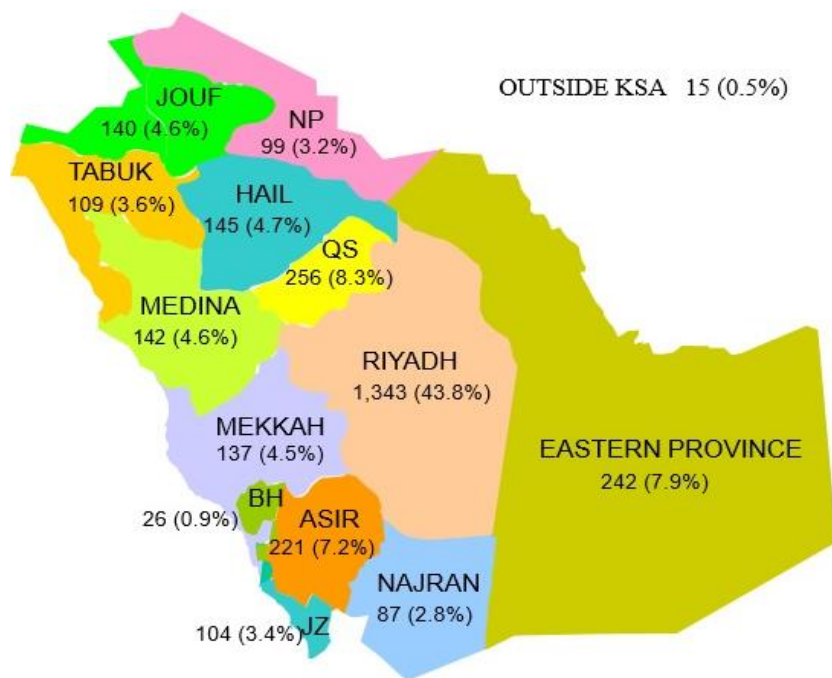
Geographically, the referral pattern in 2020 was mainly from the Riyadh region with 43.8% of all cases, followed by the Qassim Region with 8.3% then Eastern Province with 7.9%. During the 44 years in review, 33.8% were referred from Riyadh, 12.7% from the Eastern Province and 9.4% from Mekkah.

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

FIGURE 3
DISTRIBUTION OF CASES BY REGION
(Based on Given Address at Time of Diagnosis)
1975 - 2020 (TOTAL CASES = 104,802)



2020 (TOTAL CASES = 3,066)



BH - AL BAHA NP - NORTHERN PROVINCE
 JZ - JIZAN QS - QASSIM

TRENDS IN RELATIVE FREQUENCY OF CANCER AT KFSH&RC

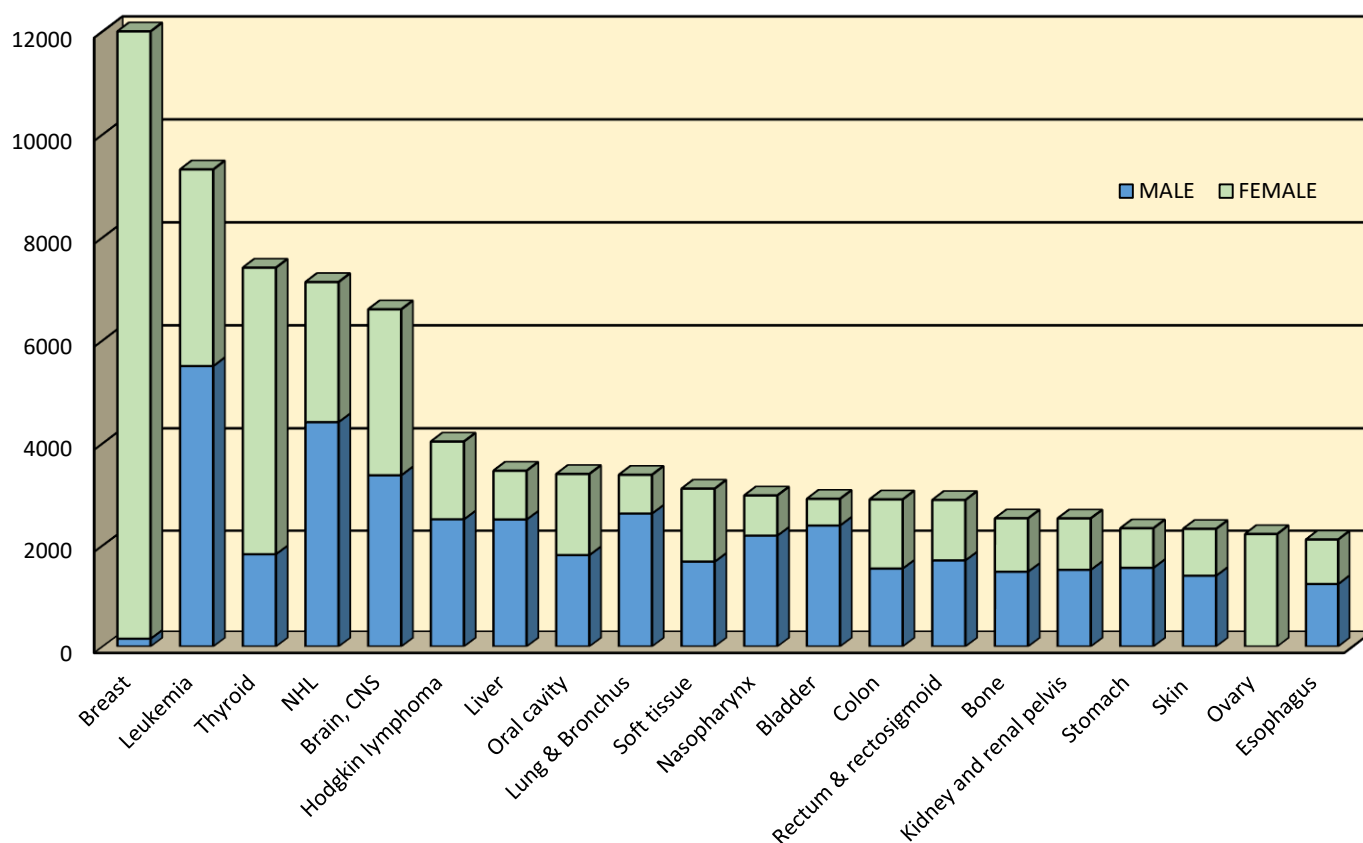
The crude relative frequency is the proportion of a given cancer in relation to all cases in a clinical or pathological series. Although such frequencies are subject to many biases, historically many elevated frequencies have been confirmed when complete cancer registration was introduced.

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 2020 with (11.6%), followed by leukemia (8.9%), Thyroid (7.1%), Non-Hodgkin Lymphoma (6.8%) and Brain (6.3%).

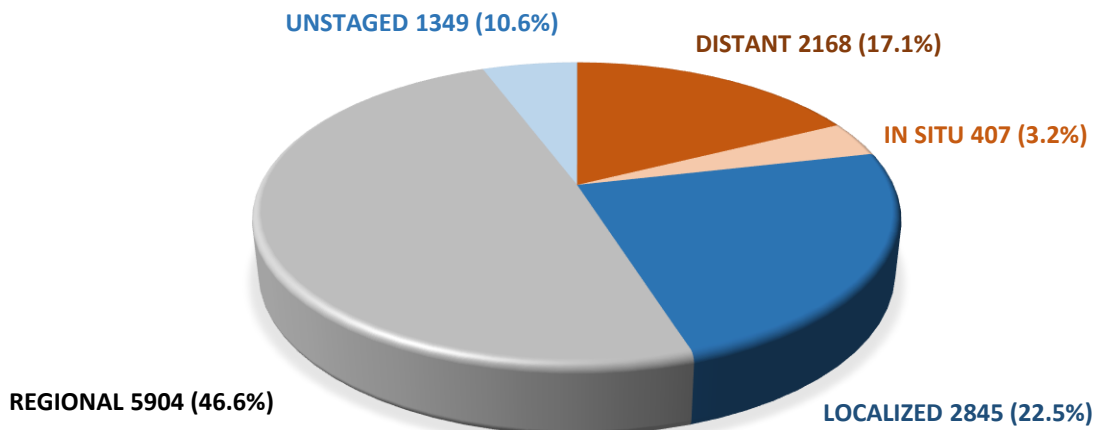
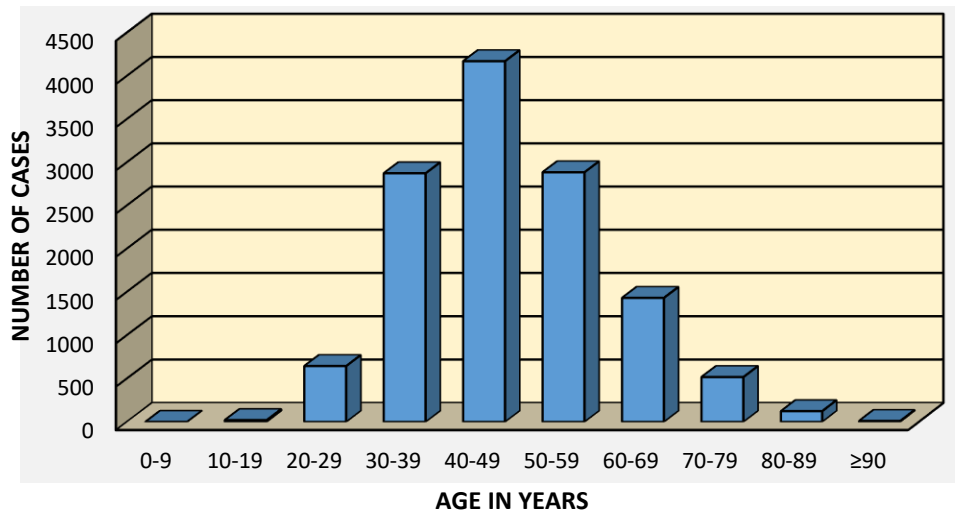
FIGURE 4

**DISTRIBUTION OF 20 MOST COMMON MALIGNANCIES
1975-2020 (TOTAL CASES = 104,802)**

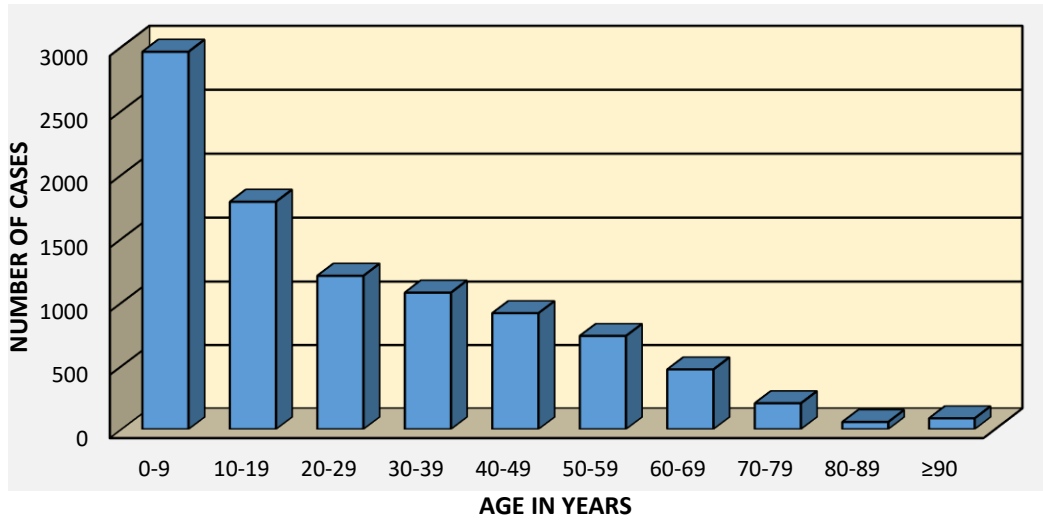


**FIGURE 5
DISTRIBUTION OF 5 MOST COMMON MALIGNANCIES
BY AGE AT DIAGNOSIS AND SEER SUMMARY STAGE
(1975 – 2020)**

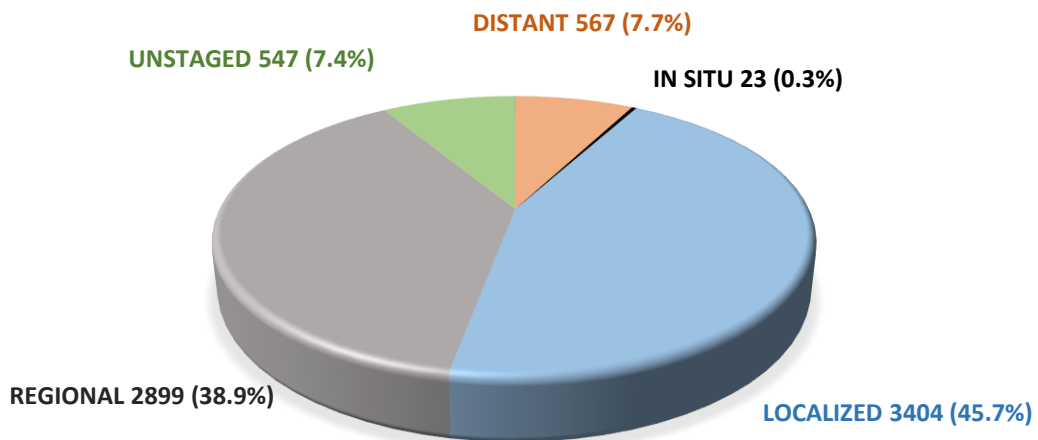
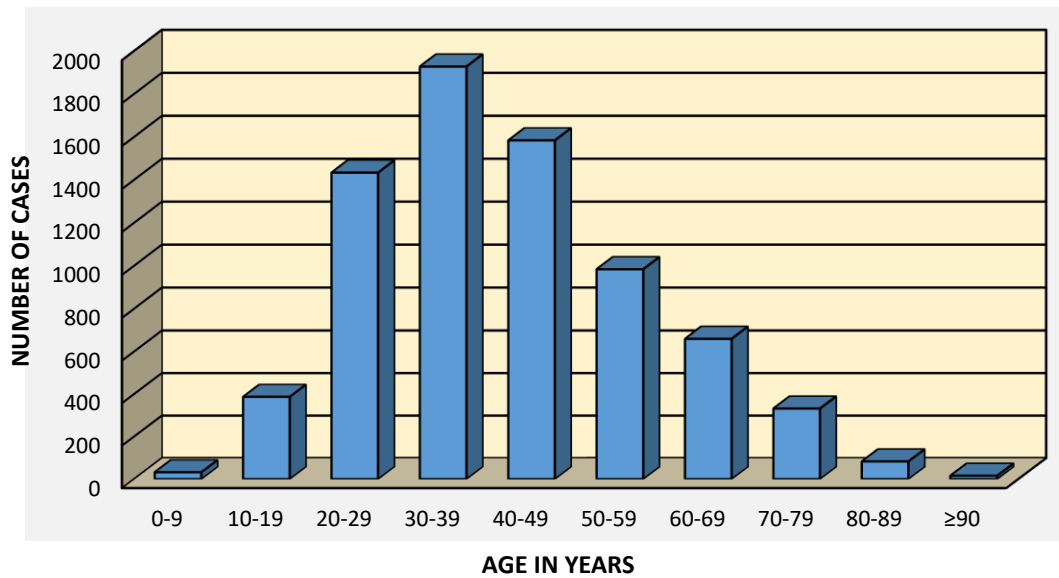
BREAST CANCER CASES



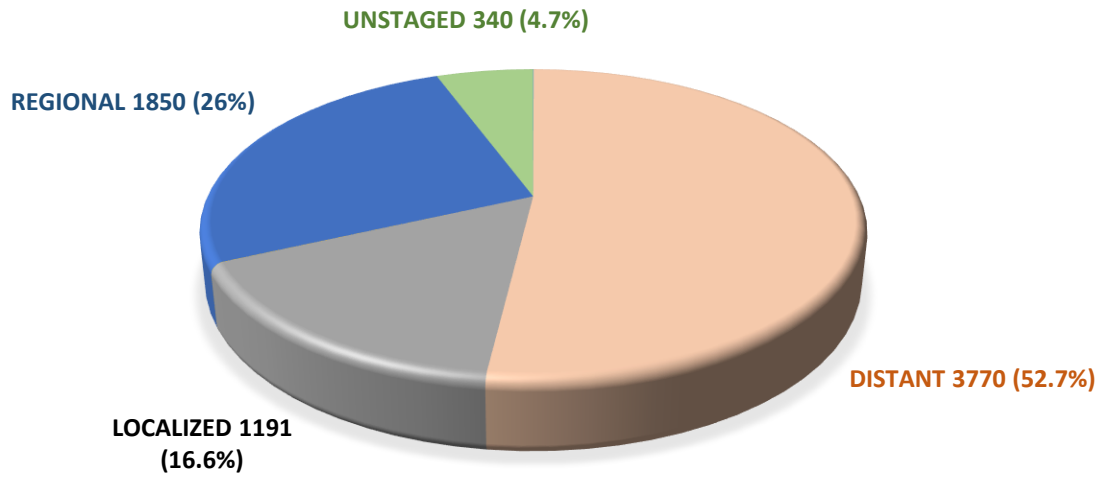
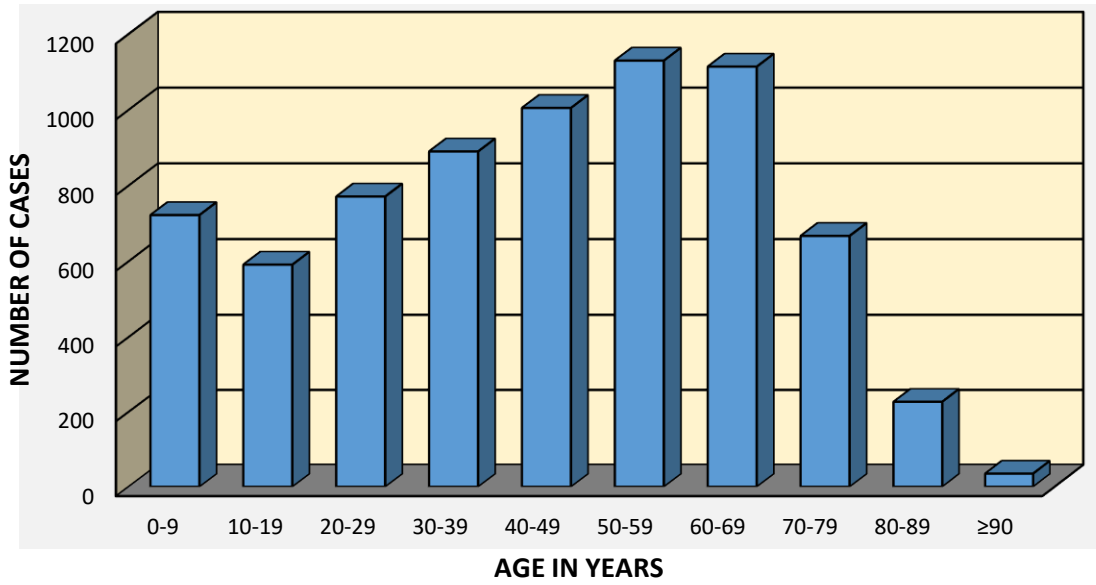
LEUKEMIA CASES



THYROID CANCER CASES



NON-HODGKIN'S LYMPHOMA CASES



BRAIN CANCER CASES

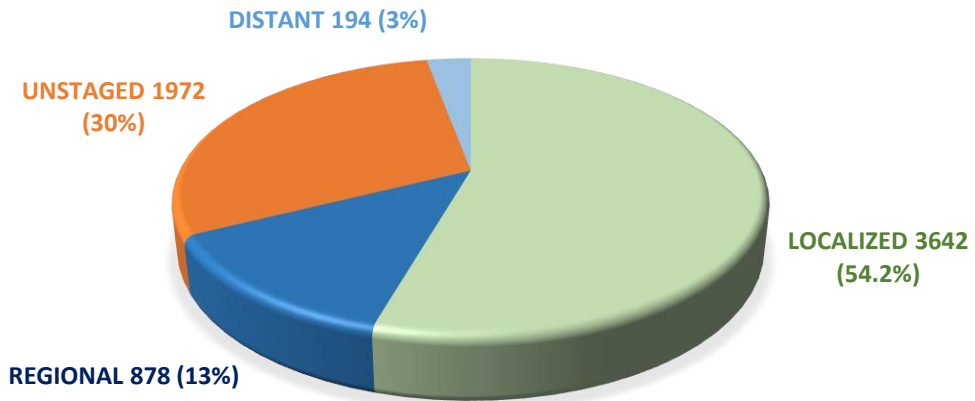
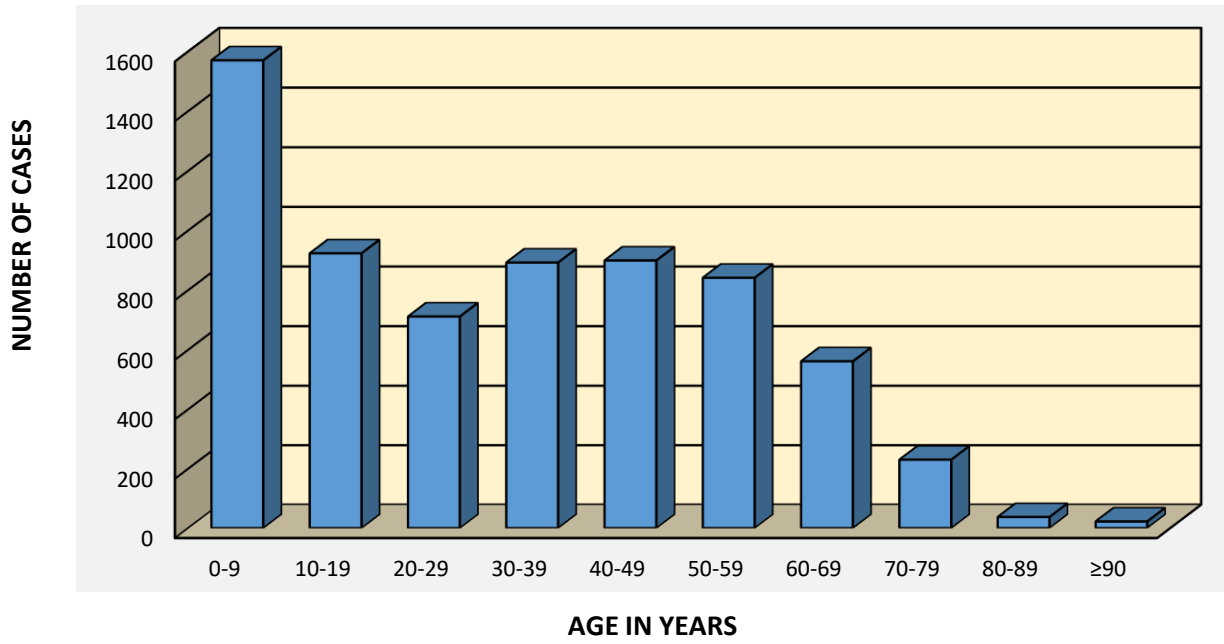


TABLE 2

**TEN MOST COMMON MALIGNANCIES BY AGE GROUP AT DIAGNOSIS
1975 - 2020**

SITE	AGE GROUP	No	%
BREAST	00 - 14	2	0.02
	15 - 39	3,535	27.9
	40 - 60	7,054	55.7
	>60	2,082	16.4

SITE	AGE GROUP	No	%
HODGKIN LYMPHOMA	00 - 14	1,065	26.4
	15 - 39	2,269	56.2
	40 - 60	508	12.6
	>60	193	4.8

SITE	AGE GROUP	No	%
LEUKEMIA	00 - 14	3,815	40.1
	15 - 39	3,220	33.9
	40 - 60	1,652	17.4
	>60	820	8.6

SITE	AGE GROUP	No	%
LIVER	00 - 14	140	4.03
	15 - 39	188	5.42
	40 - 60	1,231	35.5
	>60	1911	55.1

SITE	AGE GROUP	No	%
THYROID	00 - 14	141	1.9
	15 - 39	3,640	48.9
	40 - 60	2,568	34.5
	>60	1091	14.6

SITE	AGE GROUP	No	%
ORAL CAVITY	00 - 14	55	1.56
	15 - 39	490	13.9
	40 - 60	1,234	34.9
	>60	1,753	49.6

SITE	AGE GROUP	No	%
NON-HODGKIN LYMPHOMA	00 - 14	979	13.7
	15 - 39	1,995	27.9
	40 - 60	2,135	29.8
	>60	2043	28.6

SITE	AGE GROUP	No	%
LUNG & BRONCHUS	00 - 14	16	0.45
	15 - 39	245	6.8
	40 - 60	1,301	36.2
	>60	2,033	56.5

SITE	AGE GROUP	No	%
BRAIN, CNS	00 - 14	2,114	31.6
	15 - 39	1,982	29.6
	40 - 60	1,740	26.02
	>60	850	12.7

SITE	AGE GROUP	No	%
SOFT TISSUE	00 - 14	967	30.9
	15 - 39	1,129	36.10
	40 - 60	656	20.9
	>60	375	11.9

Cancer among pediatrics (under the age of 15) accounted for 12.2% of all cases from 1975 to 2020. The five most common pediatric malignancies were Leukemia (29.6%), brain (16.5%), Hodgkin disease (8.3%), Non-Hodgkin Lymphoma (7.6%), Soft tissue (7.5%).

FIGURE 6

**DISTRIBUTION OF 10 MOST COMMON PEDIATRIC MALIGNANCIES
1975-2020 (TOTAL CASES = 12,789)**

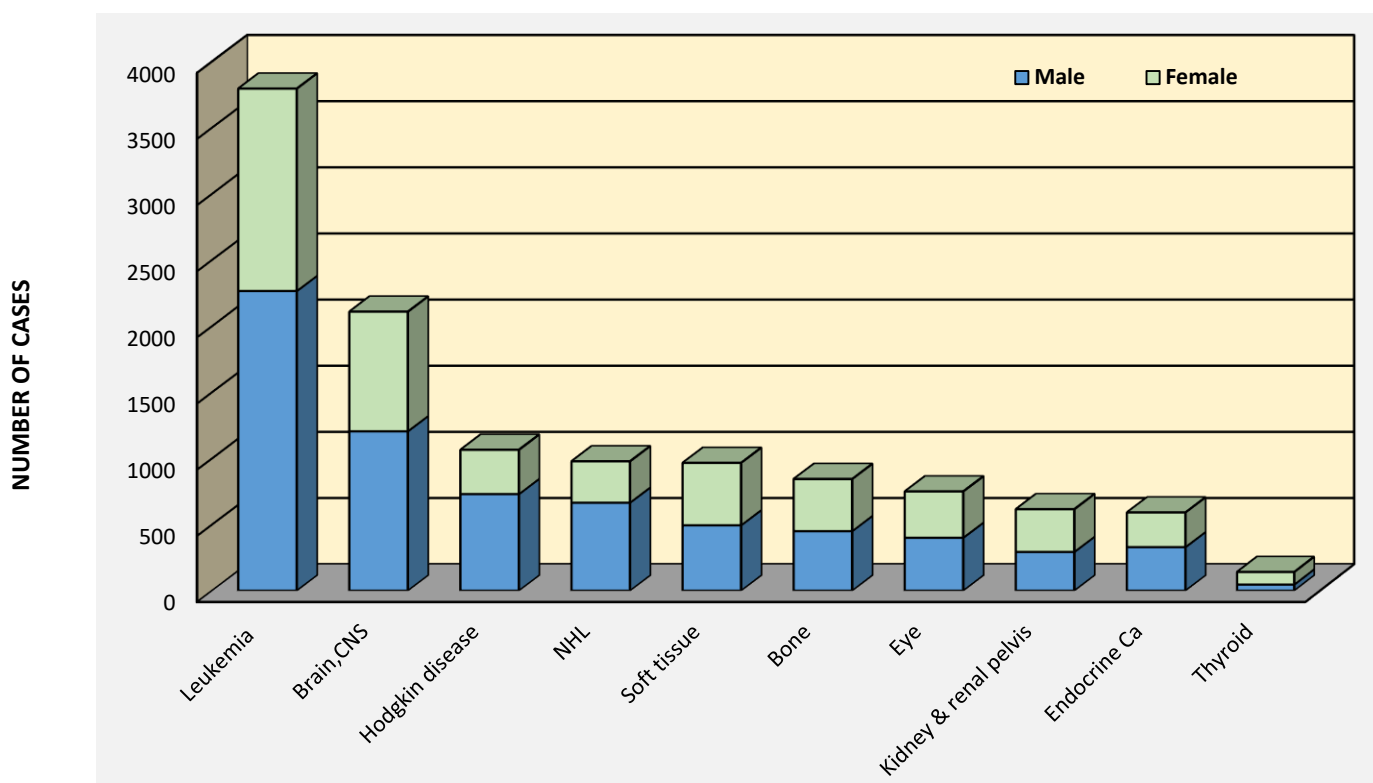


FIGURE 7

**DISTRIBUTION OF 10 MOST COMMON PEDIATRIC MALIGNANCIES BY HISTOLOGY
1975-2020 (TOTAL CASES = 12,789)**

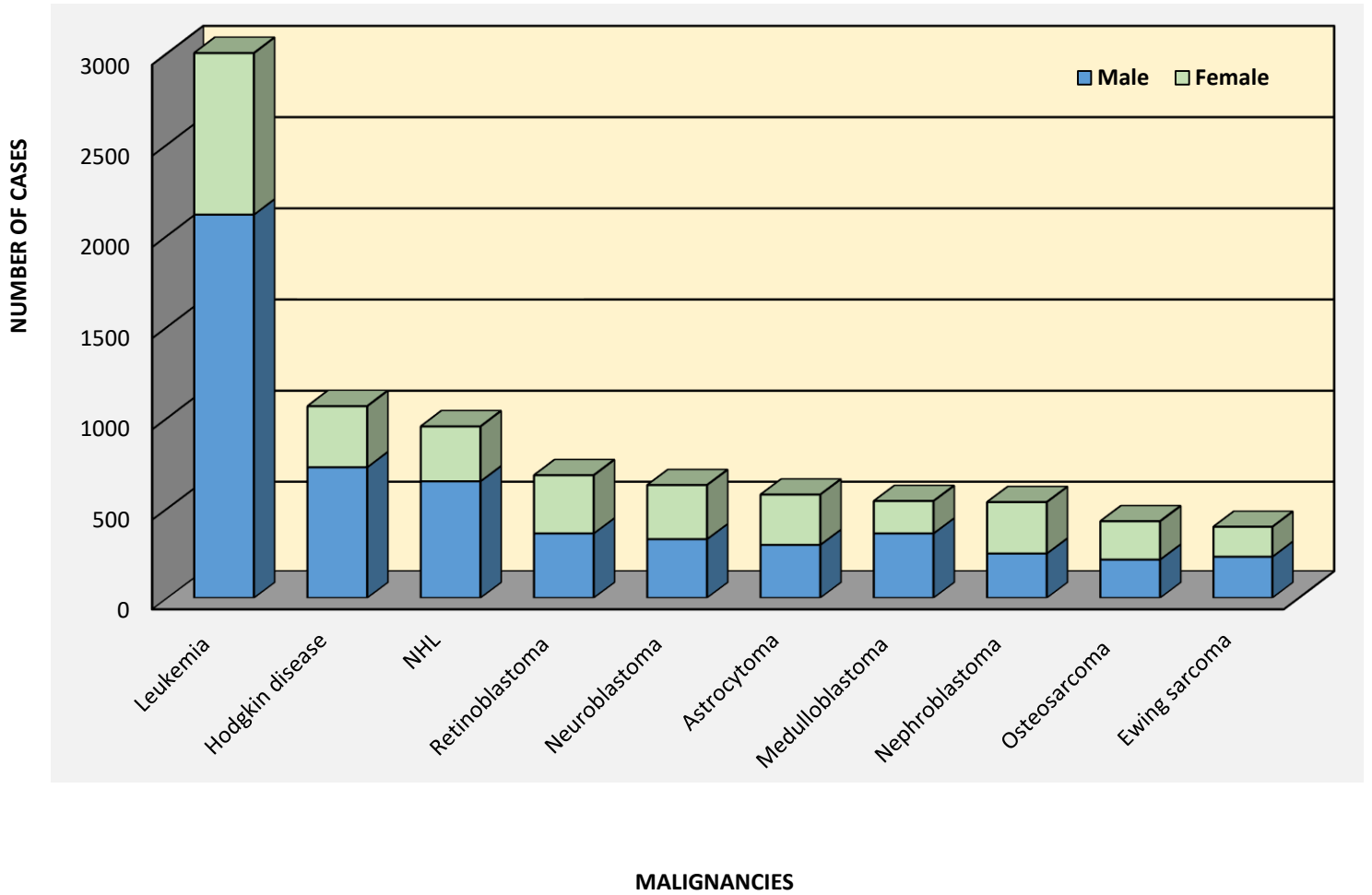


TABLE 3
CASES SEEN AT KFSH&RC BY SITE AND YEAR
1975-2020

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	133	132	144	140	197	224	191	187	168	196
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	37	43	46	55	65	65	76	100	90	117	112	104
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	10	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	8	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	35	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	72	68	102	134	135	136	116	118
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	32	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	752	959	1065	1094	1331	1439	1620	1613	1558	1795	2166	2183	2044	1924	1926

TABLE 3 (cont 'd)
CASES SEEN AT KFSH&RC BY SITE AND YEAR
1975-2020

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	11	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	202	180	225	180	242	257	289	272	252	270	267	230	214	236	212
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	63	82	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	380	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	39
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	51	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	139	163	176	178	180	216	208	237	243	218	186	200	163	152	116
Thyroid	143	136	159	134	162	161	192	211	186	189	169	215	214	216	206	229
Other endocrine	45	30	24	20	31	37	28	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	2212	2220	2406	2316	2352	2485	2742	2906	2894	2834	2781	3016	3019	2760	2573	2512

TABLE 3 (cont 'd)
CASES SEEN AT KFSH&RC BY SITE AND YEAR
1975-2020

Site Group	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	TOTAL
Oral Cavity	90	91	62	87	74	81	87	91	96	77	86	76	84	3412
Nasopharynx	93	68	85	90	71	84	71	70	78	87	76	76	66	3838
Esophagus	31	31	29	31	30	21	30	25	26	30	33	32	28	2121
Stomach	52	64	65	59	61	67	76	57	42	38	39	62	42	2342
Small intestine	6	7	6	9	10	11	21	7	9	13	6	8	13	254
Colon	83	96	86	104	103	120	132	155	135	156	119	154	130	2944
Rectum & rectosigmoid	82	92	83	93	99	92	102	111	113	153	85	102	89	2904
Anus,anal canal,anorectum	5	1	4	2	3	5	7	4	10	6	2	3	5	245
Liver	73	89	97	112	104	104	94	102	110	105	115	104	102	3470
Gallbladder	10	6	9	11	5	11	23	17	12	21	22	28	28	496
Bile ducts	7	12	13	8	10	9	12	17	16	7	9	18	27	333
Pancreas	33	40	38	31	46	61	62	50	50	64	53	79	66	1387
Peritoneum,Retroperitoneum	3	2	3	2	6	9	5	5	16	13	11	19	14	149
Other digestive	4	1	2	0	0	1	0	3	2	9	6	7	1	93
Nasal cavity,sinus,ear	9	8	5	4	7	4	4	11	10	12	14	5	12	411
Larynx	31	26	10	17	19	21	18	24	20	18	24	18	17	1112
Lung/bronchus	63	61	63	73	72	82	92	65	79	82	76	108	69	3395
Pleura	2	4	1	0	3	3	0	4	1	2	1	2	1	76
Other respir & thoracic	6	7	9	7	5	5	2	3	6	2	0	6	3	172
Leukemia	253	241	267	231	292	267	258	254	287	311	275	256	229	9347
Myeloma	18	39	36	28	16	31	26	25	30	23	30	27	32	990
Bone	85	66	72	65	58	50	72	43	54	73	65	73	69	2545
Soft tissue	63	62	73	68	74	73	64	67	53	47	61	66	56	3127
Skin	49	47	46	48	43	53	49	56	55	57	34	57	29	2379
Kaposi sarcoma	7	7	10	5	3	5	12	10	4	7	2	6	5	267
Breast	358	339	376	413	377	434	489	396	416	507	481	589	483	12673
Uterus	108	120	89	107	115	98	144	125	118	139	148	170	186	3774
Ovary	75	64	79	61	65	66	70	61	57	46	62	68	55	2266
Vagina	0	2	0	2	1	0	1	5	3	1	2	2	0	73
Vulva	4	4	2	5	4	2	2	1	2	7	1	1	3	106
Other female genital	6	10	4	4	2	6	4	5	2	0	2	2	4	401
Prostate	60	45	47	38	37	48	68	66	58	68	81	84	69	1800
Testis	28	28	30	23	14	28	33	38	25	25	28	42	40	867
Penis	0	1	0	0	2	0	0	0	1	0	3	1	1	48
Other male genital	0	0	0	1	1	0	0	2	3	0	1	0	1	33
Bladder	71	70	87	67	62	80	75	76	93	81	84	104	65	2931
Kidney and renal pelvis	86	86	85	87	84	78	97	92	100	102	83	127	69	2563
Ureter	0	2	2	2	0	0	0	1	1	0	0	3	0	41
Other urinary	0	0	0	0	3	1	1	2	1	1	0	1	3	24
Eye	19	17	24	32	27	22	23	21	21	27	21	19	24	1008
Brain,CNS	139	129	171	169	184	151	158	194	176	193	149	323	253	6636
Thyroid	254	225	212	245	248	245	287	294	297	316	280	297	214	7440
Other endocrine	47	37	38	28	40	36	34	49	24	49	44	75	46	1584
Hodgkin's disease	118	122	104	96	117	107	146	114	119	142	129	143	111	4035
Non-hodgkin's lymphoma	172	149	163	140	154	160	156	189	172	208	177	256	191	7152
Unknown or ill-defined	25	31	33	25	25	40	30	27	49	45	6	2	31	1538
TOTAL	2728	2649	2720	2730	2776	2872	3137	3034	3052	3370	3026	3701	3066	104802

The largest number of cases in 2020 was noted in the 5th and 6th decades of life in males and in the 4th and 5th in females. The mean age was 46, the median was 49 and the mode was at 55. Pediatric malignancies were most common among children at two years of age and at one year of age.

FIGURE 8
DISTRIBUTION OF ALL CASES BY AGE AT DIAGNOSIS
2020 (TOTAL CASES = 3,066)

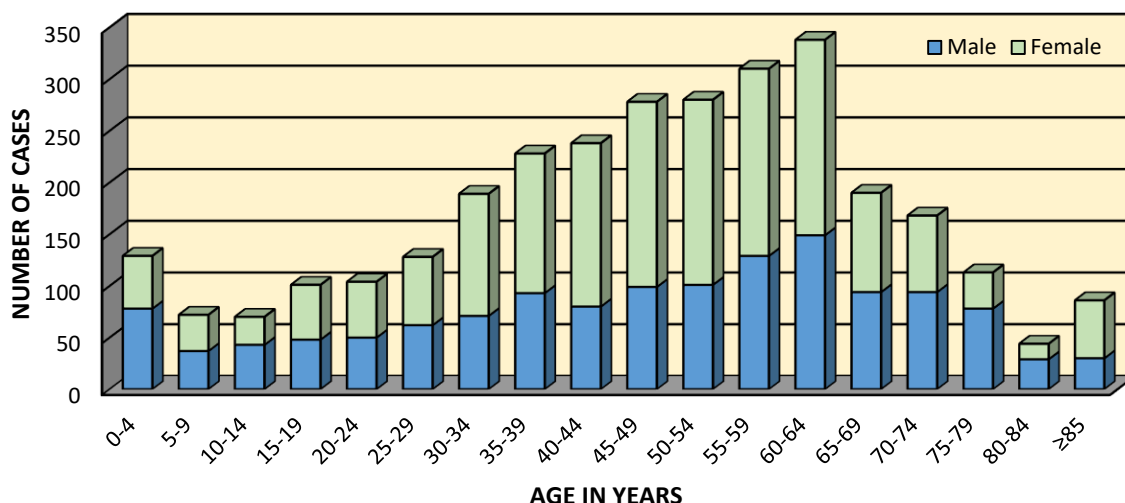
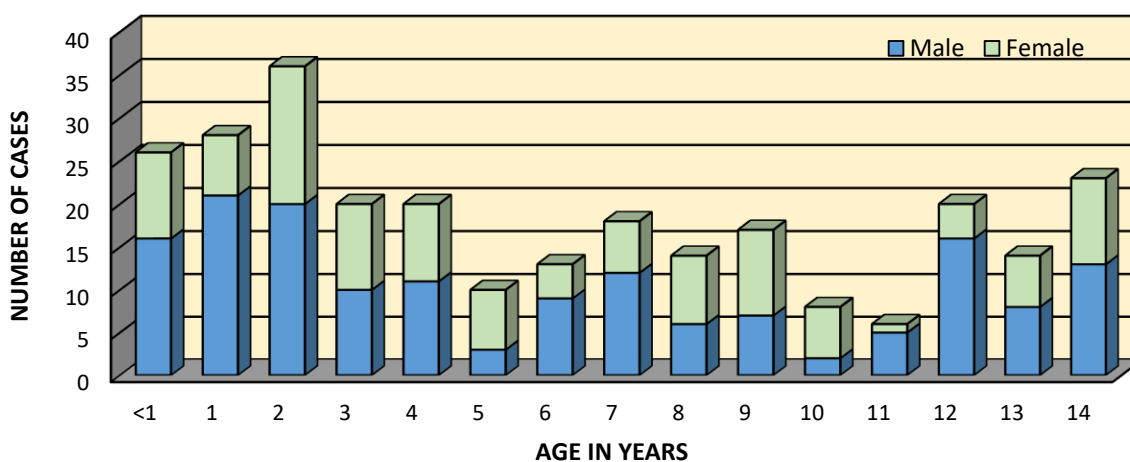


FIGURE 9
DISTRIBUTION OF PEDIATRIC CASES BY AGE AT DIAGNOSIS
2020 (TOTAL CASES = 273)



Of the 3,066 cases in 2020, 2,948 (96.9%) 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 118 cases (3.1%) were non-analytic (defined as cases diagnosed elsewhere and received all of their first course of treatment elsewhere). Pediatric cases totaled 273, with 159 males and 114 females.

See Table 4 for the distribution of cases by site, sex, class of case, and stage at diagnosis.

**TABLE 4
CASES SEEN AT KFSH&RC BY SITE, SEX, CLASS OF CASE, AND SUMMARY STAGE
2020**

Site Group	Total Cases	Class		Sex		STAGE				
		Analytic	NonAn	M	F	In Situ	Localized	Regional	Distant	Unstageable
ORAL CAVITY	84	83	1	43	41	1	28	49	6	0
NASOPHARYNX	66	64	2	47	19	0	2	50	13	1
ESOPHAGUS	28	26	2	22	6	1	7	12	8	0
STOMACH	42	38	4	29	13	1	6	12	21	2
SMALL INTESTINE	13	13	0	10	3	0	1	4	8	0
COLON	130	118	12	76	54	2	20	41	65	2
RECTUM & RECTOSIGMOID	89	85	4	48	41	0	10	44	33	2
ANUS,ANAL CANAL,ANORECTUM	5	5	0	4	1	0	1	4	0	0
LIVER	101	98	3	68	33	0	67	7	27	0
GALLBLADDER	28	25	3	7	21	0	7	6	15	0
BILE DUCTS	27	27	0	18	9	0	7	7	13	0
PANCREAS	66	63	3	44	22	0	10	14	39	3
PERITONEUM,RETROPERITONEUM	14	14	0	8	6	0	6	2	6	0
OTHER DIGESTIVE	1	1	0	1	0	0	0	0	1	0
NASAL CAVITY,SINUS,EAR	12	12	0	7	5	0	5	5	2	0
LARYNX	17	17	0	14	3	2	9	4	2	0
LUNG/BRONCHUS	69	68	1	48	21	0	14	11	43	1
PLEURA	1	1	0	1	0	0	0	0	1	0
OTHER RESPIR & THORACIC	3	3	0	2	1	0	1	1	0	1
LEUKEMIA	229	220	9	127	102	0	3	0	226	0
MYELOMA	32	32	0	18	14	0	1	0	31	0
BONE	69	66	3	39	30	0	35	9	22	3
SOFT TISSUE	56	51	5	32	24	0	28	8	19	1
SKIN	29	28	1	17	12	3	18	3	5	0
KAPOSIS SARCOMA	5	4	1	4	1	0	3	0	2	0
BREAST	483	473	10	7	476	30	140	232	79	2
UTERUS	186	178	8	0	186	13	96	33	41	3
OVARY	55	53	2	0	55	1	14	17	23	0
VULVA	3	3	0	0	3	0	3	0	0	0
OTHER FEMALE GENITAL	4	4	0	0	4	0	0	2	2	0
PROSTATE	69	66	3	69	0	1	31	13	21	3
TESTIS	40	39	1	40	0	0	18	12	10	0
PENIS	1	1	0	1	0	0	0	1	0	0
OTHER MALE GENITAL	1	1	0	1	0	0	1	0	0	0
BLADDER	65	62	3	57	8	20	32	10	3	0
KIDNEY AND RENAL PELVIS	68	63	5	40	28	0	44	8	15	1
OTHER URINARY	3	3	0	2	1	0	1	1	1	0
EYE	24	24	0	14	10	1	17	3	3	0
BRAIN,CNS	255	249	6	133	122	1	96	35	6	117
THYROID	214	212	2	57	157	6	105	96	7	0
OTHER ENDOCRINE	46	42	4	20	26	0	9	2	11	24
HODGKIN'S DISEASE	111	103	8	71	40	0	22	24	63	2
NON-HODGKIN'S LYMPHOMA	191	185	6	102	89	0	39	22	126	4
UNKNOWN OR ILL-DEFINED	31	25	6	17	14	0	4	2	0	25
TOTAL	3066	2948	118	1365	1701	83	961	806	1019	197

**TABLE 5
ANALYTIC CASES SEEN AT KFSH&RC BY SITE AND AGE
2020**

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	2	0	2	0	5	9	7	12	6	15	6	5	4	5	4	83
Nasopharynx	0	0	1	4	3	4	2	7	11	4	10	7	6	3	1	1	0	0	64
Esophagus	0	0	0	0	0	1	1	1	1	1	1	2	4	2	4	4	1	3	26
Stomach	0	0	0	1	2	2	1	2	3	4	2	6	6	4	1	3	1	0	38
Small intestine	0	0	1	0	0	0	0	2	1	0	3	0	3	2	0	0	1	0	13
Colon	0	0	0	1	1	2	6	5	10	16	11	22	13	7	7	9	3	5	118
Rectum & rectosigmoid	0	0	0	0	1	0	3	6	10	10	11	11	12	8	9	3	0	1	85
Anus,anal canal,anorectum	0	0	0	0	0	0	0	0	0	0	1	2	0	0	2	0	0	0	5
Liver	5	0	1	1	1	0	1	0	1	3	10	11	17	14	14	12	5	2	98
Gallbladder	0	0	0	0	0	0	1	1	0	2	3	3	5	5	0	3	0	2	25
Bile ducts	0	0	0	0	0	0	0	3	1	3	2	5	3	4	5	1	0	0	27
Pancreas	1	0	0	0	2	1	3	1	4	5	7	11	9	6	5	3	1	4	63
Peritoneum,Retroperitoneum	2	0	0	0	0	0	2	1	0	2	0	2	1	1	2	1	0	0	14
Other digestive	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
Nasal cavity,sinus,ear	0	0	1	1	0	0	0	5	0	0	0	2	2	1	0	0	0	0	12
Larynx	0	0	0	0	0	0	0	0	0	1	0	3	4	2	3	3	1	0	17
Lung/Bronchus	0	0	0	1	0	1	1	6	3	4	4	8	11	11	8	4	4	2	68
Pleura	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
Other respir & thoracic	0	1	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	3
Leukemia	46	19	14	22	12	12	9	17	11	10	12	10	13	7	3	1	2	0	220
Myeloma	0	0	0	1	0	0	1	0	0	5	6	4	6	5	1	2	1	0	32
Bone	1	8	12	9	7	4	4	3	3	7	3	0	1	1	2	1	0	0	66
Soft tissue	8	1	2	4	1	1	7	4	3	6	4	5	4	1	0	0	0	0	51
Skin	0	1	0	1	0	0	3	1	1	1	2	3	5	5	0	4	1	0	28
Kaposi sarcoma	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1	0	1	0	4
Breast	0	0	0	0	1	10	38	52	65	70	60	61	66	23	17	5	2	3	473
Uterus	0	0	0	0	1	1	11	7	10	14	19	27	32	23	18	7	5	3	178
Ovary	0	1	2	1	1	2	2	3	7	6	9	10	2	1	2	4	0	0	53
Vulva	0	0	1	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	3
Other female genital	0	0	0	0	0	0	0	0	0	0	1	1	2	0	0	0	0	0	4
Prostate	1	0	0	0	0	0	0	0	0	1	2	10	9	11	13	15	3	1	66
Testis	0	0	0	3	5	8	12	7	1	2	0	0	1	0	0	0	0	0	39
Penis	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Other male genital	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
Bladder	0	0	0	0	0	2	0	3	5	1	8	11	13	8	5	3	2	1	62
Kidney and renal pelvis	11	2	0	0	2	1	0	7	5	10	5	8	9	0	1	2	0	1	64
Other urinary	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	3
Eye	18	1	0	0	0	0	0	0	1	0	0	1	1	0	0	1	1	0	24
Brain,CNS	20	13	17	9	8	17	14	22	19	17	24	18	20	9	9	7	0	4	247
Thyroid	0	1	2	9	19	22	20	24	31	34	15	8	13	4	8	1	0	1	212
Other endocrine	5	1	0	3	1	5	3	6	7	1	2	1	2	2	2	1	0	0	42
Hodgkin's disease	0	8	11	13	14	17	18	8	3	3	2	3	1	2	0	0	0	0	103
Non-hodgkin's lymphoma	4	8	2	12	13	9	16	13	11	16	21	21	16	8	8	3	2	2	185
Unknown or ill-defined	2	2	1	0	1	0	0	2	0	4	2	3	2	1	3	2	0	1	26
TOTAL	124	67	69	98	96	124	179	228	237	271	274	308	333	188	159	110	42	41	2948

**TABLE 6
ANALYTIC MALE CASES SEEN AT KFSH&RC BY SITE AND AGE
2020**

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	2	0	2	0	5	5	3	6	4	6	3	0	2	1	3	42
Nasopharynx	0	0	1	1	2	3	1	5	8	3	8	6	4	1	1	1	0	0	45
Esophagus	0	0	0	0	0	0	0	1	1	1	1	2	3	2	2	3	1	3	20
Stomach	0	0	0	1	1	0	1	0	1	4	1	5	5	3	1	2	1	0	26
Small intestine	0	0	1	0	0	0	0	1	1	0	2	0	3	1	0	0	1	0	10
Colon	0	0	0	1	1	2	5	3	6	9	4	9	7	3	4	7	3	3	67
Rectum & rectosigmoid	0	0	0	0	0	0	0	4	5	5	5	4	9	7	7	0	0	0	46
Anus,anal canal,anorectum	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	4
Liver	3	0	1	0	1	0	0	0	1	1	7	6	11	10	8	11	4	2	66
Gallbladder	0	0	0	0	0	0	0	1	0	0	0	0	1	2	0	1	0	1	6
Bile ducts	0	0	0	0	0	0	0	1	1	3	2	3	2	2	3	1	0	0	18
Pancreas	1	0	0	0	1	0	3	1	4	3	5	7	5	5	3	2	0	3	43
Peritoneum,Retroperitoneum	1	0	0	0	0	0	1	0	0	2	0	0	0	1	2	1	0	0	8
Other digestive	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
Nasal cavity,sinus,ear	0	0	0	1	0	0	0	4	0	0	0	0	1	1	0	0	0	0	7
Larynx	0	0	0	0	0	0	0	0	0	1	0	2	4	1	3	2	1	0	14
Lung/Bronchus	0	0	0	0	0	0	1	2	0	3	4	7	9	5	6	4	4	2	47
Pleura	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
Other respir & thoracic	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	2
Leukemia	29	8	7	8	9	6	3	13	7	5	6	4	5	6	3	1	2	0	122
Myeloma	0	0	0	0	0	0	1	0	0	3	4	2	1	3	1	2	1	0	18
Bone	1	3	8	2	4	3	3	1	2	6	1	0	0	1	0	1	0	0	36
Soft tissue	5	1	1	3	1	0	4	2	2	3	0	3	3	1	0	0	0	0	29
Skin	0	0	0	0	0	0	1	1	0	1	0	1	5	4	0	3	1	0	17
Kaposi sarcoma	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	1	0	3
Breast	0	0	0	0	0	0	0	0	1	1	2	2	0	0	0	1	0	0	7
Prostate	1	0	0	0	0	0	0	0	0	1	2	10	9	11	13	15	3	1	66
Testis	0	0	0	3	5	8	12	7	1	2	0	0	1	0	0	0	0	0	39
Penis	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Other male genital	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
Bladder	0	0	0	0	0	2	0	3	5	1	7	10	9	7	5	3	2	0	54
Kidney and renal pelvis	5	1	0	0	1	0	0	5	3	6	2	3	7	0	1	2	0	1	37
Other urinary	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2
Eye	11	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1	0	14
Brain,CNS	14	8	12	7	4	11	8	7	5	4	13	11	8	3	6	7	0	2	130
Thyroid	0	1	0	2	1	7	5	5	7	9	3	2	6	0	6	1	0	1	56
Other endocrine	1	0	0	1	0	2	0	4	3	0	1	0	2	0	2	0	0	0	16
Hodgkin's disease	0	7	10	5	6	11	10	5	3	3	2	2	1	1	0	0	0	0	66
Non-hodgkin's lymphoma	0	6	2	9	6	2	9	8	4	7	9	12	10	5	5	2	0	1	97
Unknown or ill-defined	1	0	0	0	1	0	0	1	0	4	1	1	2	0	2	1	0	0	14
TOTAL	73	35	43	46	44	59	68	92	77	94	98	122	143	90	87	76	27	24	1298

**TABLE 7
ANALYTIC FEMALE CASES SEEN AT KFSH&RC BY SITE AND AGE
2020**

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	0	0	0	4	4	6	2	9	3	5	2	4	1	41
Nasopharynx	0	0	0	3	1	1	1	2	3	1	2	1	2	2	0	0	0	0	19
Esophagus	0	0	0	0	0	1	1	0	0	0	0	0	1	0	2	1	0	0	6
Stomach	0	0	0	0	1	2	0	2	2	0	1	1	1	1	0	1	0	0	12
Small intestine	0	0	0	0	0	0	0	1	0	0	1	0	0	1	0	0	0	0	3
Colon	0	0	0	0	0	0	1	2	4	7	7	13	6	4	3	2	0	2	51
Rectum & rectosigmoid	0	0	0	0	1	0	3	2	5	5	6	7	3	1	2	3	0	1	39
Anus,anal canal,anorectum	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
Liver	2	0	0	1	0	0	1	0	0	2	3	5	6	4	6	1	1	0	32
Gallbladder	0	0	0	0	0	0	1	0	0	2	3	3	4	3	0	2	0	1	19
Bile ducts	0	0	0	0	0	0	0	2	0	0	0	2	1	2	2	0	0	0	9
Pancreas	0	0	0	0	1	1	0	0	0	2	2	4	4	1	2	1	1	1	20
Peritoneum,Retroperitoneum	1	0	0	0	0	0	1	1	0	0	0	2	1	0	0	0	0	0	6
Nasal cavity,sinus,ear	0	0	1	0	0	0	0	1	0	0	0	2	1	0	0	0	0	0	5
Larynx	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	0	3
Lung/Bronchus	0	0	0	1	0	1	0	4	3	1	0	1	2	6	2	0	0	0	21
Other respir & thoracic	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Leukemia	17	11	7	14	3	6	6	4	4	5	6	6	8	1	0	0	0	0	98
Myeloma	0	0	0	1	0	0	0	0	0	2	2	2	5	2	0	0	0	0	14
Bone	0	5	4	7	3	1	1	2	1	1	2	0	1	0	2	0	0	0	30
Soft tissue	3	0	1	1	0	1	3	2	1	3	4	2	1	0	0	0	0	0	22
Skin	0	1	0	1	0	0	2	0	1	0	2	2	0	1	0	1	0	0	11
Kaposi's sarcoma	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
Breast	0	0	0	0	1	10	38	52	64	69	58	59	66	23	17	4	2	3	466
Uterus	0	0	0	0	1	1	11	7	10	14	19	27	32	23	18	7	5	3	178
Ovary	0	1	2	1	1	2	2	3	7	6	9	10	2	1	2	4	0	0	53
Vulva	0	0	1	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	3
Other female genital	0	0	0	0	0	0	0	0	0	0	1	1	2	0	0	0	0	0	4
Bladder	0	0	0	0	0	0	0	0	0	0	1	1	4	1	0	0	0	1	8
Kidney and renal pelvis	6	1	0	0	1	1	0	2	2	4	3	5	2	0	0	0	0	0	27
Other urinary	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
Eye	7	1	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	10
Brain,CNS	6	5	5	2	4	6	6	15	14	13	11	7	12	6	3	0	0	2	117
Thyroid	0	0	2	7	18	15	15	19	24	25	12	6	7	4	2	0	0	0	156
Other endocrine	4	1	0	2	1	3	3	2	4	1	1	1	0	2	0	1	0	0	26
Hodgkin's disease	0	1	1	8	8	6	8	3	0	0	0	1	0	1	0	0	0	0	37
Non-hodgkin's lymphoma	4	2	0	3	7	7	7	5	7	9	12	9	6	3	3	1	2	1	88
Unknown or ill-defined	1	2	1	0	0	0	0	1	0	0	1	2	0	1	1	1	0	1	12
TOTAL	51	32	26	52	52	65	111	136	160	177	176	186	190	98	72	34	15	17	1650

TRENDS IN RELATIVE FREQUENCY OF CANCER AT KFSH&RC (cont'd)

The crude relative frequencies of primary cancers seen at KFSH&RC are very different from the Western world. Common tumors of the West (lung, colon, and prostate) are much less frequent here while leukemia, lymphoma and thyroid cancers are more common. The following 2019 analytic cases exhibit significant differences in trends from those of the U.S.A when compared to the data published in Cancer Facts & Figures - 2019, by the American Cancer Society:

TABLE 8
COMPARATIVE DATA - KFSH&RC vs USA
(% to TOTAL CANCER CASES)

SITE	KFSH&RC 2019 Analytics	USA 2019 Estimates
BREAST	15.7%	15.4%
BRAIN, CNS	8.3%	1.3%
LEUKEMIA	7.4%	3.3%
THYROID	6.9%	2.9%
NHL	6.2%	4.2%
UTERUS	6.1%	3.6%
COLON	4.2%	5.7%
HODGKIN LYMPHOMA	3.6%	0.4%
LIVER	3.3%	2.3%
RECTUM & RECTOSIGMOID	2.9%	2.4%

Breast - The most common malignancy seen at KFSH&RC is breast cancer, comprising 15.7% of all cases, as compared to 15.4% 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. As in the Western countries, it is the number one cancer among women.

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 8.3% at KFSH&RC.

Leukemia - The most striking feature is the high crude relative frequency of leukemia cases, 7.4% of all cases seen at KFSH&RC, as compared to 3.3% of all neoplasms diagnosed in the U.S.A

Thyroid – 6.9% of all malignancies in KFSH&RC are thyroid cancer, much higher than in the West, it accounts for only 2.9% of all cases in the U.S.A.

Non-Hodgkin Lymphoma - Cases of non-Hodgkin's lymphoma account for 6.2% of all cases. In the U.S.A., NHL accounts for only 4.2% of all cancers.

Uterus - Primary malignant neoplasms of the Uterus account for 6.1% of all malignancies. This is higher than in the U.S.A., with only 3.6% of all cases.

Colon – A crude relative frequency rate was also noted in cancer of colon. In Western countries it accounts for 5.7% of all cancers, whereas at KFSH&RC represents 4.2% of the cases.

Hodgkin Disease – The relative frequency of Hodgkin Disease cases at KFSH&RC is 3.6% as compared to the West recorded as 0.4%.

Liver – frequency of Liver malignancies in Western Countries is 2.3%, while in KFSH&RC it accounts for 3.3% of all cancers.

Rectum & Rectosigmoid- frequency of Rectum malignancies in Western Countries is 2.4%, while in KFSH&RC it accounts for 2.9% of all cancers

FIGURE 10
DISTRIBUTION OF 20 MOST COMMON MALIGNANCIES
2020 ANALYTIC CASES (TOTAL CASES = 2,948)

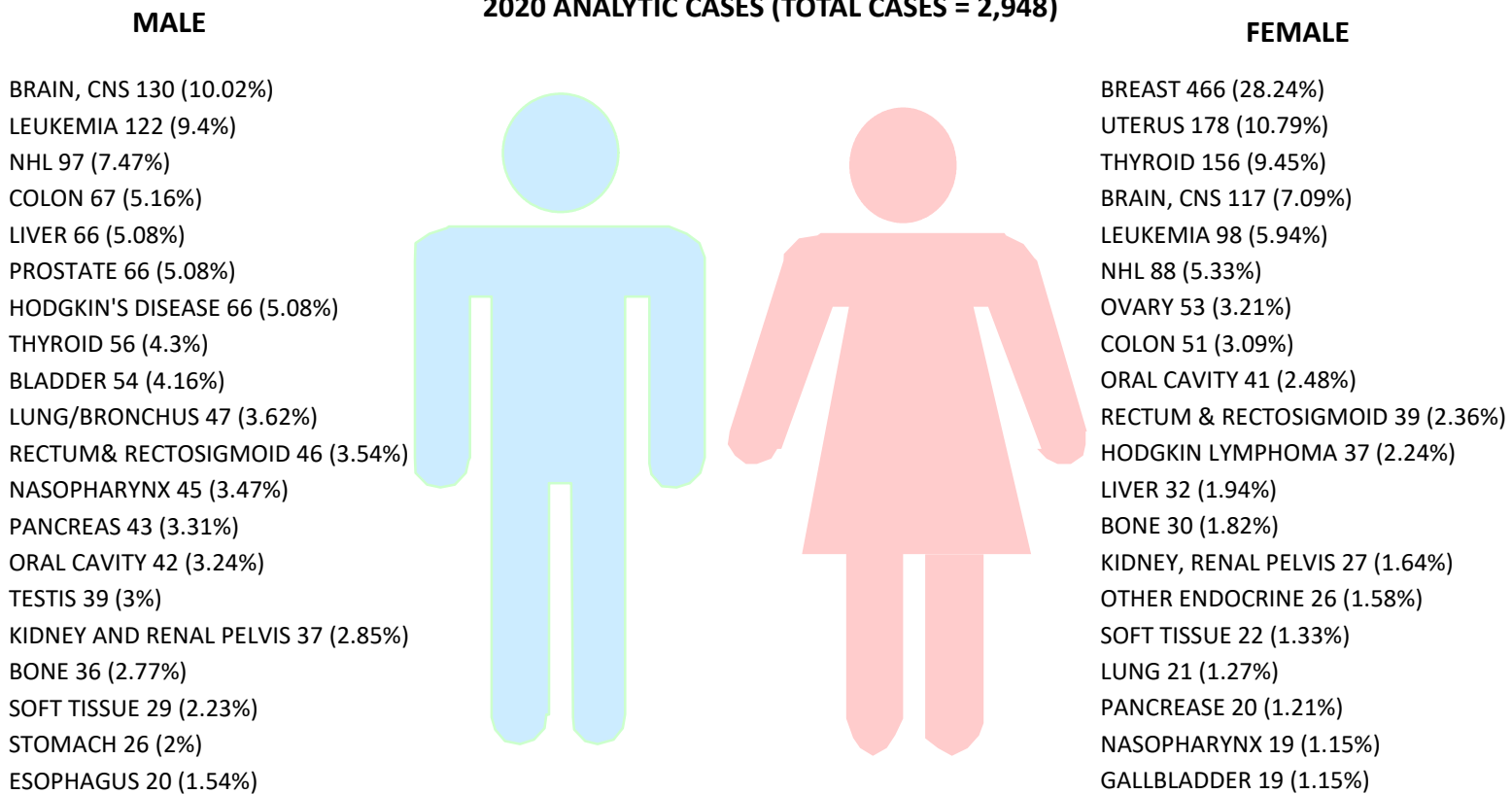


FIGURE 11
DISTRIBUTION OF MOST COMMON PEDIATRIC MALIGNANCIES
2020 ANALYTIC CASES (TOTAL CASES= 260)

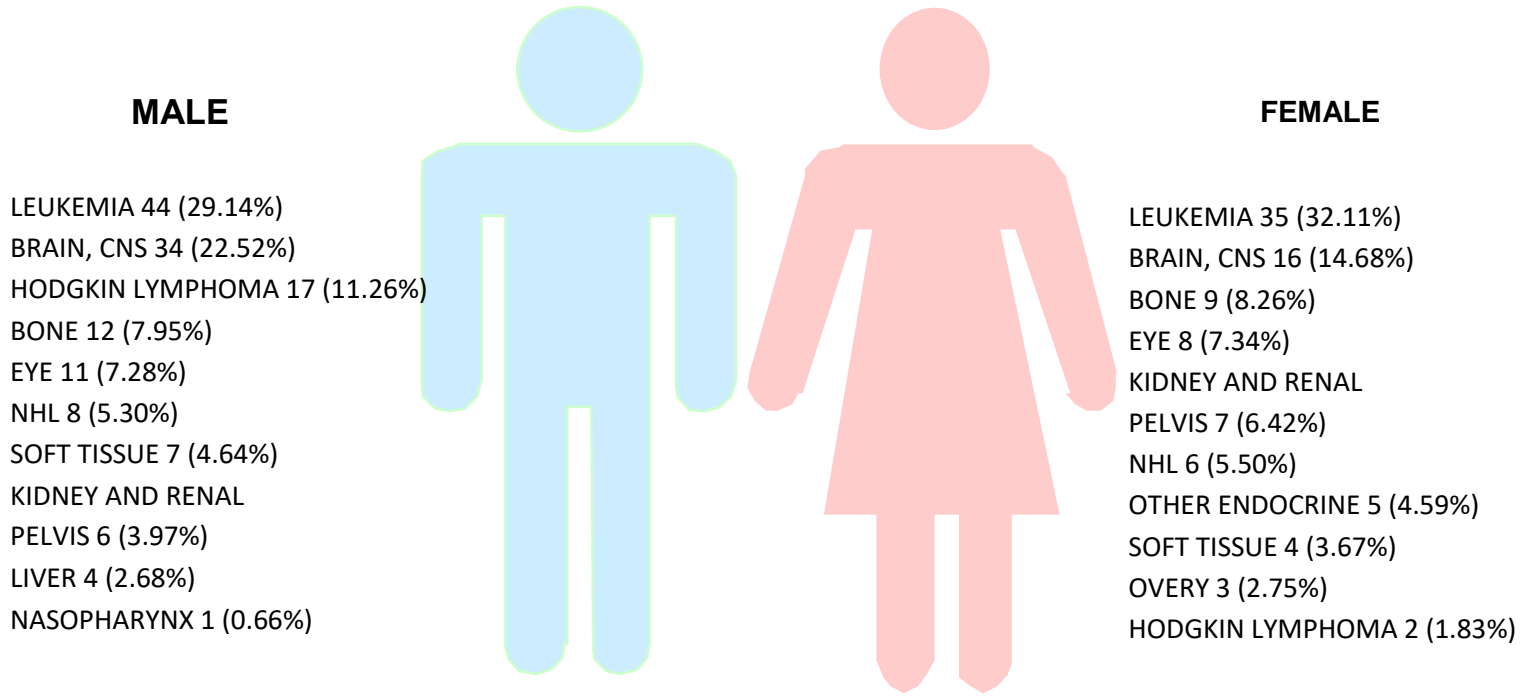


FIGURE 12
DISTRIBUTION OF MOST COMMON PEDIATRIC MALIGNANCIES BY HISTOLOGY
2020 ANALYTIC CASES (TOTAL CASES= 260)

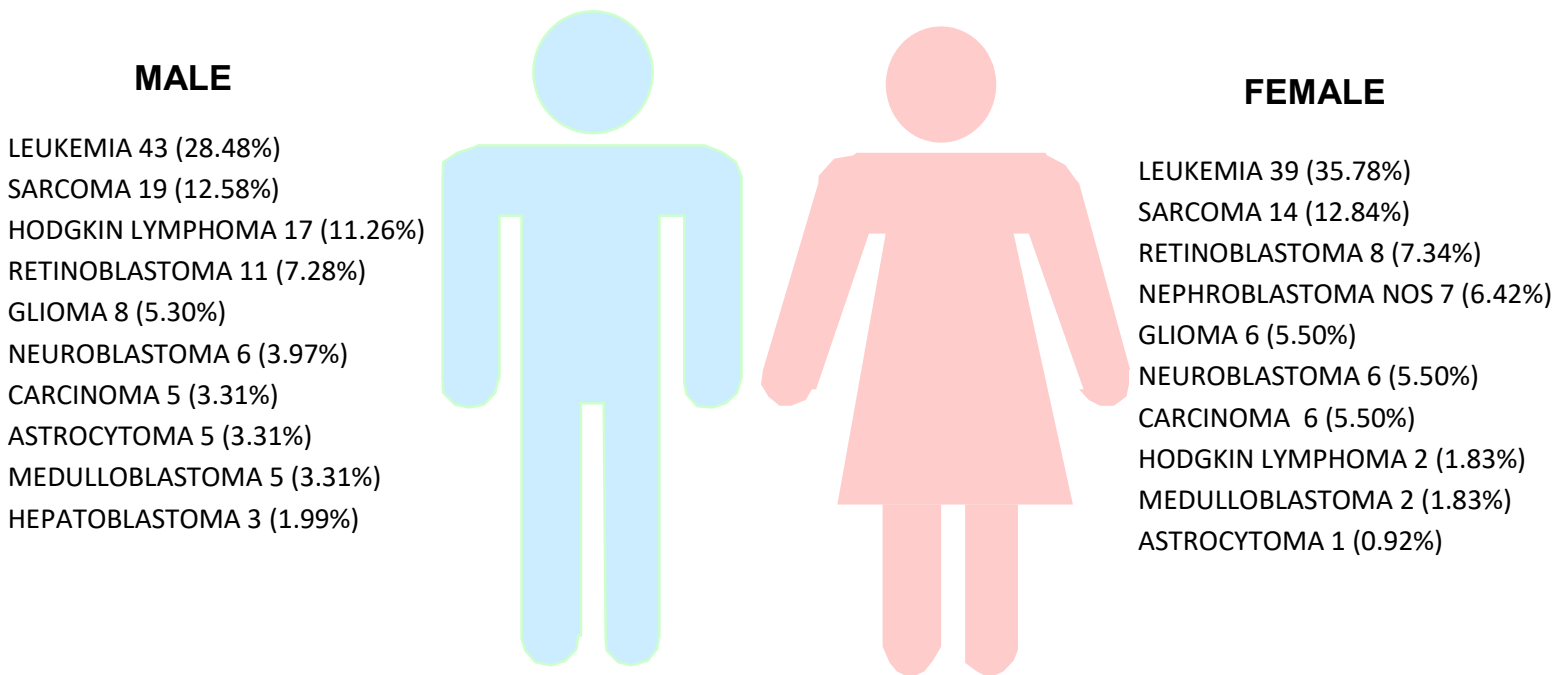


TABLE 9
PRIMARY SITE TABLE
(INCLUDES MULTIPLE PRIMARIES)
2020

SITE	HISTOLOGY (NOS - Not Otherwise Specified)	ALL CASES	ADULTS		PEADIATRICS	
			MALE	FEMALE	MALE	FEMALE
		3,066	1,206	1,587	159	114
LIP		6	3	3	0	0
	Squamous cell carcinoma nos	3	1	2	0	0
	Squamous cell carcinoma keratinizing nos	1	1	0	0	0
	Squamous cell carcinoma microinvasive	1	0	1	0	0
	Sclerosing sweat duct carcinoma	1	1	0	0	0
TONGUE		30	15	15	0	0
	Squamous cell carcinoma nos	18	9	9	0	0
	Squamous cell carcinoma keratinizing nos	10	4	6	0	0
	Squamous cell carcinoma large cell nonkeratinizing	1	1	0	0	0
	Adenoid cystic carcinoma	1	1	0	0	0
GUM		3	2	1	0	0
	Squamous cell carcinoma	1	0	1	0	0
	Squamous cell carcinoma keratinizing	1	1	0	0	0
	Melanoma nodular	1	1	0	0	0
SALIVARY GLANDS		9	7	1	0	1
	Mucoepidermoid carcinoma	1	0	0	0	1
	Carcinoma nos	1	1	0	0	0
	Pleomorphic carcinoma	1	1	0	0	0
	Mucoepidermoid carcinoma	3	2	1	0	0
	Acinar Ccell carcinoma	2	2	0	0	0
	Malignant myoepithelioma	1	1	0	0	0
FLOOR OF MOUTH		2	0	2	0	0
	Squamous cell carcinoma	2	0	2	0	0
NASOPHARYNX		62	44	17	1	0
	Squamous cell carcinoma large cell nonkeratinizing	20	15	4	1	0
	Carcinoma nos	22	15	7	0	0
	Squamous cell carcinoma	16	10	6	0	0
	Basaloid squamous cell	1	1	0	0	0
	Adenocarcinoma nos	1	1	0	0	0
	Carcinoid Tumor	1	1	0	0	0
	Adenosquamous carcinoma	1	1	0	0	0
HYPOPHARYNX		2	1	1	0	0
	Squamous cell carcinoma nos	2	1	1	0	0
LARYNX		17	14	3	0	0
	Squamous cell carcinoma in situ nos	1	1	0	0	0
	Squamous cell carcinoma nos	12	10	2	0	0
	Squamous cell carcinoma keratinizing nos	2	2	0	0	0
	Squamous cell carcinoma microinvasive	1	1	0	0	0
	Adenocarcinoma in situ in adenomatous polyp	1	0	1	0	0
KAPOSIS SARCOMA		5	4	1	0	0
	Kaposi sarcoma	5	4	1	0	0

SITE	HISTOLOGY (NOS - Not Otherwise Specified)	ALL CASES	ADULTS		PEADIATRICS	
			MALE	FEMALE	MALE	FEMALE
NASAL CAVITY, MIDDLE EAR		12	7	4	0	1
	Ameloblastic fibrosarcoma	1	0	0	0	1
	Carcinoma nos	1	0	1	0	0
	Squamous cell carcinoma keratinizing nos	3	1	2	0	0
	Basaloid cell carcinoma nos	1	1	0	0	0
	Adenocarcinoma nos	1	1	0	0	0
	Adenocarcinoma intestinal type	1	1	0	0	0
	Neuroendocrine carcinoma nos	1	1	0	0	0
	Rhabdomyosarcoma nos	1	1	0	0	0
	Olfactory neuroblastoma	2	1	1	0	0
ESOPHAGUS		28	22	6	0	0
	Squamous cell carcinoma in situ nos	1	1	0	0	0
	Squamous cell carcinoma nos	7	5	2	0	0
	Adenocarcinoma nos	17	15	2	0	0
	Adenocarcinoma intestinal type	1	1	0	0	0
	Signet ring cell carcinoma	1	0	1	0	0
	Gastrointestinal stromal sarcoma	1	0	1	0	0
STOMACH		42	29	13	0	0
	Malignant tumor spindle cell type	1	0	1	0	0
	Carcinoma in situ nos	1	1	0	0	0
	Carcinoma nos	1	1	0	0	0
	Squamous cell carcinoma nos	1	1	0	0	0
	Adenocarcinoma nos	21	14	7	0	0
	Adenocarcinoma intestinal type	5	3	2	0	0
	Carcinoma diffuse type	2	1	1	0	0
	Signet ring cell carcinoma	7	6	1	0	0
	Gastrointestinal stromal sarcoma	3	2	1	0	0
SMALL INTESTINE		13	10	3	0	0
	Carcinoma nos	1	1	0	0	0
	Adenocarcinoma nos	7	6	1	0	0
	Carcinoid tumor nos	1	0	1	0	0
	Atypical carcinoid tumor	2	1	1	0	0
	Hemangiosarcoma	1	1	0	0	0
	Ewing sarcoma	1	1	0	0	0
COLON		130	76	54	0	0
	Neoplasm Uncertain whether benign or malignant	1	1	0	0	0
	Carcinoma in situ nos	1	0	1	0	0
	Spindle cell carcinoma nos	1	1	0	0	0
	Adenocarcinoma nos	114	66	48	0	0
	Carcinoid tumor nos	2	1	1	0	0
	Goblet cell carcinoid	1	0	1	0	0
	Mucinous Adenocarcinoma	5	3	2	0	0
	Mucin-Producing Adenocarcinoma	1	0	1	0	0
	Signet ring cell carcinoma	3	3	0	0	0
	Mucinous adenocarcinofibroma	1	1	0	0	0
OTHER DIGESTIVE		1	1	0	0	0
	Adenocarcinoma nos	1	1	0	0	0
ANUS, ANAL CANAL, ANORECTUM		5	4	1	0	0
	Squamous cell carcinoma nos	2	1	1	0	0
	Basaloid squamous cell carcinoma	1	1	0	0	0
	Adenocarcinoma nos	2	2	0	0	0

SITE	HISTOLOGY (NOS - Not Otherwise Specified)	ALL CASES	ADULTS		PEADIATRICS	
			MALE	FEMALE	MALE	FEMALE
RECTUM & RECTOSIGMOID JUNCTION		89	48	41	0	0
	Squamous cell carcinoma nos	1	0	1	0	0
	Adenocarcinoma nos	82	45	37	0	0
	Neuroendocrine carcinoma nos	1	0	1	0	0
	Mucinous Adenocarcinoma	4	2	2	0	0
	Signet ring cell carcinoma	1	1	0	0	0
LIVER		102	65	31	4	2
	Hepatocellular carcinoma nos	85	57	26	1	1
	Hepatoblastoma	4	0	0	3	1
	Adenocarcinoma nos	2	1	1	0	0
	Choriocarcinoma	9	6	3	0	0
	Hepatocellular carcinoma clear cell type	1	0	1	0	0
	Neuroendocrine carcinoma nos	1	1	0	0	0
GALLBLADDER		28	7	21	0	0
	Carcinoma nos	2	0	2	0	0
	Adenocarcinoma nos	21	3	18	0	0
	Cholangiocarcinoma	3	3	0	0	0
	Mucinous Adenocarcinoma	1	1	0	0	0
	Adenosquamous carcinoma	1	0	1	0	0
PANCREAS		66	43	22	1	0
	Neoplasm Malignant	2	1	1	0	0
	Carcinoma nos	4	2	2	0	0
	Adenocarcinoma nos	44	32	12	0	0
	Cholangiocarcinoma	1	1	0	0	0
	Carcinoid tumor nos	7	4	3	0	0
	Neuroendocrine carcinoma nos	4	1	3	0	0
	Invasive carcinoma of no special type	1	1	0	0	0
	Atypical carcinoid tumor	1	0	1	0	0
	Adenosquamous carcinoma	1	1	0	0	0
	Rhabdomyosarcoma nos	1	0	0	1	0
BILE DUCTS		27	18	9	0	0
	Carcinoma nos	1	1	0	0	0
	Adenocarcinoma nos	18	12	6	0	0
	Cholangiocarcinoma	7	4	3	0	0
	Klastkin tumor	1	1	0	0	0
THYROID		218	55	158	2	3
	Papillary adenocarcinoma NOS	167	46	119	1	1
	Papillary microcarcinoma	9	1	8	0	0
	Carcinoma NOS	6	1	3	0	2
	Follicular adenocarcinoma NOS	5	0	5	0	0
	Follicular carcinoma minimally invasive	2	1	1	0	0
	Oxyphilic adenocarcinoma	4	0	4	0	0
	Papillary carcinoma oxyphilic	1	0	1	0	0
	Adenocarcinoma NOS	2	0	1	1	0
	Carcinoma anaplastic NOS	1	1	0	0	0
	Inv. encaps. follicular variant of papillary thyroid ca	1	1	0	0	0
	Liposarcoma well differentiated	2	0	2	0	0
	Non invasive follicular thyroid neoplasm	7	1	6	0	0
	Papillary carcinoma follicular variant	8	2	6	0	0
	Carcinoma undifferentiated	1	1	0	0	0
	Papillary carcinoma columnar	2	0	2	0	0

SITE	HISTOLOGY (NOS - Not Otherwise Specified)	ALL CASES	ADULTS		PEADIATRICS	
			MALE	FEMALE	MALE	FEMALE
SOFT TISSUES		62	26	23	8	5
	Spindle cell sarcoma	9	5	3	0	1
	Synovial sarcoma	1	0	1	0	0
	Sarcoma	6	2	3	0	1
	Dermatofibrosarcoma	1	0	1	0	0
	Ewing sarcoma	4	2	1	0	1
	Leiomyosarcoma	1	0	1	0	0
	Myxoid liposrcoma	2	0	2	0	0
	Extradrenal paraganglioma	1	0	1	0	0
	Desmoplastic small round cell tumor	1	1	0	0	0
	Giant cell sarcoma(except of bone)	1	1	0	0	0
	Fibrosarcoma nos	2	1	0	1	0
	Rhabdomyosarcoma	6	1	1	3	1
	Epithelioid sarcoma	4	2	2	0	0
	Fibromyxosarcoma	2	2	0	0	0
	Phyllodes tumor malignant	1	0	1	0	0
	Liposarcoma	4	3	1	0	0
	Synovial sarcoma biphasic	2	2	0	0	0
	Malignant tenosynovial giant cell carcinoma	1	0	1	0	0
	Clear cell sarcoma-except of kidney	2	0	2	0	0
	Osteosarcoma	2	0	2	0	0
	Ewing sarcoma	3	2	0	0	1
	Malignant periferal nerve sheath tumor	1	1	0	0	0
	Infantile firbosarcoma	1	0	0	1	0
	Embryonal rhabdomyosarcoma	1	1	0	0	0
	Malignant rhabdoid tumor	1	0	0	1	0
	Neuroblastoma	2	0	0	2	0
LUNG, BRONCHUS		68	46	21	0	1
	Adenocarcinoma	34	22	12	0	0
	Non-small cell carcinoma	6	4	2	0	0
	Squamous cell carcinoma	6	5	1	0	0
	Small cell carcinoma	6	6	0	0	0
	Carcinoma NOS	1	1	0	0	0
	Carcinoid Tumor	5	1	3	0	1
	Neuroendocrine carcinoma	1	1	0	0	0
	Neoplasm malignant	2	2	0	0	0
	Large cell Neuroendocrine carcinoma	1	1	0	0	0
	Adenoid cystic carcinoma	2	1	1	0	0
	Atypical carcinoid tumor	2	2	0	0	0
	Spindle cell sarcoma	1	0	1	0	0
	Squamous cell carcinoma large cell nonkerat.	1	0	1	0	0
OTHER RESPIRATORY & THORACIC		3	3	0	0	0
	Hemangiosarcoma	2	2	0	0	0
	Seminoma	1	1	0	0	0
PLEURA		1	1	0	0	0
	Mesothelioma malignant	1	1	0	0	0

SITE	HISTOLOGY (NOS - Not Otherwise Specified)	ALL CASES	ADULTS		PEADIATRICS	
			MALE	FEMALE	MALE	FEMALE
BONE, JOINTS, CARTILAGE		71	31	22	10	8
	Osteosarcoma	19	8	7	2	2
	Ewing sarcoma	22	10	3	4	5
	Chondrosarcoma	5	3	2	0	0
	Giant cell tumor malignant	6	4	2	0	0
	Sarcoma	1	0	1	0	0
	Chondroblastic osteosarcoma	1	0	1	0	0
	Spindle cell sarcoma	3	0	2	1	0
	Squamous cell carcinoma NOS	3	2	1	0	0
	Synovial sarcoma NOS	3	0	1	2	0
	Squamous cell carcinoma keratinizing	1	1	0	0	0
	Rhabdomyosarcoma	1	0	0	1	0
	Small cell sarcoma	2	0	1	0	1
	Myxoid liposarcoma	1	0	1	0	0
	Admantinoma of long bones	1	1	0	0	0
	Glioma malignant	1	1	0	0	0
	Nerve sheath tumor rhabdomyoblastic	1	1	0	0	0
BONE MARROW		219	79	65	43	32
	Acute myeloid leukemia NOS	43	17	12	8	6
	Chronic myeloid leukemia NOS	26	15	11	0	0
	Burkitt cell leukemia	47	6	15	15	11
	Leukemia NOS	24	11	2	7	4
	Myeloproliferative neoplasm, unclassifiable	5	3	2	0	0
	Acute leukemia NOS	11	3	2	3	3
	Myeloid leukemia NOS	3	1	2	0	0
	Acute myeloid leukemia with T(1;22)(p13;q13)	5	2	2	1	0
	Acute myeloid leukemia (11Q23 abnormalities)	2	0	1	0	1
	Acute myeloid leukemia minimal Diff.	2	1	1	0	0
	Acute promyelocytic leukemia T(15;17)	8	4	4	0	0
	chronic myelomonocytic leukemia	3	1	2	0	0
	chronic neutrophilic leukemia	1	0	1	0	0
	Essential thrombocythemia	2	2	0	0	0
	Langerhans cell histiocytosis NOS	3	0	2	1	0
	Hairy cell leukemia	4	4	0	0	0
	Cortical T-ALL	2	0	0	1	1
	Acute myelomonocytic leukemia	1	0	1	0	0
	B lymphoblastic leukemia/lymphoma, NOS	9	1	0	4	4
	Myelodysplastic syndrome NOS	3	2	0	0	1
	Lymphoid leukemia NOS	2	0	1	1	0
	Myeloid leukemia NOS	1	0	0	0	1
	T-cell LG gran lymph leukemia	1	0	0	1	0
	Juvenile myelomonocytic leukemia	1	0	0	1	0
	Mixed phenotype acute leukemia/myeloid nos	1	0	1	0	0
	Prolymphocytic leukemia-T-cell type	1	1	0	0	0
	AML with abnormal marrow eosinophils	1	1	0	0	0
	Acute megakaryoblastic leukemia	1	1	0	0	0
	Myelosclerosis with myeloid dysplasia	4	3	1	0	0
	Acute monocytic leukemia	2	0	2	0	0

SITE	HISTOLOGY (NOS - Not Otherwise Specified)	ALL CASES	ADULTS		PEADIATRICS	
			MALE	FEMALE	MALE	FEMALE
MULTIPLE MYELOMA		32	18	14	0	0
	Multiple myeloma	30	16	14	0	0
	Plasmacytoma	2	2	0	0	0
OTHER HEMATOPOIETIC		11	4	5	2	0
	Essential thrombocythemia	1	0	1	0	0
	Myelodysplastic syndrome	3	1	1	1	0
	Myeloproliferative neoplasm unclassifiable	2	1	1	0	0
	Polycythemia vera	2	1	1	0	0
	Langerhans cell histiocytosis nos	3	1	1	1	0
SKIN (MELANOMA)		5	3	1	1	0
	Malignant melanoma	2	2	0	0	0
	Malignant melanoma in giant pigmented nevus	1	0	0	1	0
	Nodular melanoma	2	1	1	0	0
SKIN (NON MELANOMA)		24	13	10	0	1
	Basal cell carcinoma NOS	8	5	2	0	1
	Basal cell carcinoma nodular	3	1	2	0	0
	Squamous cell carcinoma In situ	3	2	1	0	0
	Dermatofibrosarcoma	2	1	1	0	0
	Adenocarcinoma nos	1	1	0	0	0
	Skin appendage carcinoma	1	0	1	0	0
	Giant cell sarcoma except of bone	1	0	1	0	0
	Squamous cell carcinoma nos	5	3	2	0	0
OTHER ENDOCRINE GLANDS		46	18	21	2	5
	Pituitary adenoma	15	7	8	0	0
	Neuroblastoma	5	0	0	1	4
	Adrenal cortical carcinoma	2	0	2	0	0
	Thymoma type AB malignant	1	0	1	0	0
	Thymoma type B2 malignant	3	0	3	0	0
	Thymoma type B3 malignant	2	2	0	0	0
	Adenoma	6	4	2	0	0
	Pheochromocytoma malignant	1	1	0	0	0
	Carcinoma	3	3	0	0	0
	Craniopharyngioma	1	0	1	0	0
	Pituitary carcinoma	1	1	0	0	0
	Prolactinoma	1	0	1	0	0
	Carcinoma showing thymus like element	1	0	1	0	0
	Pineoblastoma	1	0	0	0	1
	Extra adrenal paraganglioma malignant	1	0	1	0	0
	Germinoma	1	0	0	1	0
	Chordoma	1	0	1	0	0

SITE	HISTOLOGY (NOS - Not Otherwise Specified)	ALL CASES	ADULTS		PEADIATRICS	
			MALE	FEMALE	MALE	FEMALE
RETROPERITONEUM, PERITONEUM		15	8	5	1	1
	Neuroblastoma NOS	1	0	0	1	0
	Liposarcoma well differentiated	1	1	0	0	0
	Paraganglioma malignant	1	1	0	0	0
	Ganglioneuroblastoma	1	0	0	0	1
	Neuroendocrine carcinoma NOS	1	1	0	0	0
	Mucinous adenocarcinoma	2	2	0	0	0
	Liposarcoma	1	1	0	0	0
	Germinoma	1	1	0	0	0
	Epithelioid mesothelioma malignant	1	1	0	0	0
	Carcinoma NOS	1	0	1	0	0
	Serous cystadenocarcinoma NOS	3	0	3	0	0
	Mucinous cystadenocarcinoma Nos	1	0	1	0	0
BREAST		483	7	476	0	0
	Carcinoma NOS	1	0	1	0	0
	Spindle cell carcinoma NOS	1	0	1	0	0
	Papillary carcinoma NOS	3	1	2	0	0
	Squamous cell carcinoma NOS	1	0	1	0	0
	Adenocarcinoma NOS	3	0	3	0	0
	Cribriform carcinoma in situ	1	0	1	0	0
	Invasive ductal carcinoma in situ	26	0	26	0	0
	Invasive ductal carcinoma	397	6	391	0	0
	Invasive micropapillary carcinoma	1	0	1	0	0
	Solid papillary carcinoma with invasion	1	0	1	0	0
	Lobular carcinoma in situ NOS	3	0	3	0	0
	Lobular carcinoma NOS	38	0	38	0	0
	Infiltrating duct and lobular carcinoma	1	0	1	0	0
	Metaplastic carcinoma NOS	2	0	2	0	0
	Phyllodes tumor malignant	4	0	4	0	0
VULVA		3	0	3	0	0
	Squamous cell carcinoma	1	0	1	0	0
	Spindle cell sarcoma	1	0	1	0	0
	Epithelioid sarcoma	1	0	1	0	0
CERVIX UTERI		29	0	29	0	0
	Carcinoma NOS	1	0	1	0	0
	Squamous cell carcinoma NOS	9	0	9	0	0
	Squamous cell carcinoma large cell nonkeratinizing I	6	0	6	0	0
	Adenocarcinoma NOS	3	0	3	0	0
	Adenocarcinoma in tubulovillous adenoma	1	0	1	0	0
	Clear cell adenocarcinoma NOS	2	0	2	0	0
	Serous cystadenocarcinoma NOS	1	0	1	0	0
	Mucinous adenocarcinoma	1	0	1	0	0
	Mucinous adenocarcinoma endocervical type	1	0	1	0	0
	Leiomyosarcoma NOS	1	0	1	0	0
	Adenosarcoma	2	0	2	0	0
	Carcinosarcoma NOS	1	0	1	0	0

SITE	HISTOLOGY (NOS - Not Otherwise Specified)	ALL CASES	ADULTS		PEADIATRICS	
			MALE	FEMALE	MALE	FEMALE
CORPUS UTERI		127	0	127	0	0
	Carcinoma NOS	1	0	1	0	0
	Carcinoma undifferentiated NOS	2	0	2	0	0
	Spindle cell carcinoma NOS	1	0	1	0	0
	Adenocarcinoma NOS	13	0	13	0	0
	Clear cell adenocarcinoma NOS	2	0	2	0	0
	Endometrioid adenocarcinoma NOS	76	0	76	0	0
	Serous cystadenocarcinoma NOS	17	0	17	0	0
	Papillary serous cystadenocarcinoma	2	0	2	0	0
	Adenocarcinoma with squamous metaplasia	1	0	1	0	0
	Endometrial stromal sarcoma NOS	2	0	2	0	0
	Endometrial stromal sarcoma low grade	1	0	1	0	0
	Adenosarcoma	1	0	1	0	0
	Carcinosarcoma NOS	8	0	8	0	0
UTERUS,NOS		17	0	17	0	0
	Carcinoma NOS	1	0	1	0	0
	Squamous cell carcinoma keratinizing NOS	1	0	1	0	0
	Endometrioid adenocarcinoma NOS	5	0	5	0	0
	Serous cystadenocarcinoma NOS	2	0	2	0	0
	Sarcoma NOS	1	0	1	0	0
	Liposarcoma well differentiated	1	0	1	0	0
	Leiomyosarcoma NOS	2	0	2	0	0
	Myxoid leiomyosarcoma	1	0	1	0	0
	Adenosarcoma	1	0	1	0	0
	Carcinosarcoma NOS	1	0	1	0	0
	Choriocarcinoma NOS	1	0	1	0	0
OVARY		55	0	51	0	4
	Carcinoma NOS	2	0	2	0	0
	Adenocarcinoma NOS	2	0	2	0	0
	Endometrioid adenocarcinoma NOS	1	0	1	0	0
	Sebaceous adenocarcinoma	1	0	1	0	0
	Cystadenocarcinoma NOS	1	0	1	0	0
	Serous cystadenocarcinoma NOS	32	0	32	0	0
	Micropapillary serous carcinoma non-invasive	1	0	1	0	0
	Seromucinous carcinoma	1	0	1	0	0
	Mucinous adenocarcinoma	5	0	5	0	0
	Granulosa cell tumor malignant	3	0	3	0	0
	Carcinosarcoma NOS	1	0	1	0	0
	Dysgerminoma	2	0	1	0	1
	Yolk sac tumor	1	0	0	0	1
	Teratoma malignant NOS	2	0	0	0	2
OTHER FEMAL GENITAL		4	0	4	0	0
	Adenocarcinoma NOS	1	0	1	0	0
	Serous cvstadenocarcinoma NOS	2	0	2	0	0
	Leiomyosarcoma NOS	1	0	1	0	0

SITE	HISTOLOGY (NOS - Not Otherwise Specified)	ALL CASES	ADULTS		PEADIATRICS	
			MALE	FEMALE	MALE	FEMALE
PROSTATE		69	68	0	1	0
	Adenocarcinoma NOS	66	66	0	0	0
	Glandular intraepithelial neoplasia grade III	1	1	0	0	0
	Acinar cell cystadenocarcinoma	1	1	0	0	0
	Rhabdomyosarcoma NOS	1	0	0	1	0
TESTIS		40	40	0	0	0
	Carcinoma NOS	1	1	0	0	0
	Seminoma NOS	12	12	0	0	0
	Seminoma anaplastic	1	1	0	0	0
	Germ cell tumor nonseminomatous	1	1	0	0	0
	Embryonal carcinoma NOS	1	1	0	0	0
	Yolk sac tumor	2	2	0	0	0
	Mixed germ cell tumor	22	22	0	0	0
PENIS		1	1	0	0	0
	Sarcoma NOS	1	1	0	0	0
OTHER MALE GENITAL		1	1	0	0	0
	Squamous cell carcinoma nos	1	1	0	0	0
KIDNEY AND RENAL PELVIS		69	35	21	6	7
	Carcinoma NOS	1	1	0	0	0
	Squamous cell carcinoma NOS	1	1	0	0	0
	Papillary transitional cell carcinoma	1	1	0	0	0
	Chromophobe carcinoma	1	1	0	0	0
	Clear cell adenocarcinoma NOS	4	1	3	0	0
	Renal cell carcinoma NOS	43	25	15	2	1
	Renal cell carcinoma chromophobe Type	6	4	2	0	0
	Adrenal cortical carcinoma	1	0	1	0	0
	Liposarcoma well differentiated	1	1	0	0	0
	Nephroblastoma NOS	8	0	0	2	6
	Clear cell sarcoma of kidney	2	0	0	2	0
BLADDER		65	57	8	0	0
	Squamous cell carcinoma Keratinizing NOS	1	1	0	0	0
	Transitional cell carcinoma In Situ	1	1	0	0	0
	Transitional cell carcinoma NOS	20	16	4	0	0
	Papillary transitional cell carcinoma non-invasive	19	19	0	0	0
	Papillary transitional cell carcinoma	23	20	3	0	0
	Adenocarcinoma NOS	1	0	1	0	0
OTHER URINARY		3	2	1	0	0
	Papillary transitional cell carcinoma	1	1	0	0	0
	Adenocarcinoma NOS	1	1	0	0	0
	Clear cell adenocarcinoma NOS	1	0	1	0	0
EYE		24	3	2	11	8
	Squamous cell carcinoma in situ NOS	1	0	1	0	0
	Basal cell carcinoma nodular	1	1	0	0	0
	Sebaceous adenocarcinoma	1	1	0	0	0
	Malignant melanoma NOS (except juvenile type)	2	1	1	0	0
	Retinoblastoma NOS	14	0	0	10	4
	Retinoblastoma undifferentiated	5	0	0	1	4

SITE	HISTOLOGY (NOS - Not Otherwise Specified)	ALL CASES	ADULTS		PEADIATRICS	
			MALE	FEMALE	MALE	FEMALE
BRAIN		235	95	91	33	16
	Benign cystic nephroma	1	0	0	0	1
	Germinoma	2	0	1	0	1
	Craniopharyngioma	1	0	0	1	0
	Glioma Benign	1	0	0	0	1
	Glioma malignant	24	5	8	7	4
	Choroid plexus papilloma	2	0	1	1	0
	Ependymoma Anaplastic	9	5	2	2	0
	Dysembryoplastic neuroepithelial tumor	3	1	0	1	1
	Pilocytic astrocytoma	8	2	0	5	1
	Glioblastoma	49	32	13	3	1
	Gliosarcoma	3	2	0	0	1
	Glioblastoma IDH-Mutant	1	0	0	1	0
	Medulloblastoma	8	1	1	4	2
	Desmoplastic nodular Medulloblastoma	2	0	1	1	0
	Dysplastic Gangliocytoma of cerebellum	1	0	0	1	0
	Neuroblastoma	5	0	0	3	2
	Ganglioglioma	8	2	5	0	1
	Ganglioglioma anaplastic	1	0	0	1	0
	Atypical teratoid	1	0	0	1	0
	Meningioma	43	12	30	1	0
	Solitary fibros tumor	1	0	1	0	0
	Lipoma	1	0	1	0	0
	Dermoid cyst	3	1	2	0	0
	Cavernous hemangioma	5	3	2	0	0
	Hemangioblastoma	2	1	1	0	0
	Cystic lymphangioma	1	0	1	0	0
	Craniopharyngioma	1	1	0	0	0
	Chordoma	1	1	0	0	0
	Chondroid Chordoma	1	0	1	0	0
	Glioma borderline	1	0	1	0	0
	Myxopapillary ependymoma	1	1	0	0	0
	Astrocytoma	5	4	1	0	0
	Astrocytoma anaplastic	3	3	0	0	0
	Oligodendroglioma	7	3	4	0	0
	Oligodendroglioma anaplastic	1	1	0	0	0
	Central neurocytoma	2	1	1	0	0
	Malignant Meningioma	2	1	1	0	0
	Meningothelial meningioma	2	1	1	0	0
	Fibrous meningioma	1	0	1	0	0
	Angiomatous meningioma	1	1	0	0	0
	Atypical meningioma	3	2	1	0	0
	Neurofibroma	1	1	0	0	0
	Neurilemoma	16	7	9	0	0

SITE	HISTOLOGY (NOS - Not Otherwise Specified)	ALL CASES	ADULTS		PEADIATRICS	
			MALE	FEMALE	MALE	FEMALE
OTHER NERVOUS SYSTEM		21	6	15	0	0
Meningioma		16	6	10	0	0
Meningioma malignant		2	0	2	0	0
Atypical meningioma		3	0	3	0	0
LYMPH NODES (HODGKIN'S LYMPHOMA)		111	56	38	15	2
Hodgkin lymphoma		38	18	12	7	1
Hodgkin lymphoma Mixed cellularity		5	2	2	1	0
Hodgkin lymphoma Nodular Lymphocyte		12	8	2	2	0
Hodgkin lymphoma Nodular sclerosis		55	27	22	5	1
Hodgkin lymphoma lymphocyte rich		1	1	0	0	0
LYMPH NODES (NON HODGKIN'S LYMPHOMA)		191	94	83	8	6
Lymphoma Malignant		6	2	4	0	0
Non-hodgkin lymphoma		24	12	11	1	0
Burkitt lymphoma		5	0	2	3	0
Follicular lymphoma		9	4	4	1	0
Follicular lymphoma Grade 2		4	4	0	0	0
Follicular lymphoma Grade 1		3	3	0	0	0
Follicular lymphoma Grade 3		3	3	0	0	0
Mycosis fungoides		21	8	12	0	1
B lymphoblastic leukemia/Lymphoma		8	1	1	2	4
T Acute lymphoblastic lymphoma/leukemia		6	2	2	1	1
Lymphoma lymphoplasmacytic		1	0	1	0	0
Mantle cell lymphoma		2	2	0	0	0
Diffuse large B-cell lymphoma		84	42	42	0	0
Splenic marginal zone B-cell lymphoma		1	1	0	0	0
Marginal zone B-cell lymphoma		2	1	1	0	0
Mature T-cell lymphoma		5	4	1	0	0
Anaplastic large cell lymphoma		1	1	0	0	0
Nasal NK/T-cell lymphoma		1	1	0	0	0
Small lymphocytic lymphoma		5	3	2	0	0
PRIMARY UNKNOWN OR ILL DEFINED		64	16	27	10	11
Carcinoma		36	5	15	8	8
Small cell carcinoma		1	0	1	0	0
Squamous cell carcinoma		1	1	0	0	0
Adenocarcinoma		5	1	4	0	0
Cholangiocarcinoma		1	1	0	0	0
Neuroendocrine carcinoma		2	0	2	0	0
Atypical carcinoid tumor		1	1	0	0	0
Mucinous adenocarcinoma		4	1	3	0	0
Signet ring cell carcinoma		1	0	1	0	0
Extra-adrenal paraganglioma malignant		1	1	0	0	0
Gastrointestinal stromal sarcoma		2	2	0	0	0
Chondroblastic osteosarcoma		1	1	0	0	0
Chondrosarcoma		1	1	0	0	0
Ewing sarcoma		1	1	0	0	0
Neuroblastoma		2	0	1	0	1
Teratoma Malignant		1	0	0	1	0
Nephroblastoma		1	0	0	0	1
Yolk sac tumor		1	0	0	1	0
Embryonal tumor		1	0	0	0	1

TABLE 10
MULTIPLE PRIMARY SITE TABLE
2020

PRIMARY SITE 2020	HISTOLOGY (NOS - Not Otherwise Specified)	OTHER PRIMARIES (PREVIOUS OR CONCURRENT)	ALL CASES	MALE	FEMALE
			47	7	40
THYROID			7	2	5
Papillary adenocarcinoma		Small intestine - Carcinoid tumor	1	0	1
Papillary adenocarcinoma		Non-Hodgkin lymphoma	1	1	0
Papillary adenocarcinoma		Skin - Mycosis fungoides	1	0	1
Papillary adenocarcinoma		Bone - Chondrosarcoma	1	0	1
Papillary adenocarcinoma		Non-Hodgkin lymphoma	1	0	1
Papillary adenocarcinoma		Hodgkin Lymphoma	1	1	0
Papillary adenocarcinoma		Thymus - Thymoma	1	0	1
RECTUM			1	1	0
Adenocarcinoma		Spinal cord - Chordoma	1	1	0
TESTIS			1	1	0
Yolk sac tumor		Parathyroid gland carcinoma	1	1	0
FALLOPIAN TUBE			1	0	1
Serous cystadenocarcinoma		Lt Ovary - serous cystadenocarcinoma	1	0	1
BREAST			20	0	20
Lobular carcinoma		Lt Breast - Lobular carcinoma	1	0	1
Invasive ductal carcinoma		Lt Breast - Ductal carcinoma in situ	1	0	1
Lobular carcinoma		Lt Breast - Lobular carcinoma	1	0	1
Invasive ductal carcinoma		Lt Breast - Invasive ductal carcinoma	1	0	1
Lobular carcinoma		Lt Breast - Invasive ductal carcinoma	1	0	1
Invasive ductal carcinoma		Thyroid - Papillary adenocarcinoma	1	0	1
Invasive ductal carcinoma		Brain - Cystic lymphangioma	1	0	1
Invasive ductal carcinoma		Lt Breast - Invasive ductal carcinoma	1	0	1
Invasive ductal carcinoma		Thymus - Thymoma	1	0	1
Invasive ductal carcinoma		Lt Breast - Ductal carcinoma in situ	1	0	1
Invasive ductal carcinoma		Thyroid - Papillary adenocarcinoma	1	0	1
Lobular carcinoma		Lt Breast - Lobular carcinoma in situ	1	0	1
Invasive ductal carcinoma		Lt Breast - Invasive ductal carcinoma	1	0	1
Invasive ductal carcinoma		Lt Breast - Ductal carcinoma in situ	1	0	1
Invasive ductal carcinoma		Lt Breast - Invasive ductal carcinoma	1	0	1
Invasive ductal carcinoma		Colon - Adenocarcinoma	1	0	1
Invasive ductal carcinoma		Lt Breast - Invasive ductal carcinoma	1	0	1
Invasive ductal carcinoma		Colon - Adenocarcinoma	1	0	1
Ductal carcinoma in situ		Cervix uteri - Squamous cell carcinoma	1	0	1
Invasive ductal carcinoma		Lt Breast - Invasive ductal carcinoma	1	0	1

PRIMARY SITE 2020	HISTOLOGY (NOS - Not Otherwise Specified)	OTHER PRIMARIES (PREVIOUS OR CONCURRENT)	ALL CASES	MALE	FEMALE
			47	7	40
OVARY			6	0	6
Serous cystadenocarcinoma		Lt Ovary - serous cystadenocarcinoma	1	0	1
Serous cystadenocarcinoma		Lt Ovary - serous cystadenocarcinoma	1	0	1
Serous cystadenocarcinoma		Lt Ovary - serous cystadenocarcinoma	1	0	1
Serous cystadenocarcinoma		Lt Ovary - serous cystadenocarcinoma	1	0	1
Granulosa cell tumor		Lt Ovary - Granulosa cell tumor	1	0	1
Mucinous Adenocarcinoma		Lt Ovary - Mucinous adenocarcinoma	1	0	1
PANCREAS			1	1	0
Adenocarcinoma		Hard palate - Squamous cell carcinoma	1	1	0
COLON			1	0	1
Adenocarcinoma		Skin - Mycosis fungoides	1	0	1
PROSTATE			1	1	0
Adenocarcinoma		Mandible - Squamous cell carcinoma	1	1	0
BONE MARROW			3	1	2
Chronic neutrophilic leukemia		Corpus uteri - Carcinoma	1	0	1
Leukemia		Brain - Glioblastoma	1	1	0
Acute myeloid leukemia		Adrenal gland - Neuroblastoma	1	0	1
KIDNEY			1	0	1
Renal cell carcinoma		Lt Kidney - Renal cell carcinoma	1	0	1
LIVER			1	0	1
Hepatocellular carcinoma		Pancreas - carcinoid tumor	1	0	1
CORPUS UTERI			3	0	3
Endometrioid adenocarcinoma		Soft tissue sarcoma	1	0	1
Endometrioid adenocarcinoma		Bladder - Papillary transitional cell carcinoma	1	0	1
Adenocarcinoma		Ovary - Serous cystadenocarcinoma	1	0	1

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

Systemic diseases, i.e., leukemia and multiple myeloma and cases of unstageable unknown primary were disregarded in graphically illustrating the stages for all analytic cases seen at KFSH&RC in 2020 (Figure 13).

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

Analytic cases of five major sites, i.e., Breast, Thyroid, Non-Hodgkin Lymphoma, Colon and Hodgkin lymphoma are presented in Table 12 with their clinical group stages and yearly comparative figures from 2015 to 2020.

FIGURE 13

**DISTRIBUTION OF ANALYTIC CASES BY (SEER) STAGE AT DIAGNOSIS
2020 (TOTAL CASES=3,066)**

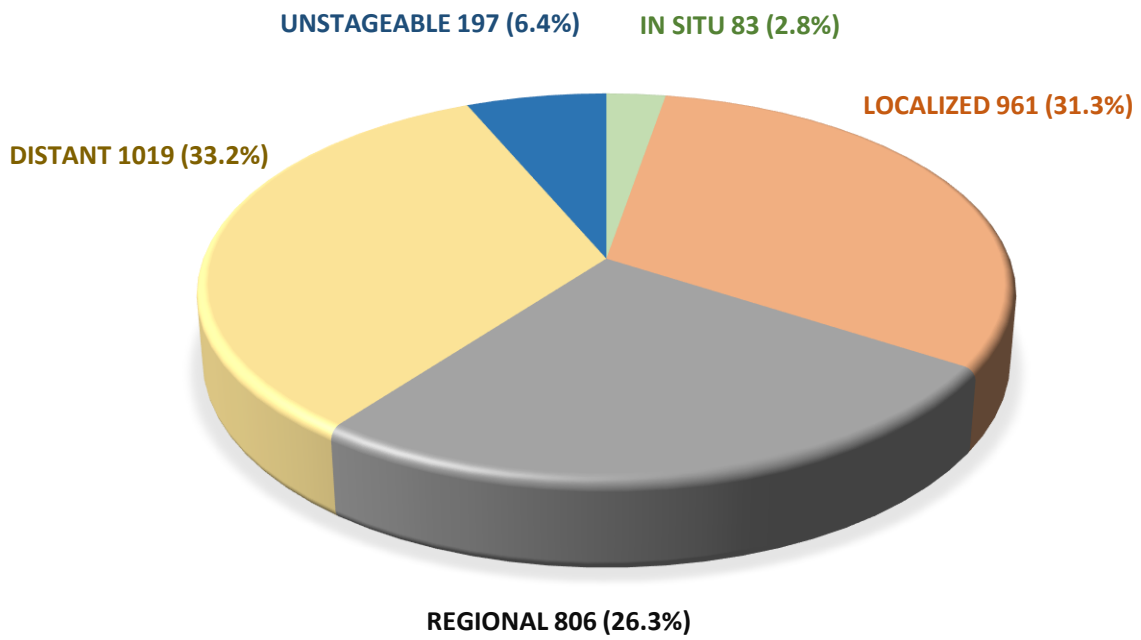


TABLE 11

AJCC CLINICAL TNM STAGE GROUP OF 2015-2020 CASES OF MAJOR SITES *BY YEAR

BREAST							
STAGE	2015	2016	2017	2018	2019	2020	TOTAL
0	22	5	27	21	21	7	103
0A	0	2	0	2	11	10	25
0IS	1	1	4	1	2	12	21
1	7	15	38	33	41	38	172
1A	58	12	26	30	28	23	177
1B	5	3	4	13	37	54	116
1C	0	1	1	6	4	2	14
2	0	1	5	2	2	3	13
2A	88	36	56	87	84	64	415
2B	87	29	79	73	78	50	396
3	2	2	6	11	6	4	31
3A	81	28	69	63	62	39	342
3B	48	17	65	50	66	54	300
3C	19	19	18	33	28	22	139
4	83	122	95	85	114	75	574
4B	1	1	0	1	5	5	13
4C	0	0	0	0	0	2	2
UNK	0	0	0	0	0	19	19
TOTAL	502	294	493	511	589	483	2872

THYROID							
STAGE	2015	2016	2017	2018	2019	2020	TOTAL
0	0	0	1	1	0	2	4
0A	0	0	0	1	1	0	2
0IS	0	0	0	0	0	6	6
1	86	43	91	183	238	181	822
1A	0	2	4	1	2	1	10
1B	0	0	1	0	2	0	3
1C	0	0	0	1	0	0	1
2	16	9	18	23	30	11	107
3	11	11	35	8	4	0	69
4	3	1	5	9	11	7	36
4A	4	1	5	5	3	3	21
4B	0	2	0	2	0	0	4
4C	8	0	0	0	1	0	9
UNK	78	18	97	62	0	3	258
Total	206	87	257	296	292	214	1352

NON-HODGKIN LYMPHOMA							
STAGE	2015	2016	2017	2018	2019	2020	TOTAL
1	7	1	4	1	2	5	20
1A	11	1	3	3	4	4	26
1B	11	1	6	4	4	1	27
2	3	0	5	1	0	0	9
2A	16	0	2	3	3	1	25
2B	12	0	2	2	8	0	24
3	7	1	1	2	3	1	15
3A	13	1	1	1	2	0	18
3B	6	0	5	2	1	0	14
4	26	2	8	5	0	2	43
4A	14	0	1	0	1	0	16
4B	29	1	5	2	0	0	37
UNK	17	48	96	129	167	177	634
TOTAL	172	56	139	155	195	191	908

UTERUS							
STAGE	2015	2016	2017	2018	2019	2020	TOTAL
0	1	2	2	0	6	0	11
0IS	0	0	0	1	2	11	14
1	2	7	13	13	34	30	99
1A	5	4	12	24	25	42	112
1B	5	1	11	21	16	15	69
1B1	0	0	0	5	0	1	6
1B2	0	0	1	0	0	2	3
1C	0	0	1	0	1	1	3
2	0	3	7	6	9	11	36
2A	0	0	1	2	2	1	6
2A2	1	0	0	1	1	1	4
2B	5	7	7	9	11	6	45
3	0	0	1	2	7	0	10
3A	0	1	0	4	6	3	14
3B	11	1	1	7	6	5	31
3C	1	3	1	1	9	3	18
3C1	0	0	2	3	5	8	18
3C2	1	0	2	1	3	0	7
4	3	3	17	20	19	33	95
4A	2	0	1	1	2	4	10
4B	8	0	8	8	5	5	34
UNK	37	5	32	17	2	4	97
TOTAL	82	37	120	146	171	186	742

COLON

STAGE	2015	2016	2017	2018	2019	2020	TOTAL
0	1	0	4	2	0	1	8
0IS	0	0	0	0	0	1	1
1	9	1	8	10	14	9	51
2	4	2	3	3	6	6	24
2A	22	10	12	8	18	10	80
2B	4	0	2	1	6	5	18
2C	0		0	1	2	3	6
3	3	1	0	9	11	7	31
3A	4	1	2	2	1	2	12
3B	38	12	19	4	16	17	106
3C	5	1	0	10	5	3	24
4	40	17	5	60	72	65	259
4A	13	8	0	1	0	0	22
4B	16	0	3	1	0	0	20
4C	1	0	0	0	0	0	1
UNK	1	2	53	9	1	1	67
TOTAL	161	55	111	121	152	130	730

SURVIVAL RATE

What is a cancer survival rate?

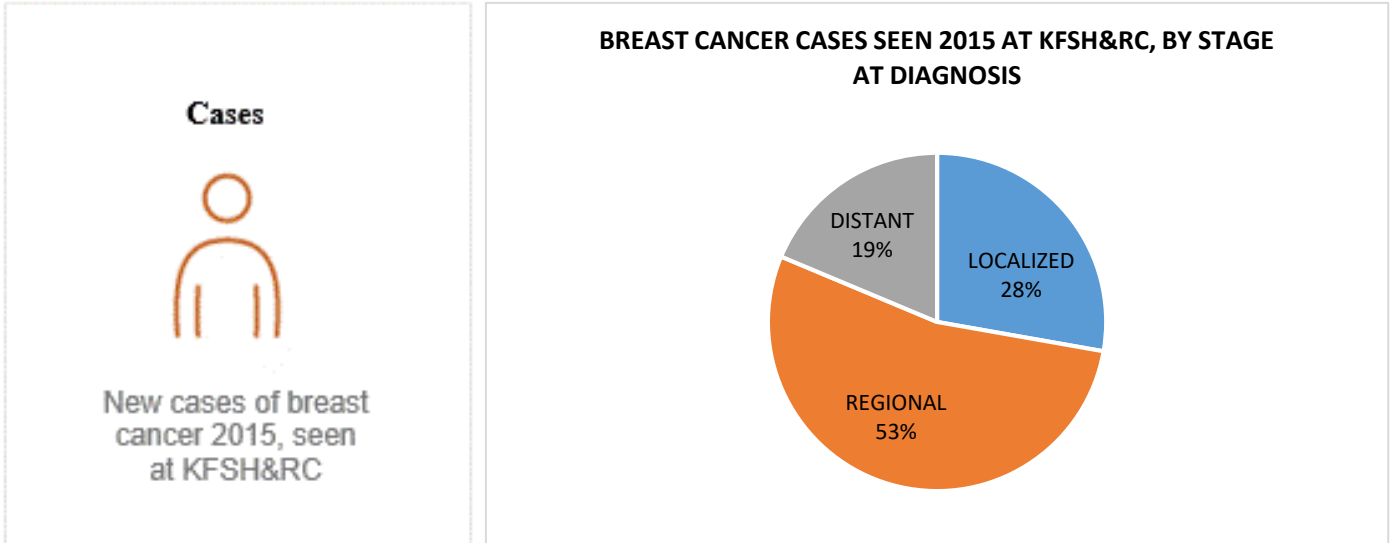
Cancer survival rates or survival statistics tell you the percentage of people who survive a certain type of cancer for a specific amount of time. Cancer statistics often use an overall five-year survival rate.

Five-year survival rate: the percentage of people who have been diagnosed with cancer and are still alive five years after diagnosis or start of treatment.

Survival rates vary by cancer type as well as being influenced by stage of detection, diagnosis and treatment.

BREAST CANCER STATISTICS

FIGURE 14



BREAST CANCER STATISTICS CONT'D

FIGURE 15

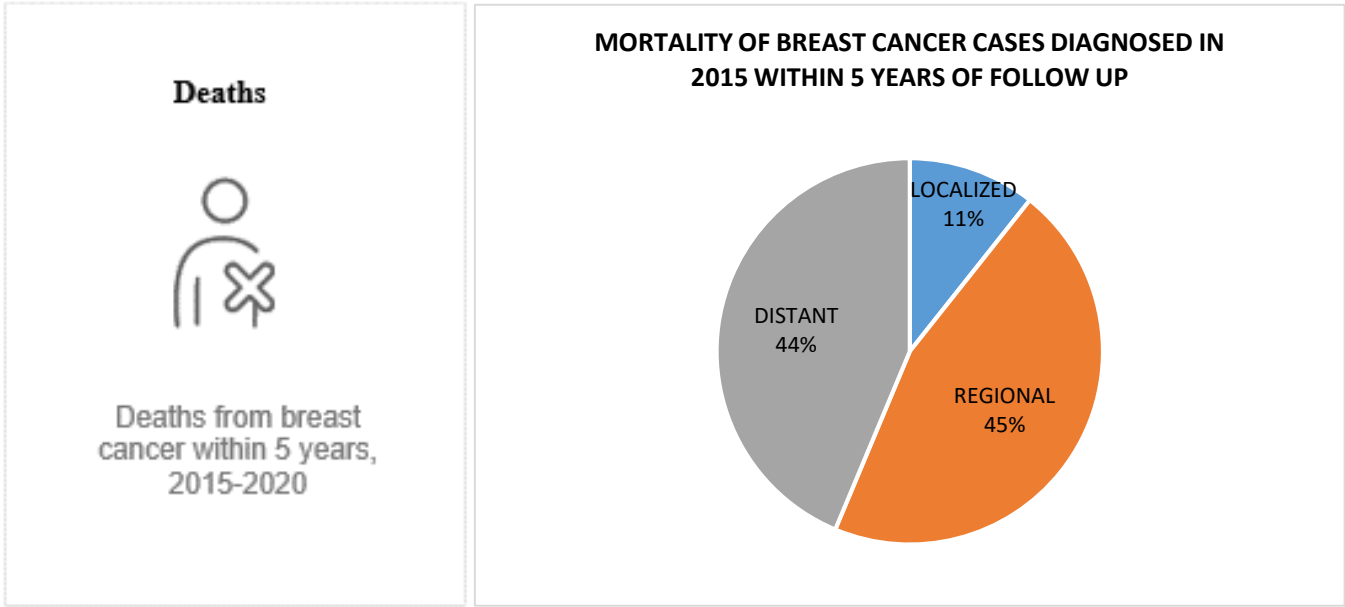
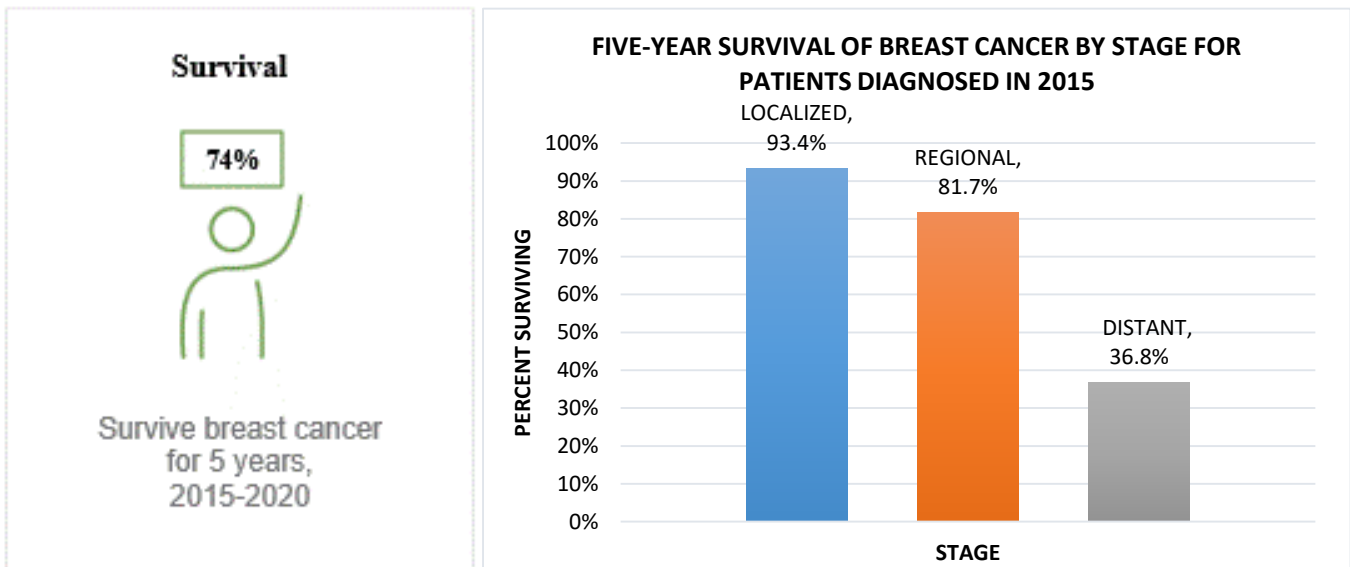


FIGURE 16



COLORECTAL CANCER STATISTICS

FIGURE 17

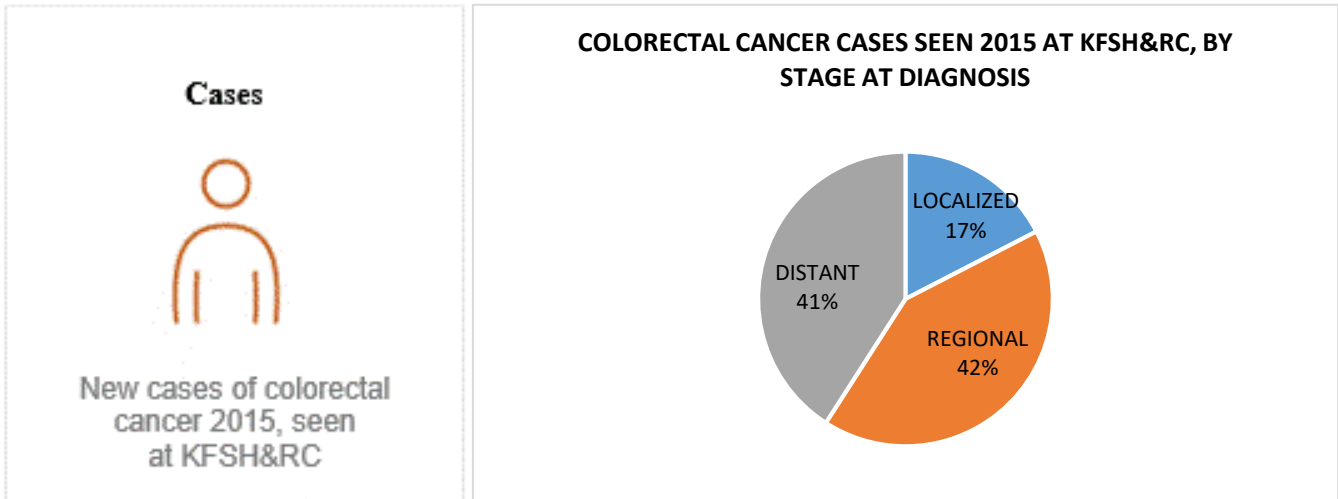


FIGURE 18

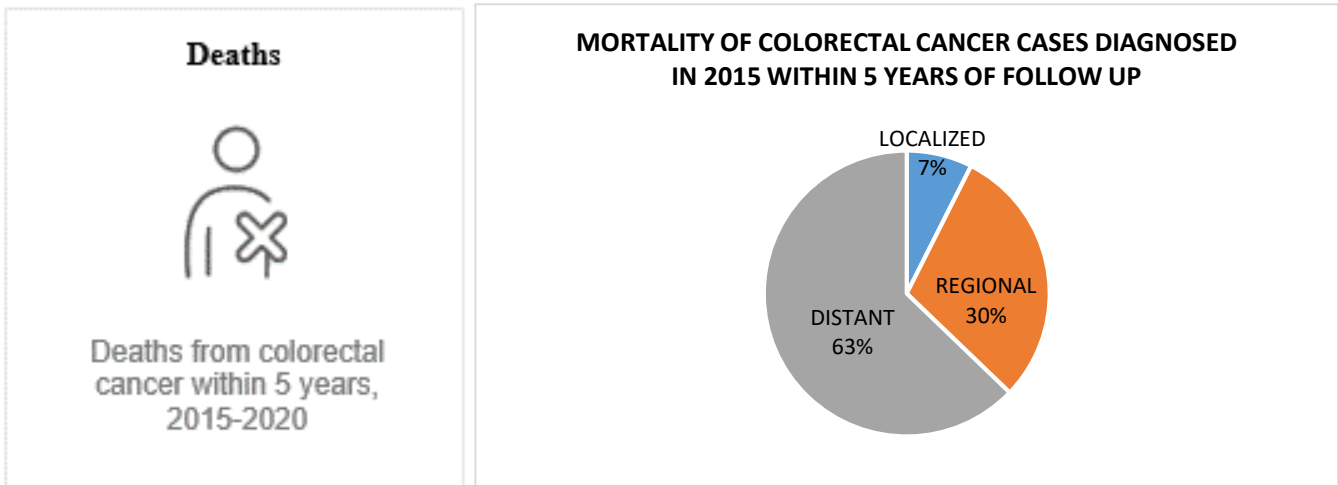
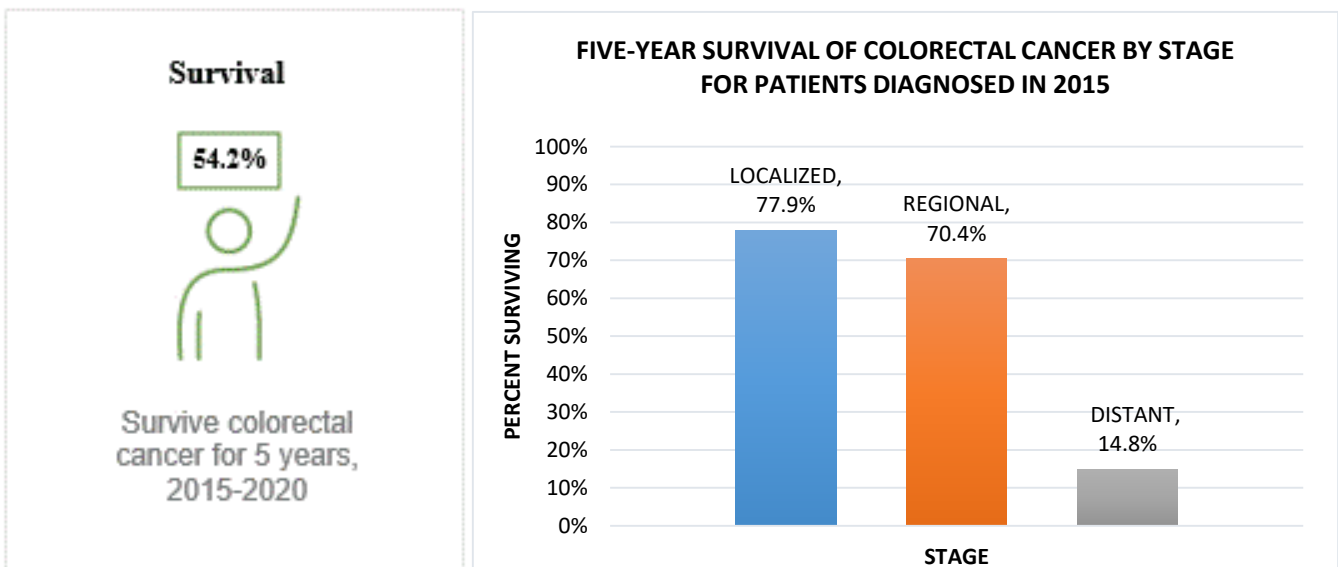


FIGURE 19



HODGKIN'S LYMPHOMA STATISTICS

FIGURE 20

Cases



New cases of hodgkin's lymphoma 2015, seen at KFSH&RC

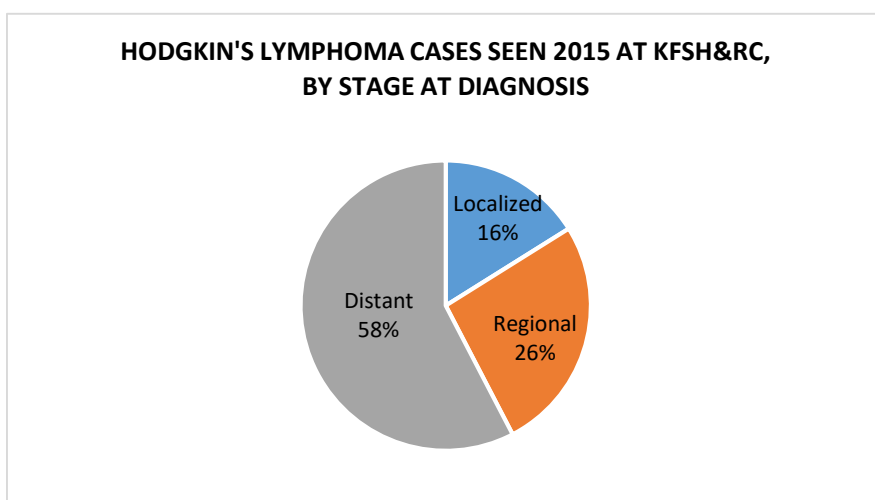


FIGURE 21

Deaths



Deaths from hodgkin's lymphoma within 5 years, 2015-2020

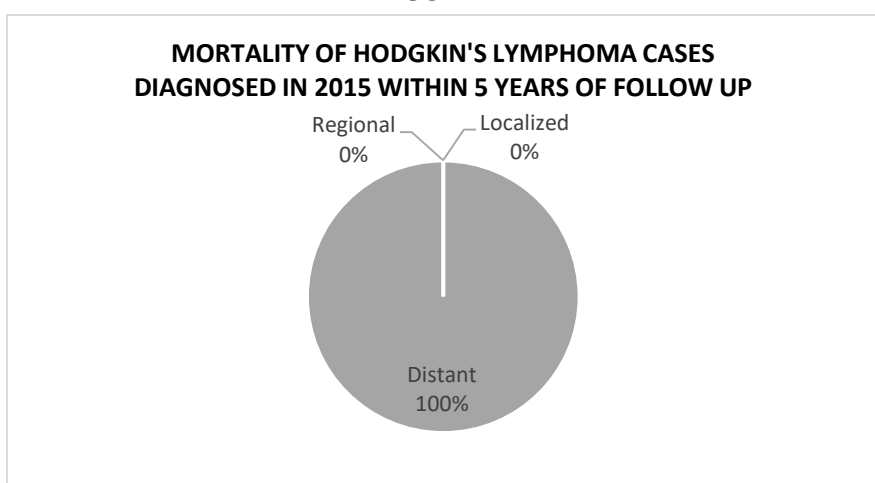



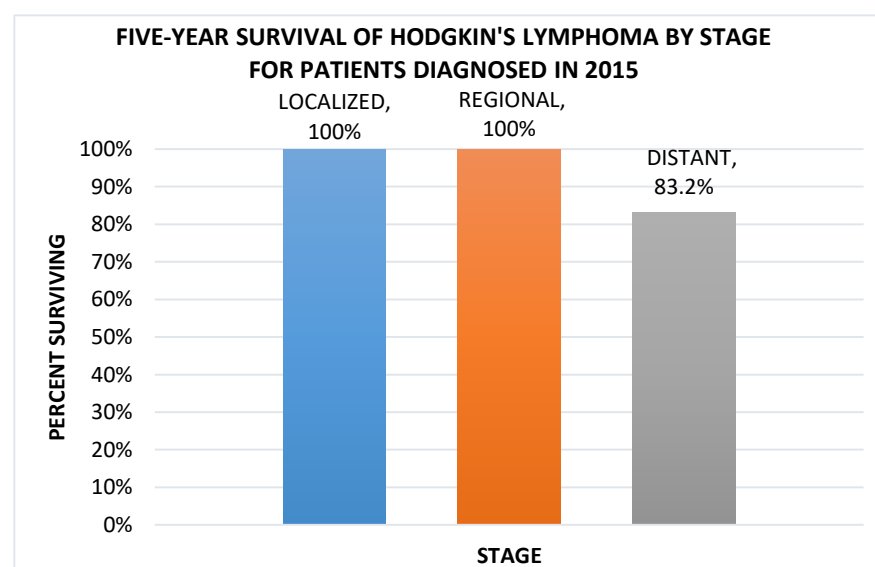
FIGURE 22

Survival

90.7%



Survive hodgkin's lymphoma for 5 years, 2015-2020



NON HODGKIN'S LYMPHOMA STATISTICS

FIGURE 23

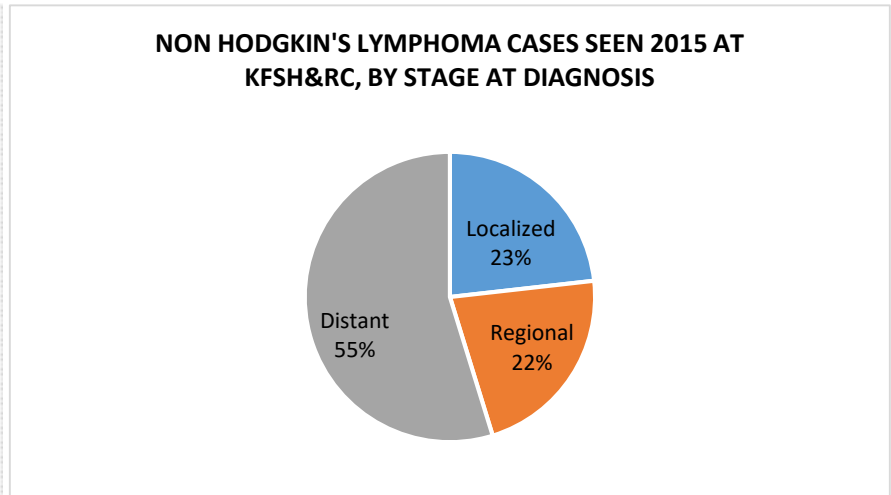
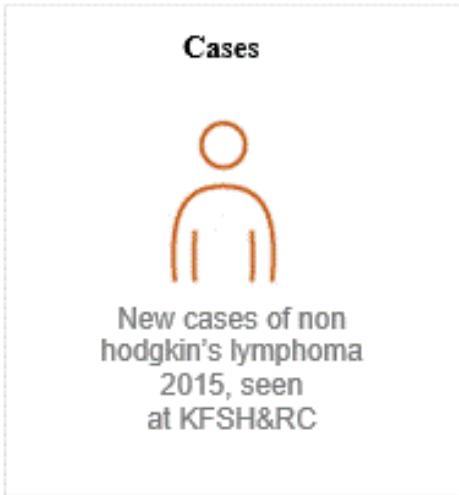


FIGURE 24

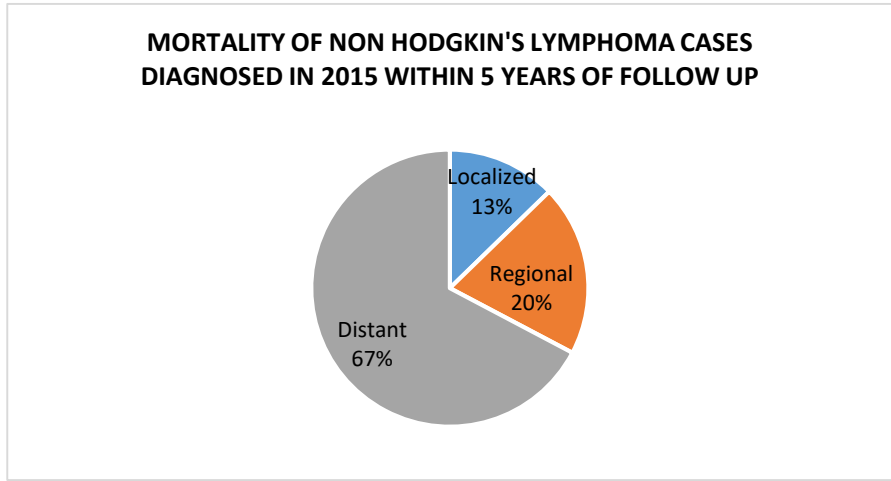
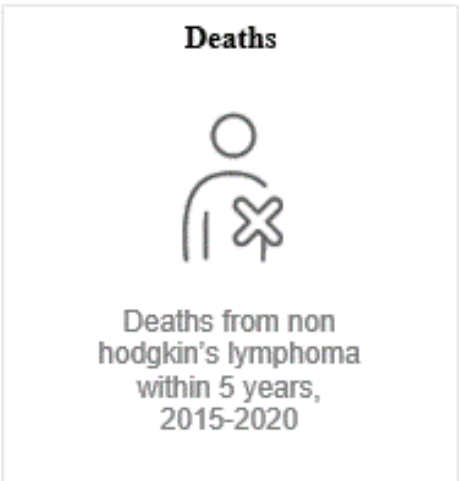
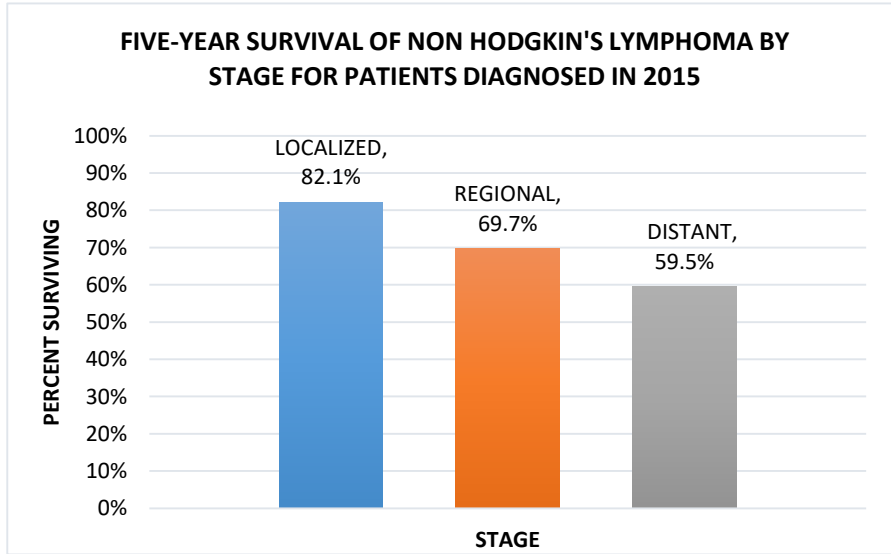


FIGURE 25



IV. APPENDIX

REQUESTS FOR TUMOR REGISTRY DATA 2020

January

Hodgkin Lymphoma cases MRN 2009-2014, B-Holistic Study	Dr. S. Akhtar
All Cases of Uterine cancer in all the sub types Endometrioid, serous of Tumor Registry in KFSH	Dr. I. Badawi
Number of Multiple Myeloma cases for year 2010-2011 with MRN	Dr. F. Alsharif
Number of multiple Myeloma cases for year 2012-2013	Dr. F. Alsharif
Matched related donor BMT, Myeloblastic, ALL, AML and Peripheral stem cells.	Dr. R. El fakih
Data from 2004-2015, Early stage breast cancer for project of obesity & breast cancer. KI67 % labeling index included.	Dr. Twegieri
List of MRN of Metaplastic Breast Cancer.	Dr. M. El Shenawy

February

All patients who had uterine, ovarian, fallopian Cancer from 2011-2017	Dr. A. Badran
Medical Record Numbers of patients with Pregnancy and Breast cancer.	Dr. K. Suliman
Rectal Cancer, non-metastatic (Mo), 01/2003-12/2014	Dr. A Alzahrani
Gastric, gastrophogeal junction adenocarcinomas, non-metastatic (Mo), 01/2003-12/2014	Dr. A Alzahrani
Need Data of all Stem Cell Transplant/BMT from 2000-2019.	Dr. S. Hashmi
To compare the outcome of MUD from Saudi MUD's to international MUD's	Dr. R. El fakih
Extended follow up of HSCT outcomes for Acute Lymphoblastic Leukemia patients	Dr. A. Hanbali
Population: T Cell ALL or T Cell Lymphoblastic Lymphoma underwent Allo HSCT from 2009-2019	Dr. H. Alzahrani

Patients with Breast Cancer under age 40 years from 2001-2015. List of MRN/cases with complete data (all variables in CRF)	Dr. Suleman
Patients with Breast Cancer from 2001-2015, with brain metastasis. List of MRN/cases with complete data (all variables in CRF)	Dr. Suleman
Breast cancer cases with pregnancy from 2013-2015. List of MRN/cases with complete data (all variables in CRF)	Dr. Suleman
March	
To compare the outcome of haplo-transplant to the outcomes of MUD's	Dr. R. El fakih
T ALL Patients that treated with Chemotherapy, without proceeding to HSCT till 2019	Dr. A. Hanabli
The prevalence of Hepatitis B, Hepatitis C in breast cancer patients & its impact on the outcome. To review the results of serology done between 2016-2017 of all newly diagnosed breast cancer patients	Dr. Al Sayed
April	
The numbers and MRN's of cases of endometrial cancer last 20 years	Dr. I. Badawi
Females 40 age or younger who have cancer plus pediatrics cancer also over the past 20 years (1995-2014)	Dr. S. Hashmi
2015 cancer cases, to compare Cancer Registry data vs Saudi cancer registry.	Mr. M. Hayder
June	
Adult Osteosarcoma patients MRN's 1997-2019	Dr. J. Atallah
July	
Following list for all patients MR, Birth Date, Gender, Histology, Contact details and survival status with the last date of contact from 2009-2015	Dr. H. Alsaedi
August	
AML cases for cancer patients from 2000-2014	Dr. S. Osman
September	
Adult CML cases 2000-2019 MRN, date of diagnosis, demographic, treatment start date and last date of contact.	M. G. Aljuhani
Nasopharyngeal Carcinoma and MRN's of pt's treated with Xeloda	Dr. B. Alshamsan
Sarcoma, Pazopanib MRN numbers	Dr. B. Alshamsan
All Desmoplastic small rounds cell tumor MRN numbers.	Dr. B. Alshamsan

October

Total numbers of patients Hodgkin Lymphoma from 1998-2014 adults and pediatric. Dr. S. Akhtar

Tumor Registry Lymphoma patients NHL/HL age younger than 14 data MRN, age, date Dr. S. Akhtar

93 breast cancer patients for tumor biology. For update on survival since the last follow up Dr. Twegieri

November

Non-metastatic Pancreatic cancer 2005-2014. Dr. A. Aljubran

All Breast Cancer cases available in Tumor Registry in Excel file. Dr. T twegieri

Ocular GVHD Dr. S. Hashmi

The new cases after Feb 2019 till Nov 2019 for haplo Vs MUD BMT Patients Dr. A. kotb

SCD BMT data Dr. H. Alzahrani

Updates on cases 2005 2014. Add 2015 & 2016 breast cancer cases. Dr. Twegieri
Look for PCR + survival for patients only with (ER+) ve & Her2 (+) positive.
100 cases from each arm of Chemo-Herceptin vs Chemo Trastuzumab
(Herceptin) + Pertuzumab

December

All solid cancers, patients' demographic data from 2003-2017 Dr. N. Alrajhi
Soft tissue Sarcoma: C47.1-C47.9 and bone sarcoma C40.0-C41.9,
separated in 2 Excel sheets Dr. R. Pant

V. 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.

Analytic Cases: Cases which 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 all of their 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: Extent of disease process determined at 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.