



مستشفى الملك فيصل التخصصي ومركز الأبحاث
King Faisal Specialist Hospital & Research Centre
Gen. Org. مؤسسة عامة

**Oncology Center
Research Unit**

TUMOR REGISTRY

Annual Report

2017





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**Oncology Centre
Research Unit**

TUMOR REGISTRY ANNUAL REPORT 2017

Annual Report Prepared by the Staff of the Tumor Registry
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INTRODUCTION

We are pleased to present 2017 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 2017, the Tumor Registry abstracted 3109 new cancer cases. 2893 cases were analytic and 216 were non analytic; the highest incidence of cancer among males by site was leukemia, NHL and Rectosigmoid carcinomas and among females was carcinomas of Breast, Thyroid, and leukemia. The Tumor Registry database includes over 90,181 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

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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 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 90,267 malignant cases seen at KFSH&RC from June 1975 through December 31, 2017.

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 2017, the Tumor Registry supported myriad of data requests. It also identified and reported to the Saudi Cancer Registry 3109 new cases seen in 2017.

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.

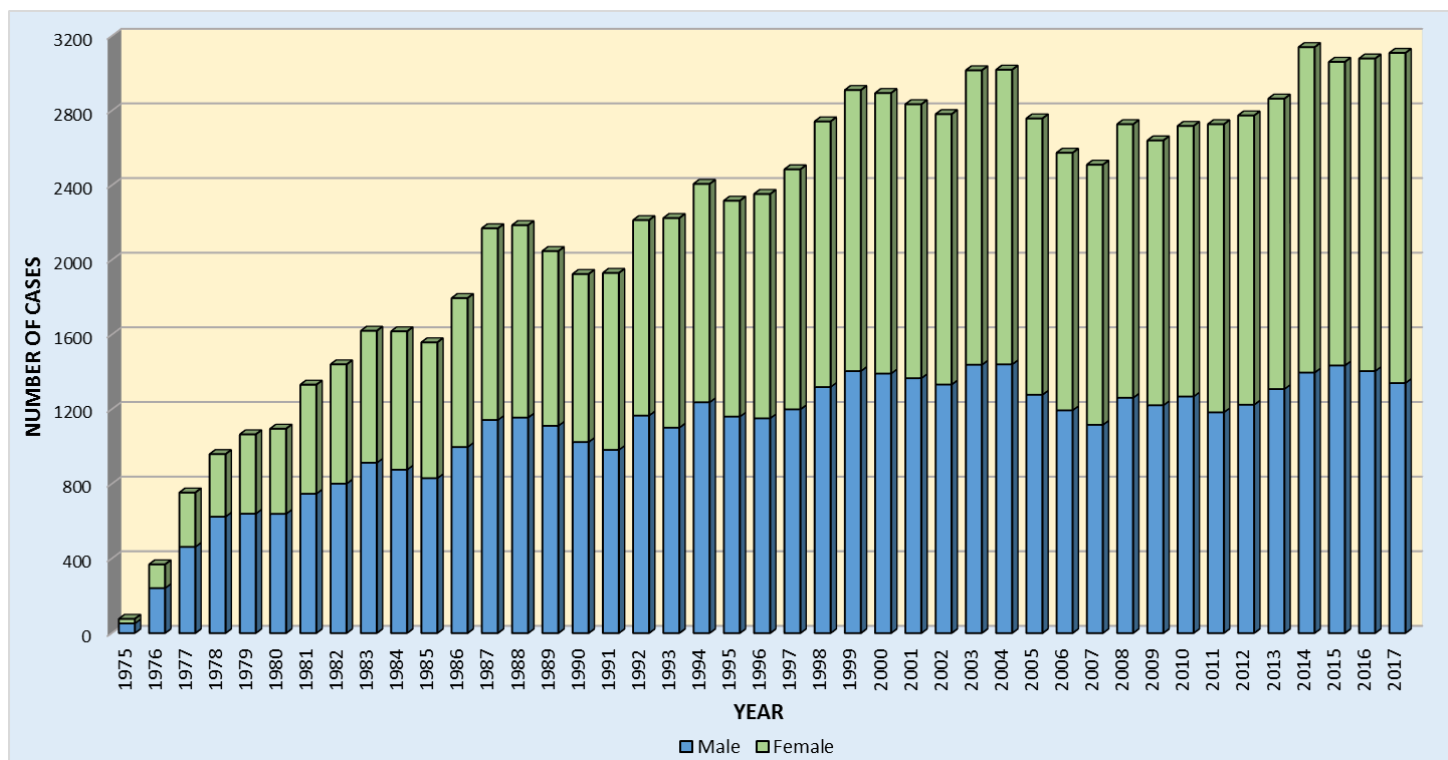
The following departments have assisted throughout the year and without their support this report would not have been possible. The Tumor Registry staff takes pride in acknowledging these departments:

- 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
- Home Health Care
- Oncology Centre

III. KFSH&RC CANCER PATIENT POPULATION

A total of 3109 cases were accessioned in 2017, with 1,340 males and 1,769 females or a male/female ratio of 0.7:1.

FIGURE 1
DISTRIBUTION OF CASES ACCESSIONED BY YEAR
1975-2017 (TOTAL CASES = 90,267)



From the opening of the hospital (mid 1975) until December 2016, 90,267 cancer cases were registered (44,632 males and 45,635 females) with a male/female ratio of 0.9:1.

There were 11,176 (12.4%) pediatric cases (0 to 14 years of age) and 79,091 (87.6%) adults (15 years old and above). In 2017, the proportions were 8.3% (259) for pediatrics and 91.7% (2,850) for adults.

TABLE 1
CASES SEEN AT KFSH&RC (MALE/FEMALE & PEDIATRICS/ADULTS) BY 5-YEAR PERIOD
1975-2017

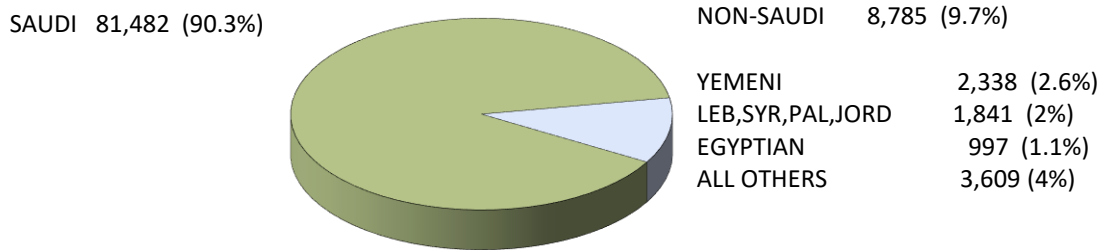
| | 1975-1976* | 1977-1981 | 1982-1986 | 1987-1991 | 1992-1996 | 1997-2001 | 2002 - 2006 | 2007-2011 | 2012-2016 | 2017 | TOTAL |
|---------------------|--------------|--------------|--------------|--------------|---------------|---------------|---------------|---------------|---------------|--------------|---------------|
| MALE | 280 | 2,978 | 4,150 | 4,969 | 5,561 | 6,429 | 6,530 | 5,838 | 6,557 | 1,340 | 44,632 |
| FEMALE | 135 | 1,946 | 3,358 | 4,341 | 5,349 | 6,753 | 7,203 | 6,974 | 7,807 | 1,769 | 45,635 |
| TOTAL | 415 | 4,924 | 7,508 | 9,310 | 10,910 | 13,182 | 13,733 | 12,812 | 14,364 | 3,109 | 90,267 |
| 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 | 0.7:1 | 1.0:1 |
| PEDIATRICS** | 55 | 593 | 985 | 1,164 | 1,397 | 1,893 | 1,894 | 1,569 | 1,367 | 259 | 11,176 |
| (%) | 13.3% | 12.0% | 13.1% | 12.5% | 12.8% | 14.4% | 13.8% | 12.2% | 9.5% | 8.3% | 12.4% |
| ADULTS | 360 | 4,331 | 6,523 | 8,146 | 9,513 | 11,289 | 11,839 | 11,243 | 12,997 | 2,850 | 79,091 |
| (%) | 86.7% | 88.0% | 86.9% | 87.5% | 87.2% | 85.6% | 86.2% | 87.8% | 90.5% | 91.7% | 87.6% |
| TOTAL | 415 | 4,924 | 7,508 | 9,310 | 10,910 | 13,182 | 13,733 | 12,812 | 14,364 | 3,109 | 90,267 |

* First two years of KFSH&RC partial operation.

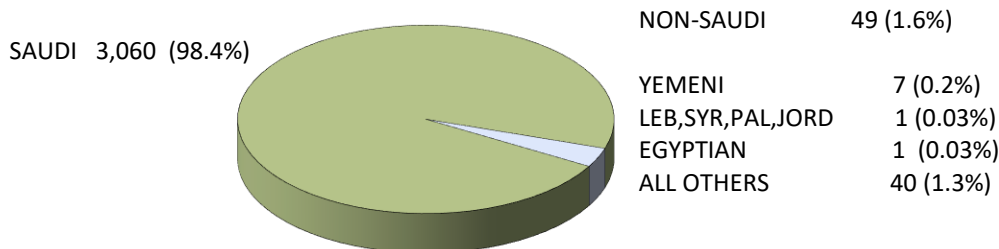
** Pediatrics = 0 to 14 years of age; Adults = 15 years and above.

FIGURE 2

DISTRIBUTION OF CASES BY NATIONALITY
1975 - 2017 (TOTAL CASES = 90,267)



2017 (TOTAL CASES = 3109)



Saudi nationals totaled 3,060 (98.4%) in 2017 and the non-Saudi, 49 (1.6%). During the period 1975 to 2017, the former accounted for 90.3% (81,482) while the latter, 9.7% (8,785).

TRENDS IN RELATIVE FREQUENCY OF CANCER AT KFSH&RC

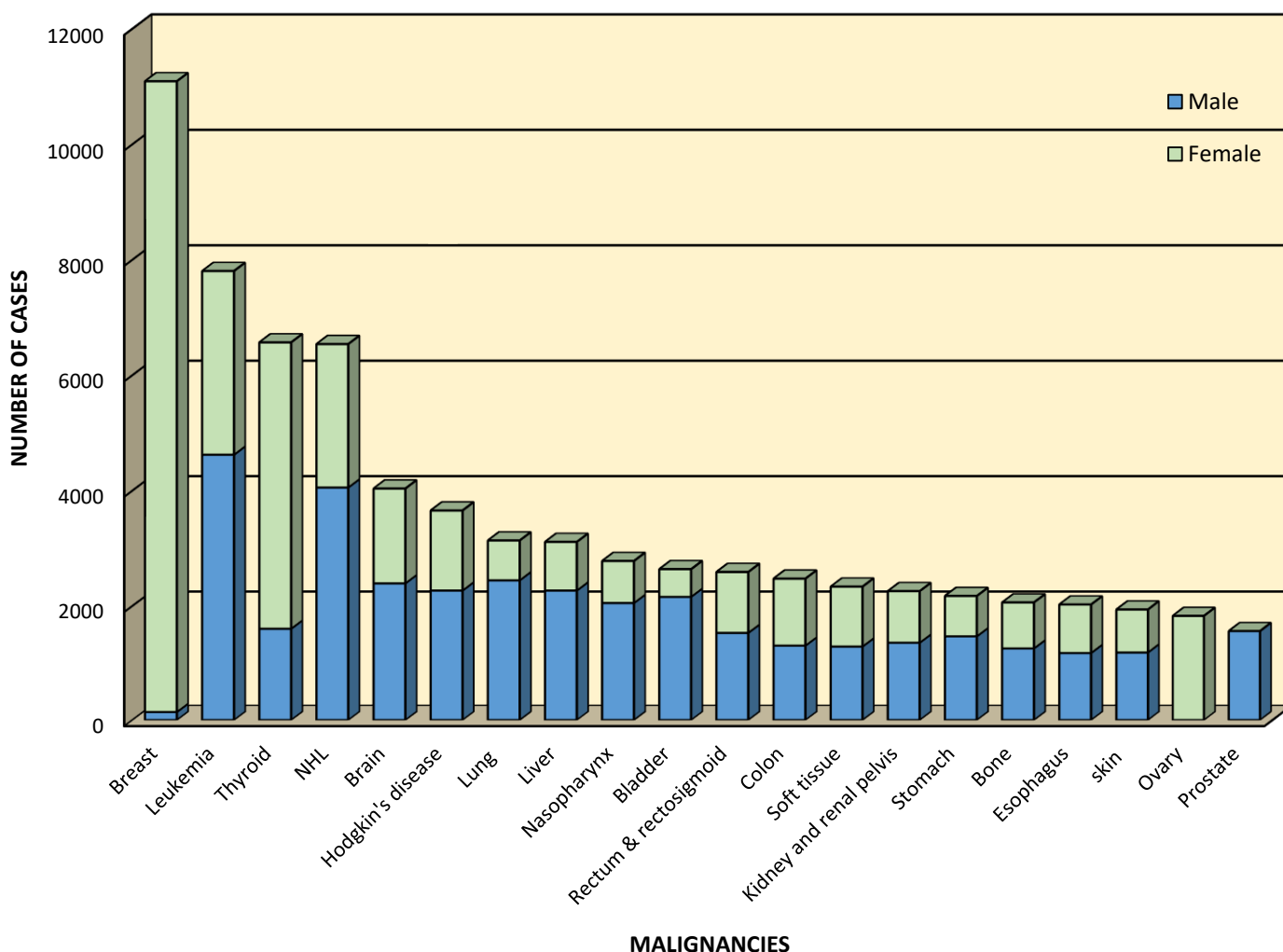
The crude relative frequency is the proportion of a given cancer in relation to all cases in a clinical or pathological series. Although such frequencies are subject to many biases, historically many elevated frequencies have been confirmed when complete cancer registration was introduced.

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 2017 with (12.3%), followed by leukemia (8.6%), Thyroid (7.3%), Non-Hodgkin Lymphoma (7.2%) and Brain (4.5%).

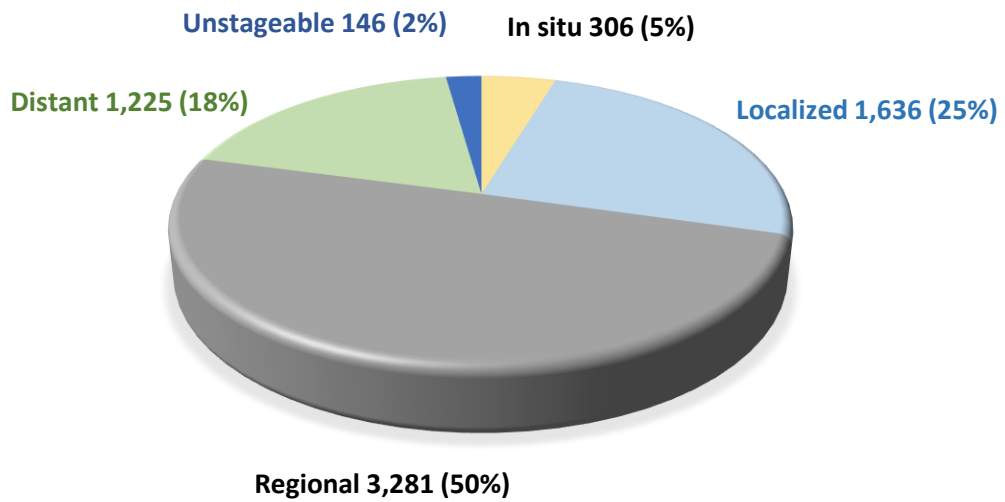
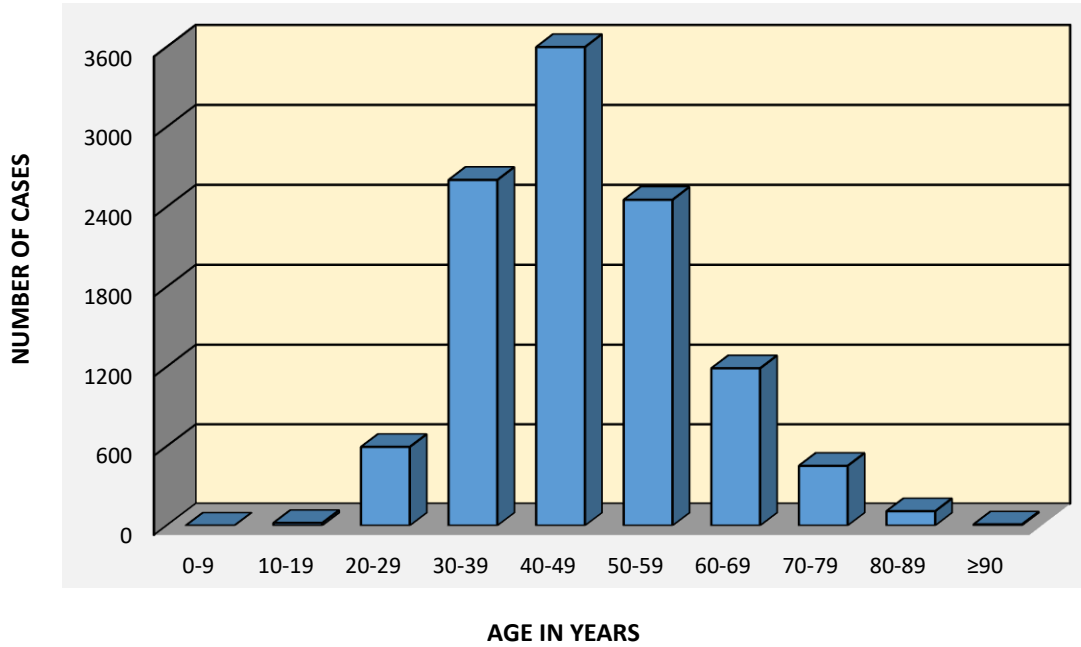
FIGURE 4

**DISTRIBUTION OF 20 MOST COMMON MALIGNANCIES
1975-2017 (TOTAL CASES = 90,267)**

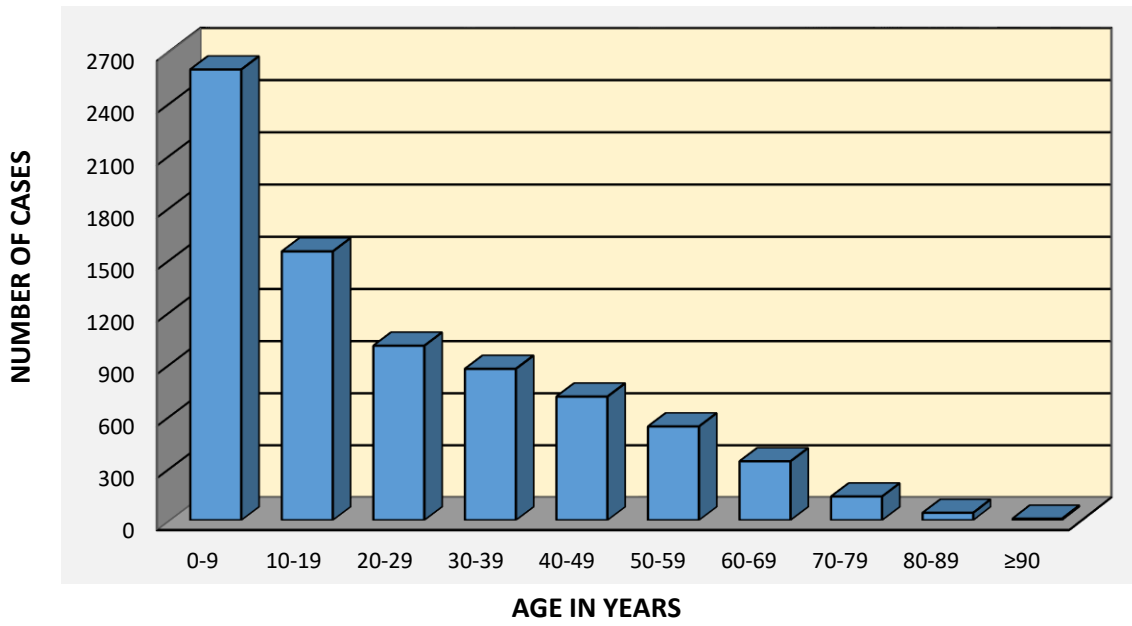


**FIGURE 5
DISTRIBUTION OF 5 MOST COMMON MALIGNANCIES
BY AGE AT DIAGNOSIS AND SEER SUMMARY STAGE
(1975 – 2017)**

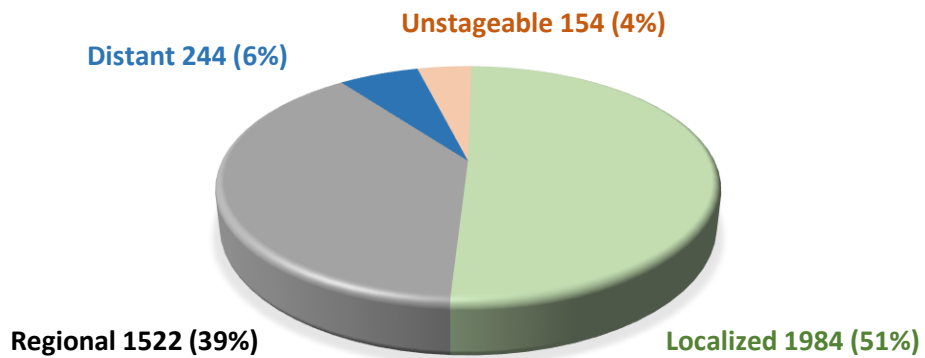
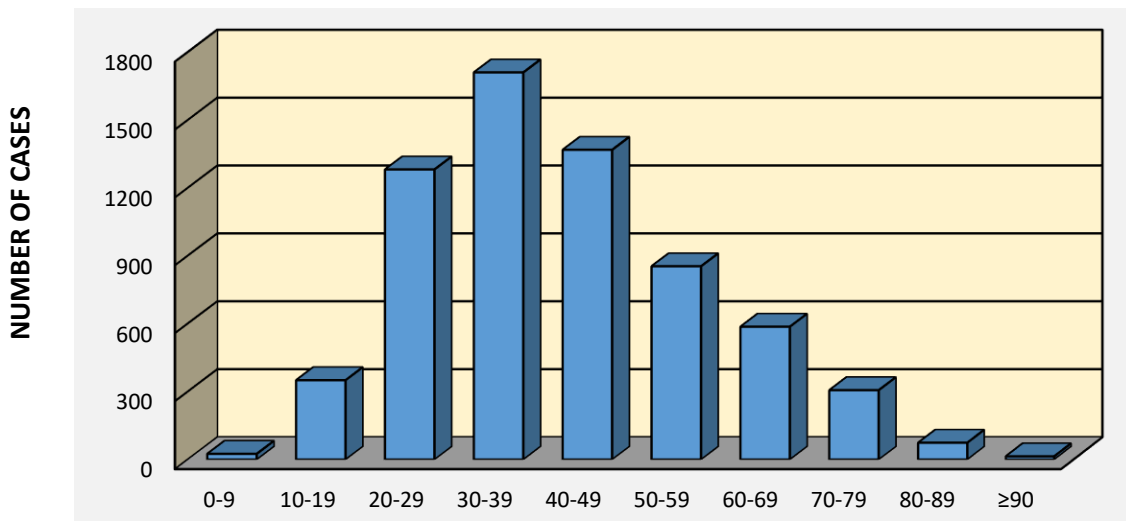
BREAST CANCER CASES



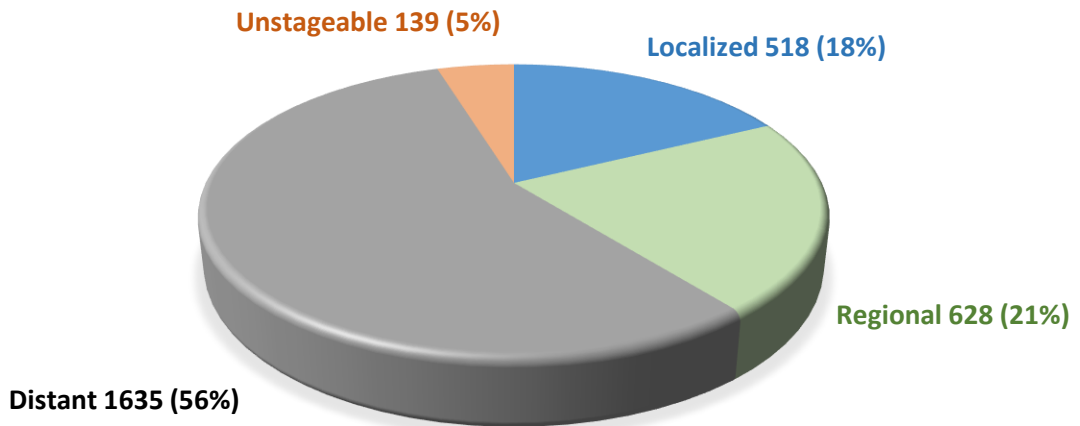
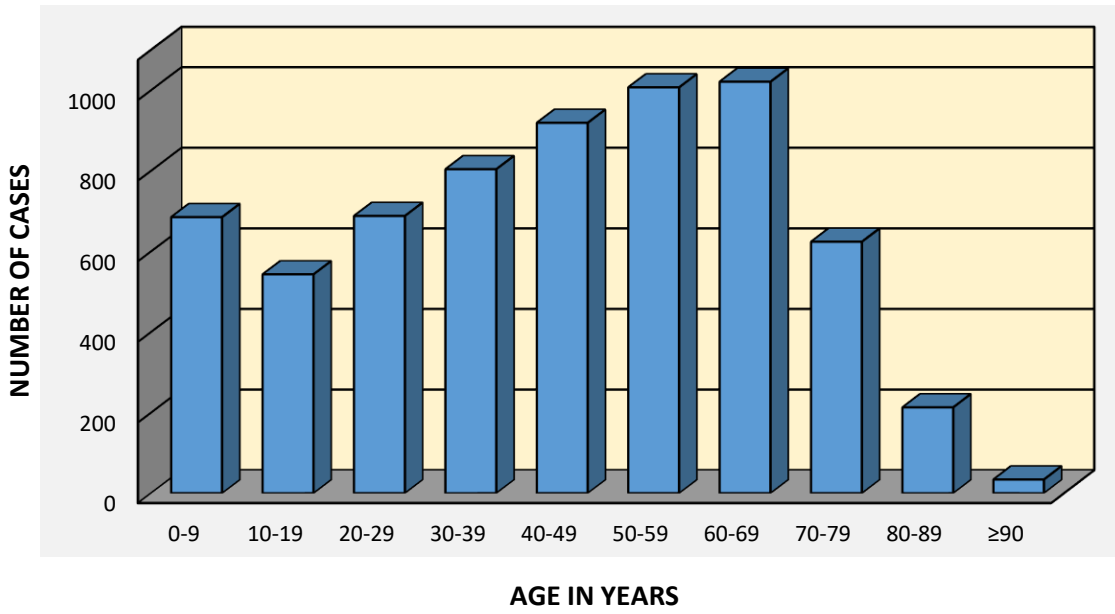
LEUKEMIA CASES



THYROID CANCER CASES



NON-HODGKIN LYMPHOMA CASES



BRAIN CANCER CASES

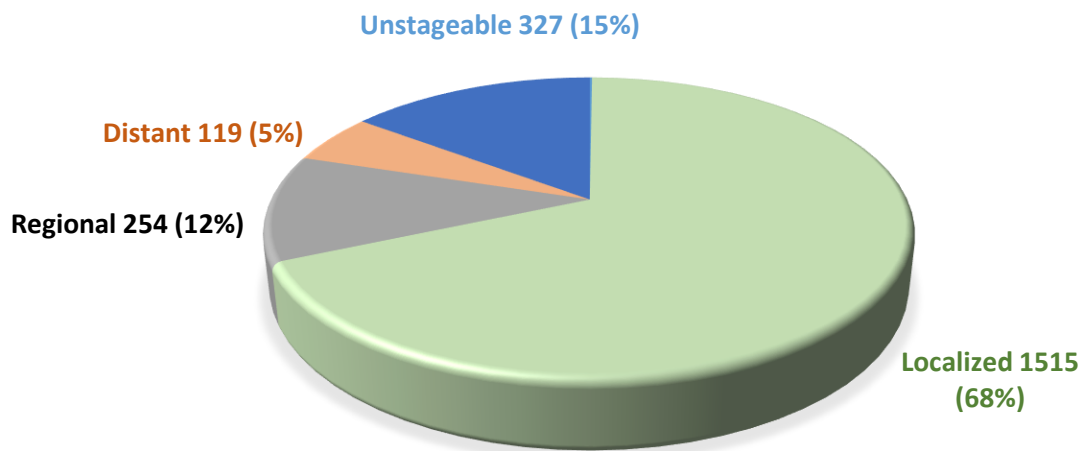
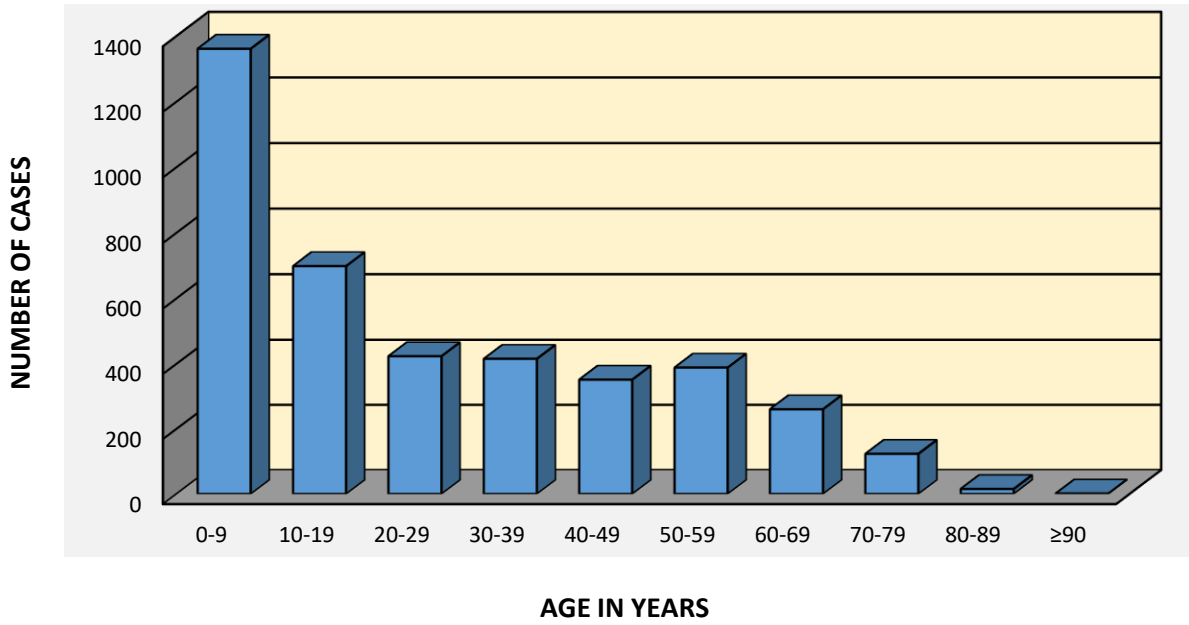


TABLE 2

**TEN MOST COMMON MALIGNANCIES BY AGE GROUP AT DIAGNOSIS
1975 - 2017**

| SITE | AGE GROUP | No | % |
|--------|-----------|-------|------|
| BREAST | 00 - 14 | 2 | 0.0 |
| | 15 - 39 | 3,216 | 29.0 |
| | 40 - 60 | 6,114 | 55.1 |
| | >60 | 1,759 | 15.9 |

| SITE | AGE GROUP | No | % |
|------------------|-----------|-------|------|
| HODGKIN LYMPHOMA | 00 - 14 | 999 | 27.3 |
| | 15 - 39 | 2,026 | 55.4 |
| | 40 - 60 | 449 | 12.3 |
| | >60 | 181 | 5.0 |

| SITE | AGE GROUP | No | % |
|----------|-----------|-------|------|
| LEUKEMIA | 00 - 14 | 3,331 | 42.7 |
| | 15 - 39 | 2,689 | 34.5 |
| | 40 - 60 | 1,254 | 16.1 |
| | >60 | 529 | 6.8 |

| SITE | AGE GROUP | No | % |
|------|-----------|-------|------|
| LUNG | 00 - 14 | 14 | 0.4 |
| | 15 - 39 | 207 | 6.6 |
| | 40 - 60 | 1,192 | 38.0 |
| | >60 | 1,722 | 54.9 |

| SITE | AGE GROUP | No | % |
|---------|-----------|-------|------|
| THYROID | 00 - 14 | 125 | 1.9 |
| | 15 - 39 | 3,241 | 49.4 |
| | 40 - 60 | 2,221 | 33.8 |
| | >60 | 980 | 14.9 |

| SITE | AGE GROUP | No | % |
|-------|-----------|-------|------|
| LIVER | 00 - 14 | 116 | 3.7 |
| | 15 - 39 | 170 | 5.5 |
| | 40 - 60 | 1,130 | 36.3 |
| | >60 | 1,694 | 54.5 |

| SITE | AGE GROUP | No | % |
|----------------------|-----------|-------|------|
| NON-HODGKIN LYMPHOMA | 00 - 14 | 928 | 14.2 |
| | 15 - 39 | 1,792 | 27.4 |
| | 40 - 60 | 1,926 | 29.5 |
| | >60 | 1,892 | 28.9 |

| SITE | AGE GROUP | No | % |
|-------------|-----------|-------|------|
| NASOPHARYNX | 00 - 14 | 106 | 3.8 |
| | 15 - 39 | 825 | 29.7 |
| | 40 - 60 | 1,287 | 46.3 |
| | >60 | 563 | 20.2 |

| SITE | AGE GROUP | No | % |
|------------|-----------|-------|------|
| BRAIN, CNS | 00 - 14 | 1,792 | 44.4 |
| | 15 - 39 | 1,105 | 27.4 |
| | 40 - 60 | 739 | 18.3 |
| | >60 | 399 | 9.9 |

| SITE | AGE GROUP | No | % |
|-----------------|-----------|-------|------|
| URINARY BLADDER | 00 - 14 | 42 | 1.6 |
| | 15 - 39 | 261 | 9.9 |
| | 40 - 60 | 915 | 34.7 |
| | >60 | 1,420 | 53.8 |

Cancer among pediatrics (under the age of 15) accounted for 12.4% of all cases from 1975 to 2017. The five most common pediatric malignancies were Leukemia (29.8%), brain (16.1%), Hodgkin disease (8.9%), Non-Hodgkin Lymphoma (8.3%), Bone (6.8%).

FIGURE 6
DISTRIBUTION OF 10 MOST COMMON PEDIATRIC MALIGNANCIES
1975-2017 (TOTAL CASES = 11,176)

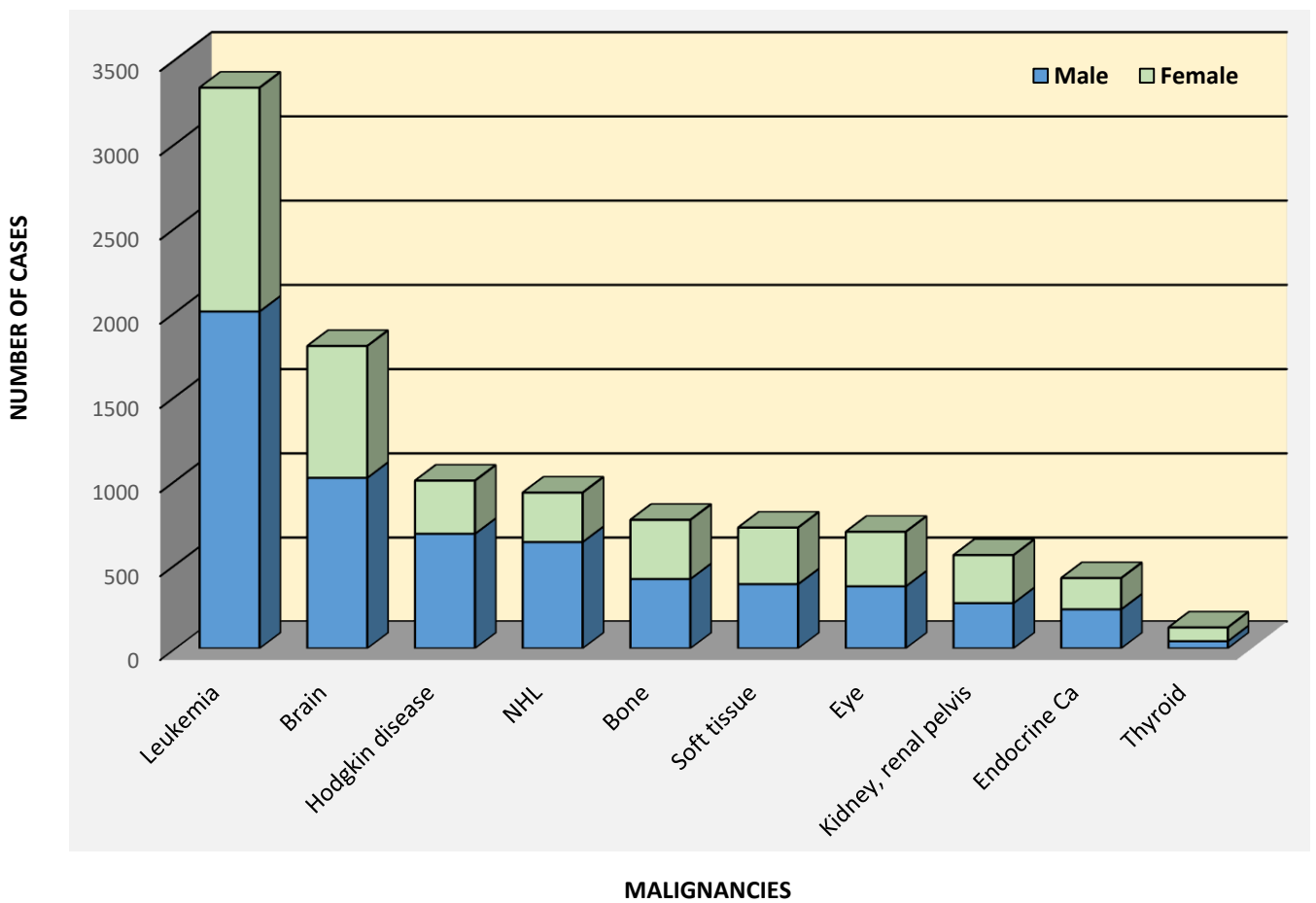


FIGURE 7
DISTRIBUTION OF 10 MOST COMMON PEDIATRIC MALIGNANCIES BY HISTOLOGY
1975-2017 (TOTAL CASES = 11,176)

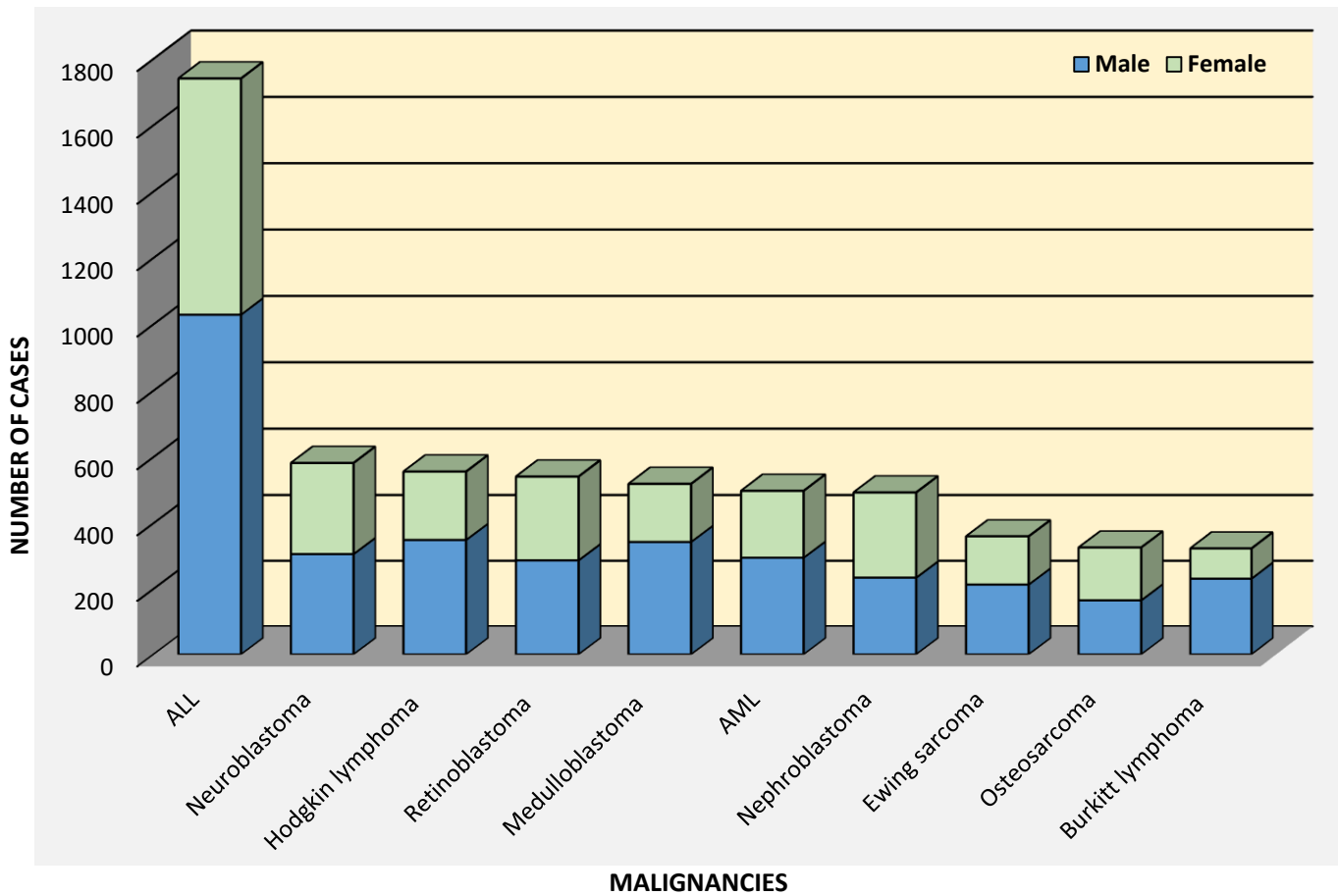


TABLE 3
CASES SEEN AT KFSH&RC BY SITE AND YEAR
1975-2017

| Site Group | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 |
|------------------------------|-----------|------------|------------|------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Oral Cavity | 1 | 9 | 23 | 62 | 52 | 56 | 46 | 61 | 81 | 53 | 85 | 57 | 77 | 98 | 86 | 81 |
| Nasopharynx | 3 | 16 | 48 | 51 | 54 | 50 | 60 | 65 | 84 | 69 | 63 | 68 | 99 | 96 | 80 | 84 |
| Esophagus | 1 | 15 | 51 | 62 | 67 | 67 | 57 | 62 | 77 | 78 | 56 | 69 | 76 | 66 | 68 | 72 |
| Stomach | 2 | 15 | 32 | 35 | 50 | 37 | 49 | 51 | 64 | 60 | 49 | 64 | 61 | 47 | 52 | 53 |
| Small intestine | 0 | 0 | 4 | 0 | 2 | 2 | 2 | 1 | 0 | 5 | 3 | 5 | 1 | 1 | 6 | 4 |
| Colon | 1 | 10 | 10 | 12 | 12 | 16 | 20 | 19 | 16 | 24 | 13 | 24 | 35 | 35 | 30 | 25 |
| Rectum & rectosigmoid | 0 | 3 | 11 | 8 | 16 | 21 | 24 | 16 | 20 | 26 | 26 | 20 | 31 | 43 | 26 | 31 |
| Anus,anal canal,anorectum | 0 | 0 | 1 | 4 | 3 | 1 | 7 | 4 | 7 | 9 | 6 | 7 | 4 | 4 | 5 | 8 |
| Liver | 7 | 15 | 33 | 44 | 49 | 33 | 41 | 54 | 53 | 64 | 57 | 84 | 78 | 71 | 68 | 55 |
| Gallbladder | 0 | 2 | 3 | 4 | 2 | 2 | 4 | 6 | 4 | 4 | 6 | 7 | 14 | 9 | 5 | 9 |
| Bile ducts | 1 | 1 | 0 | 2 | 2 | 4 | 1 | 2 | 3 | 4 | 3 | 6 | 6 | 6 | 2 | 4 |
| Pancreas | 1 | 5 | 7 | 11 | 15 | 14 | 20 | 22 | 14 | 20 | 16 | 28 | 20 | 16 | 27 | 12 |
| Peritoneum , Retroperitoneum | 0 | 0 | 2 | 1 | 2 | 1 | 0 | 0 | 2 | 1 | 0 | 1 | 0 | 1 | 1 | 1 |
| Other digestive | 0 | 0 | 0 | 2 | 2 | 5 | 4 | 1 | 1 | 0 | 3 | 1 | 4 | 3 | 6 | 2 |
| Nasal cavity,sinus,ear | 1 | 3 | 9 | 7 | 5 | 7 | 9 | 10 | 10 | 5 | 7 | 5 | 16 | 14 | 7 | 13 |
| Larynx | 1 | 5 | 12 | 12 | 12 | 14 | 20 | 13 | 23 | 22 | 25 | 16 | 23 | 33 | 21 | 26 |
| Lung /Bronchus | 3 | 11 | 23 | 34 | 45 | 40 | 56 | 63 | 74 | 74 | 87 | 84 | 83 | 106 | 90 | 74 |
| Pleura | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 2 | 2 |
| Other respir & thoracic | 0 | 0 | 0 | 1 | 1 | 1 | 3 | 1 | 1 | 0 | 4 | 0 | 6 | 1 | 1 | 2 |
| Leukemia | 7 | 28 | 40 | 87 | 90 | 83 | 121 | 125 | 117 | 127 | 121 | 159 | 185 | 157 | 155 | 132 |
| Myeloma | 1 | 5 | 6 | 11 | 9 | 11 | 8 | 13 | 13 | 12 | 19 | 13 | 29 | 22 | 33 | 15 |
| Other hematopoietic | 0 | 1 | 0 | 1 | 2 | 2 | 2 | 2 | 3 | 1 | 2 | 9 | 5 | 3 | 2 | 2 |
| Bone | 1 | 6 | 13 | 25 | 20 | 20 | 22 | 42 | 31 | 40 | 19 | 31 | 35 | 44 | 41 | 37 |
| Soft tissue | 1 | 16 | 29 | 29 | 31 | 23 | 29 | 40 | 32 | 35 | 38 | 47 | 48 | 49 | 59 | 59 |
| Melanoma of skin | 0 | 4 | 4 | 8 | 8 | 6 | 7 | 4 | 11 | 12 | 7 | 8 | 11 | 12 | 6 | 5 |
| Kaposi sarcoma | 0 | 1 | 1 | 0 | 6 | 4 | 2 | 2 | 5 | 4 | 5 | 9 | 5 | 9 | 5 | 4 |
| Other skin cancers | 2 | 13 | 26 | 32 | 41 | 35 | 48 | 54 | 51 | 52 | 62 | 60 | 43 | 43 | 53 | 41 |
| Breast | 3 | 24 | 53 | 46 | 57 | 65 | 101 | 111 | 111 | 153 | 131 | 127 | 174 | 194 | 137 | 168 |
| Cervix uteri | 0 | 10 | 18 | 18 | 25 | 18 | 26 | 25 | 33 | 33 | 41 | 55 | 51 | 50 | 33 | 44 |
| Corpus uteri | 1 | 1 | 2 | 5 | 6 | 4 | 8 | 8 | 11 | 14 | 10 | 10 | 16 | 21 | 21 | 18 |
| Ovary | 2 | 6 | 10 | 10 | 17 | 21 | 20 | 35 | 31 | 26 | 24 | 34 | 41 | 47 | 52 | 46 |
| Vagina | 0 | 0 | 5 | 2 | 0 | 1 | 2 | 0 | 2 | 2 | 3 | 1 | 2 | 1 | 2 | 3 |
| Vulva | 0 | 0 | 0 | 1 | 1 | 0 | 2 | 1 | 3 | 2 | 5 | 5 | 1 | 2 | 1 | 4 |
| Other female genital | 0 | 1 | 5 | 4 | 6 | 7 | 5 | 7 | 19 | 5 | 4 | 13 | 19 | 14 | 10 | 9 |
| Prostate | 0 | 7 | 5 | 4 | 5 | 10 | 11 | 18 | 28 | 19 | 19 | 17 | 22 | 27 | 27 | 24 |
| Testis | 0 | 3 | 9 | 8 | 10 | 11 | 15 | 11 | 7 | 12 | 14 | 14 | 17 | 17 | 9 | 14 |
| Penis | 0 | 1 | 1 | 0 | 1 | 0 | 2 | 2 | 3 | 4 | 0 | 0 | 0 | 2 | 2 | 5 |
| Other male genital | 0 | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 1 | 0 | 3 | 0 | 3 | 0 | 2 | 0 |
| Bladder | 4 | 7 | 12 | 24 | 29 | 39 | 37 | 23 | 41 | 35 | 46 | 51 | 79 | 74 | 73 | 60 |
| Kidney and renal pelvis | 0 | 9 | 18 | 18 | 18 | 15 | 18 | 30 | 23 | 20 | 24 | 41 | 31 | 58 | 31 | 35 |
| Ureter | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 3 | 1 | 1 | 0 |
| Other urinary | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 0 |
| Eye | 0 | 6 | 11 | 19 | 12 | 24 | 29 | 34 | 25 | 17 | 30 | 24 | 35 | 44 | 26 | 30 |
| Brain, CNS | 3 | 24 | 27 | 40 | 26 | 31 | 31 | 77 | 53 | 59 | 49 | 71 | 88 | 92 | 98 | 81 |
| Thyroid | 2 | 8 | 17 | 28 | 33 | 44 | 57 | 51 | 66 | 71 | 63 | 82 | 119 | 112 | 110 | 94 |
| Other endocrine | 1 | 1 | 3 | 3 | 2 | 9 | 10 | 8 | 14 | 12 | 17 | 10 | 11 | 13 | 2 | 7 |
| Hodgkin disease | 13 | 19 | 40 | 41 | 36 | 42 | 47 | 42 | 54 | 50 | 49 | 45 | 65 | 57 | 76 | 56 |
| Non-hodgkin lymphoma | 4 | 23 | 73 | 75 | 103 | 112 | 128 | 116 | 172 | 139 | 124 | 142 | 157 | 153 | 165 | 154 |
| Unknown or ill-defined | 3 | 11 | 23 | 24 | 20 | 27 | 34 | 30 | 33 | 26 | 25 | 25 | 37 | 32 | 42 | 39 |
| TOTAL | 70 | 345 | 721 | 915 | 1007 | 1035 | 1246 | 1362 | 1528 | 1503 | 1464 | 1651 | 1966 | 2001 | 1858 | 1744 |

TABLE 3 (cont 'd)
CASES SEEN AT KFSH&RC BY SITE AND YEAR
1975-2017

| Site Group | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 |
|------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Oral Cavity | 87 | 85 | 72 | 77 | 99 | 82 | 94 | 71 | 92 | 102 | 75 | 74 | 107 | 78 |
| Nasopharynx | 76 | 80 | 85 | 78 | 84 | 111 | 107 | 124 | 118 | 98 | 141 | 86 | 111 | 116 |
| Esophagus | 66 | 69 | 47 | 50 | 50 | 52 | 51 | 62 | 34 | 52 | 37 | 42 | 43 | 37 |
| Stomach | 36 | 48 | 42 | 68 | 61 | 57 | 45 | 42 | 54 | 53 | 40 | 50 | 60 | 68 |
| Small intestine | 1 | 5 | 4 | 4 | 6 | 6 | 4 | 7 | 7 | 9 | 5 | 3 | 5 | 9 |
| Colon | 39 | 33 | 25 | 33 | 37 | 34 | 34 | 57 | 48 | 73 | 72 | 92 | 104 | 76 |
| Rectum & rectosigmoid | 35 | 48 | 46 | 52 | 48 | 54 | 62 | 59 | 94 | 75 | 77 | 106 | 99 | 113 |
| Anus,anal canal,anorectum | 6 | 7 | 12 | 10 | 5 | 6 | 6 | 7 | 4 | 7 | 7 | 8 | 14 | 5 |
| Liver | 66 | 76 | 82 | 103 | 102 | 103 | 96 | 84 | 89 | 85 | 92 | 73 | 70 | 60 |
| Gallbladder | 9 | 13 | 19 | 21 | 9 | 11 | 11 | 12 | 15 | 13 | 11 | 12 | 15 | 14 |
| Bile ducts | 2 | 7 | 2 | 7 | 3 | 9 | 7 | 10 | 9 | 8 | 9 | 10 | 7 | 4 |
| Pancreas | 13 | 27 | 21 | 22 | 25 | 21 | 24 | 34 | 18 | 38 | 26 | 31 | 30 | 34 |
| Peritoneum , Retroperitoneum | 0 | 2 | 1 | 0 | 1 | 0 | 0 | 1 | 2 | 2 | 1 | 1 | 1 | 4 |
| Other digestive | 1 | 2 | 4 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | 4 |
| Nasal cavity,sinus,ear | 12 | 8 | 9 | 11 | 10 | 9 | 4 | 8 | 14 | 10 | 9 | 11 | 10 | 9 |
| Larynx | 34 | 27 | 31 | 35 | 37 | 36 | 31 | 30 | 35 | 32 | 33 | 26 | 47 | 41 |
| Lung /Bronchus | 85 | 79 | 85 | 89 | 87 | 84 | 88 | 106 | 108 | 91 | 80 | 91 | 86 | 94 |
| Pleura | 0 | 3 | 4 | 3 | 1 | 2 | 1 | 1 | 2 | 3 | 8 | 1 | 4 | 3 |
| Other respir & thoracic | 7 | 3 | 7 | 8 | 4 | 4 | 8 | 8 | 8 | 2 | 1 | 5 | 2 | 4 |
| Leukemia | 158 | 145 | 192 | 169 | 209 | 166 | 228 | 235 | 258 | 259 | 238 | 259 | 258 | 227 |
| Myeloma | 28 | 26 | 25 | 40 | 30 | 21 | 14 | 23 | 16 | 28 | 20 | 19 | 20 | 23 |
| Other hematopoietic | 0 | 1 | 0 | 2 | 2 | 2 | 1 | 3 | 4 | 9 | 11 | 10 | 9 | 2 |
| Bone | 40 | 52 | 54 | 56 | 56 | 56 | 63 | 71 | 63 | 75 | 83 | 74 | 62 | 68 |
| Soft tissue | 61 | 47 | 50 | 72 | 81 | 54 | 67 | 74 | 87 | 69 | 73 | 59 | 78 | 79 |
| Melanoma of skin | 9 | 15 | 9 | 7 | 7 | 9 | 5 | 5 | 6 | 5 | 5 | 6 | 5 | 8 |
| Kaposi sarcoma | 5 | 14 | 2 | 3 | 6 | 11 | 6 | 8 | 8 | 4 | 7 | 9 | 9 | 6 |
| Other skin cancers | 47 | 47 | 51 | 61 | 44 | 57 | 52 | 35 | 58 | 52 | 62 | 38 | 52 | 49 |
| Breast | 169 | 188 | 251 | 241 | 232 | 281 | 292 | 336 | 341 | 383 | 362 | 377 | 409 | 431 |
| Cervix uteri | 35 | 52 | 50 | 52 | 49 | 48 | 46 | 62 | 57 | 42 | 68 | 53 | 55 | 47 |
| Corpus uteri | 13 | 27 | 20 | 26 | 22 | 19 | 26 | 29 | 33 | 33 | 35 | 47 | 59 | 62 |
| Ovary | 36 | 44 | 55 | 50 | 55 | 56 | 60 | 63 | 53 | 53 | 51 | 44 | 55 | 51 |
| Vagina | 3 | 2 | 0 | 5 | 5 | 2 | 2 | 1 | 2 | 1 | 0 | 1 | 1 | 2 |
| Vulva | 5 | 1 | 4 | 5 | 5 | 2 | 1 | 0 | 1 | 2 | 3 | 2 | 2 | 3 |
| Other female genital | 13 | 12 | 12 | 19 | 7 | 11 | 8 | 6 | 6 | 5 | 5 | 10 | 13 | 12 |
| Prostate | 16 | 41 | 27 | 45 | 37 | 49 | 43 | 44 | 63 | 47 | 49 | 49 | 59 | 59 |
| Testis | 14 | 21 | 25 | 21 | 14 | 14 | 17 | 16 | 19 | 20 | 18 | 28 | 19 | 20 |
| Penis | 2 | 0 | 1 | 3 | 0 | 1 | 3 | 0 | 0 | 2 | 0 | 1 | 1 | 0 |
| Other male genital | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 2 | 1 | 2 |
| Bladder | 44 | 65 | 88 | 72 | 60 | 56 | 65 | 85 | 91 | 80 | 81 | 71 | 93 | 102 |
| Kidney and renal pelvis | 33 | 52 | 51 | 65 | 48 | 47 | 49 | 58 | 70 | 57 | 72 | 64 | 55 | 70 |
| Ureter | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 3 | 1 | 2 | 3 | 2 | 2 | 1 |
| Other urinary | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 1 |
| Eye | 9 | 15 | 39 | 27 | 15 | 22 | 30 | 17 | 24 | 26 | 17 | 16 | 20 | 18 |
| Brain, CNS | 84 | 112 | 88 | 116 | 128 | 129 | 133 | 162 | 145 | 149 | 151 | 143 | 161 | 167 |
| Thyroid | 110 | 141 | 135 | 158 | 134 | 162 | 161 | 192 | 210 | 186 | 189 | 169 | 215 | 214 |
| Other endocrine | 10 | 14 | 15 | 15 | 14 | 14 | 20 | 12 | 15 | 23 | 14 | 18 | 38 | 27 |
| Hodgkin disease | 57 | 75 | 73 | 78 | 88 | 76 | 76 | 98 | 116 | 131 | 121 | 121 | 132 | 144 |
| Non-hodgkin lymphoma | 123 | 150 | 154 | 160 | 158 | 157 | 193 | 208 | 207 | 204 | 175 | 186 | 206 | 218 |
| Unknown or ill-defined | 40 | 51 | 42 | 62 | 36 | 41 | 35 | 50 | 50 | 45 | 49 | 53 | 45 | 49 |
| TOTAL | 1741 | 2034 | 2113 | 2303 | 2215 | 2245 | 2369 | 2620 | 2757 | 2746 | 2689 | 2653 | 2951 | 2935 |

TABLE 3 (cont 'd)
CASES SEEN AT KFSH&RC BY SITE AND YEAR
1975-2017

| Site Group | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | TOTAL |
|------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------|
| Oral Cavity | 106 | 83 | 107 | 94 | 92 | 61 | 91 | 76 | 82 | 89 | 91 | 97 | 67 | 3259 |
| Nasopharynx | 97 | 91 | 83 | 88 | 67 | 85 | 86 | 69 | 81 | 68 | 67 | 76 | 81 | 3444 |
| Esophagus | 41 | 36 | 30 | 31 | 31 | 29 | 31 | 30 | 20 | 31 | 25 | 26 | 25 | 2022 |
| Stomach | 57 | 59 | 48 | 49 | 64 | 59 | 56 | 60 | 63 | 76 | 56 | 43 | 38 | 2173 |
| Small intestine | 6 | 4 | 5 | 5 | 7 | 5 | 6 | 8 | 11 | 21 | 6 | 9 | 12 | 216 |
| Colon | 80 | 95 | 88 | 83 | 96 | 84 | 103 | 101 | 119 | 132 | 155 | 141 | 138 | 2474 |
| Rectum & rectosigmoid | 112 | 93 | 92 | 82 | 92 | 83 | 93 | 99 | 92 | 102 | 115 | 120 | 124 | 2589 |
| Anus,anal canal,anorectum | 5 | 3 | 5 | 5 | 1 | 4 | 2 | 3 | 5 | 7 | 4 | 10 | 6 | 234 |
| Liver | 37 | 68 | 50 | 72 | 89 | 97 | 112 | 104 | 103 | 93 | 100 | 110 | 87 | 3109 |
| Gallbladder | 8 | 8 | 11 | 10 | 6 | 9 | 11 | 5 | 11 | 23 | 17 | 12 | 22 | 419 |
| Bile ducts | 8 | 6 | 11 | 7 | 12 | 13 | 8 | 10 | 9 | 12 | 17 | 16 | 8 | 278 |
| Pancreas | 27 | 41 | 26 | 32 | 40 | 36 | 31 | 46 | 61 | 62 | 50 | 51 | 61 | 1176 |
| Peritoneum , Retroperitoneum | 2 | 2 | 2 | 3 | 1 | 3 | 2 | 5 | 8 | 5 | 5 | 15 | 12 | 94 |
| Other digestive | 2 | 1 | 1 | 4 | 1 | 2 | 0 | 0 | 0 | 0 | 3 | 2 | 8 | 76 |
| Nasal cavity,sinus,ear | 13 | 11 | 12 | 8 | 8 | 5 | 4 | 7 | 4 | 4 | 11 | 10 | 11 | 370 |
| Larynx | 36 | 26 | 32 | 31 | 26 | 10 | 17 | 19 | 21 | 18 | 24 | 20 | 17 | 1050 |
| Lung /Bronchus | 84 | 64 | 60 | 63 | 61 | 63 | 73 | 72 | 81 | 92 | 64 | 82 | 76 | 3135 |
| Pleura | 3 | 1 | 3 | 2 | 4 | 1 | 0 | 3 | 3 | 0 | 4 | 1 | 1 | 71 |
| Other respir & thoracic | 3 | 3 | 1 | 4 | 7 | 7 | 6 | 5 | 5 | 2 | 3 | 6 | 2 | 147 |
| Leukemia | 205 | 225 | 205 | 228 | 219 | 233 | 206 | 288 | 261 | 246 | 229 | 244 | 279 | 7803 |
| Myeloma | 23 | 22 | 31 | 18 | 39 | 36 | 28 | 16 | 31 | 26 | 25 | 30 | 22 | 900 |
| Other hematopoietic | 9 | 11 | 7 | 22 | 14 | 27 | 24 | 3 | 2 | 10 | 21 | 41 | 21 | 305 |
| Bone | 69 | 66 | 52 | 74 | 59 | 56 | 62 | 54 | 49 | 64 | 40 | 52 | 63 | 2060 |
| Soft tissue | 70 | 54 | 83 | 56 | 54 | 72 | 67 | 74 | 72 | 62 | 64 | 54 | 37 | 2335 |
| Melanoma of skin | 5 | 8 | 5 | 8 | 6 | 7 | 5 | 7 | 4 | 4 | 8 | 6 | 10 | 297 |
| Kaposi sarcoma | 8 | 9 | 7 | 7 | 7 | 10 | 5 | 3 | 5 | 12 | 10 | 4 | 6 | 253 |
| Other skin cancers | 56 | 66 | 30 | 41 | 41 | 39 | 42 | 36 | 49 | 45 | 47 | 49 | 34 | 1936 |
| Breast | 378 | 326 | 349 | 357 | 338 | 375 | 412 | 375 | 431 | 490 | 397 | 414 | 501 | 11091 |
| Cervix uteri | 46 | 38 | 39 | 43 | 46 | 32 | 34 | 42 | 35 | 44 | 33 | 29 | 29 | 1686 |
| Corpus uteri | 48 | 59 | 68 | 64 | 74 | 57 | 73 | 73 | 63 | 101 | 91 | 91 | 106 | 1575 |
| Ovary | 48 | 55 | 44 | 54 | 49 | 69 | 51 | 47 | 49 | 56 | 53 | 56 | 45 | 1824 |
| Vagina | 1 | 0 | 0 | 0 | 2 | 0 | 2 | 1 | 0 | 1 | 5 | 3 | 1 | 69 |
| Vulva | 2 | 0 | 2 | 4 | 3 | 2 | 5 | 4 | 2 | 2 | 1 | 2 | 7 | 100 |
| Other female genital | 12 | 15 | 8 | 6 | 10 | 3 | 4 | 2 | 4 | 4 | 5 | 2 | 0 | 342 |
| Prostate | 75 | 46 | 39 | 60 | 45 | 47 | 38 | 37 | 48 | 68 | 66 | 60 | 58 | 1558 |
| Testis | 17 | 11 | 15 | 28 | 26 | 27 | 23 | 14 | 27 | 33 | 38 | 26 | 26 | 748 |
| Penis | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 0 | 43 |
| Other male genital | 1 | 2 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 2 | 3 | 0 | 31 |
| Bladder | 88 | 66 | 69 | 65 | 66 | 82 | 66 | 62 | 79 | 75 | 76 | 93 | 64 | 2638 |
| Kidney and renal pelvis | 61 | 67 | 67 | 85 | 86 | 85 | 86 | 82 | 78 | 98 | 92 | 101 | 89 | 2257 |
| Ureter | 2 | 0 | 1 | 0 | 2 | 2 | 2 | 0 | 0 | 0 | 1 | 1 | 0 | 38 |
| Other urinary | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 1 | 1 | 2 | 1 | 1 | 20 |
| Eye | 15 | 20 | 11 | 19 | 17 | 24 | 32 | 27 | 22 | 23 | 20 | 21 | 25 | 937 |
| Brain, CNS | 128 | 126 | 91 | 95 | 86 | 100 | 107 | 99 | 88 | 95 | 113 | 140 | 173 | 4159 |
| Thyroid | 216 | 205 | 229 | 254 | 225 | 212 | 245 | 248 | 245 | 288 | 293 | 296 | 279 | 6568 |
| Other endocrine | 26 | 23 | 17 | 30 | 24 | 28 | 17 | 25 | 14 | 20 | 22 | 22 | 43 | 683 |
| Hodgkin disease | 130 | 101 | 118 | 118 | 122 | 104 | 96 | 117 | 107 | 148 | 113 | 123 | 139 | 3655 |
| Non-hodgkin lymphoma | 181 | 167 | 178 | 172 | 149 | 163 | 140 | 154 | 160 | 156 | 197 | 172 | 210 | 6538 |
| Unknown or ill-defined | 32 | 28 | 19 | 25 | 31 | 31 | 24 | 22 | 39 | 30 | 27 | 50 | 45 | 1482 |
| TOTAL | 2683 | 2511 | 2451 | 2606 | 2546 | 2579 | 2629 | 2640 | 2744 | 3039 | 2908 | 3034 | 3109 | 90267 |

The largest number of cases in 2017 was noted in the 5th and 6th decades of life in males and in the 4th and 5th in females. The mean age was 45, the median was 48 and the mode was at 52. Pediatric malignancies were most common among children at one year of age and at less than one year of age.

FIGURE 8
DISTRIBUTION OF ALL CASES BY AGE AT DIAGNOSIS
2017 (TOTAL CASES = 3,109)

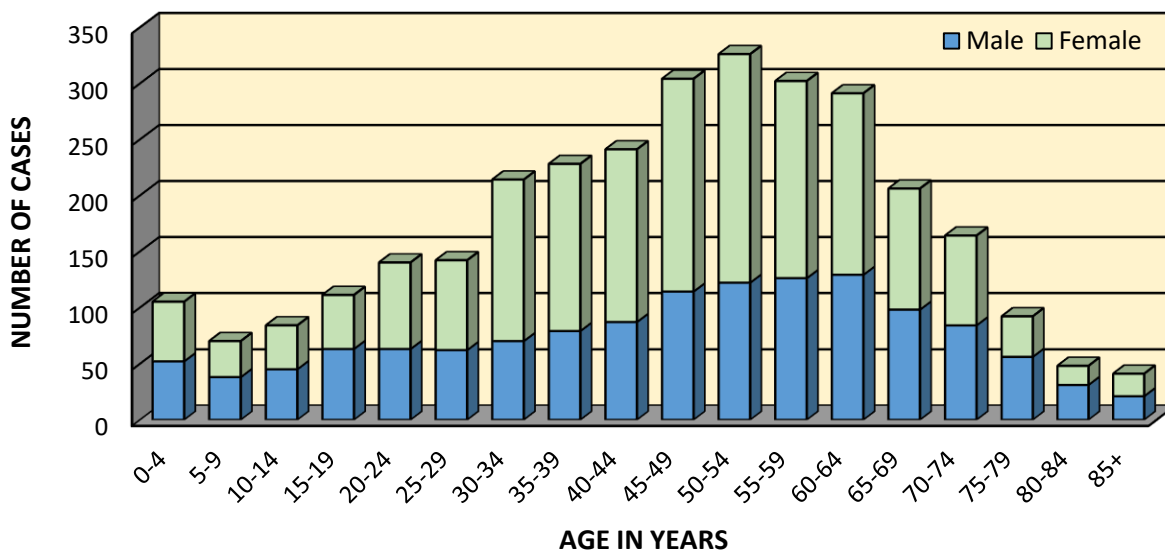
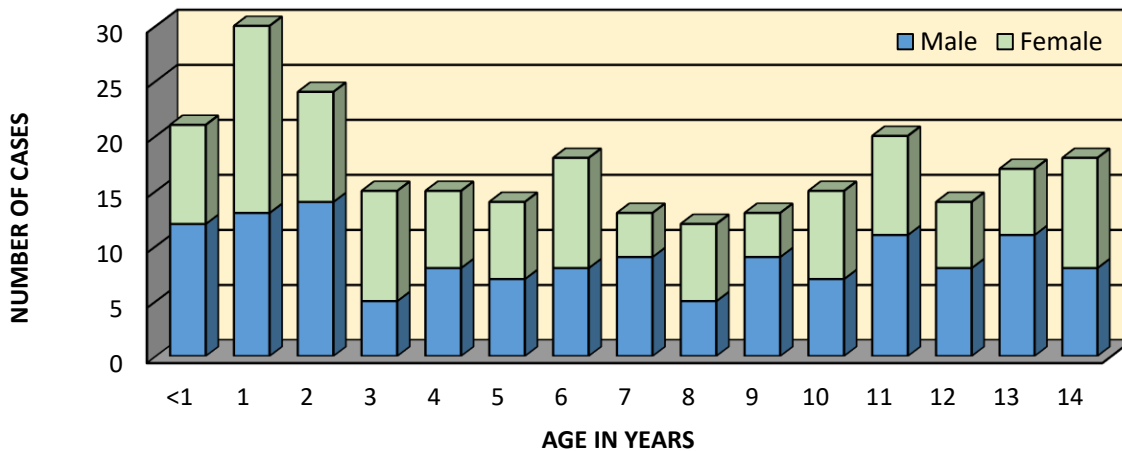


FIGURE 9
DISTRIBUTION OF PEDIATRIC CASES BY AGE AT DIAGNOSIS
2017 (TOTAL CASES = 259)



Of the 3,109 cases in 2017, 2,893 (93.05%) 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 216 cases (6.9%) were non-analytic (defined as cases diagnosed elsewhere and received all of their first course of treatment elsewhere). Out of the 2,893 analytic cases, pediatric cases totaled 259, with 135 males and 124 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
2017**

| Site Groups | Total Cases | Class | | Sex | | Stage | | | | |
|------------------------------|----------------|-------------|------------|-------------|-------------|------------|------------|------------|------------|-------------|
| | | Analytic | NonAn | M | F | In Situ | Local | Regional | Distant | Unstageable |
| Oral Cavity | 65 | 64 | 1 | 32 | 33 | 1 | 20 | 32 | 7 | 4 |
| Nasopharynx | 83 | 76 | 7 | 52 | 31 | 1 | 10 | 49 | 15 | 1 |
| Esophagus | 25 | 25 | 0 | 12 | 13 | 0 | 3 | 14 | 8 | 0 |
| Stomach | 38 | 38 | 0 | 22 | 16 | 1 | 7 | 15 | 12 | 3 |
| Small Intestine | 12 | 12 | 0 | 7 | 5 | 0 | 4 | 0 | 7 | 1 |
| Colon | 143 | 118 | 25 | 69 | 74 | 2 | 10 | 44 | 53 | 9 |
| Rectum & Rectosigmoid | 124 | 116 | 8 | 82 | 42 | 3 | 7 | 71 | 28 | 7 |
| Anus, Canal, Anorectum | 6 | 6 | 0 | 6 | 0 | 0 | 3 | 2 | 1 | 0 |
| Liver | 79 | 75 | 4 | 60 | 19 | 0 | 31 | 7 | 23 | 14 |
| Bile Duct | 8 | 7 | 1 | 6 | 2 | 0 | 1 | 3 | 2 | 1 |
| Gallbladder | 30 | 27 | 3 | 10 | 20 | 0 | 3 | 10 | 9 | 5 |
| Pancreas | 61 | 56 | 5 | 38 | 23 | 0 | 4 | 15 | 32 | 5 |
| Peritoneum , Retroperitoneum | 12 | 11 | 1 | 8 | 4 | 0 | 1 | 2 | 6 | 2 |
| Other Digestive Organs | 3 | 3 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 3 |
| Nose, Nasal, Middle Ear | 11 | 11 | 0 | 9 | 2 | 1 | 3 | 2 | 3 | 2 |
| Larynx | 17 | 16 | 1 | 13 | 4 | 0 | 8 | 7 | 1 | 0 |
| Lung and Bronchus | 76 | 73 | 3 | 59 | 17 | 0 | 10 | 8 | 50 | 5 |
| Trachea, Other Respirat. | 2 | 2 | 0 | 0 | 2 | 0 | 2 | 0 | 0 | 0 |
| Bones & Joints | 63 | 59 | 4 | 35 | 28 | 0 | 14 | 24 | 13 | 8 |
| Soft Tissue | 37 | 35 | 2 | 18 | 19 | 0 | 15 | 9 | 11 | 0 |
| Melanoma - Skin | 10 | 9 | 1 | 7 | 3 | 1 | 2 | 1 | 4 | 1 |
| Other Non-Epithel Skin | 9 | 7 | 2 | 7 | 2 | 0 | 2 | 2 | 0 | 3 |
| Breast | 501 | 481 | 20 | 5 | 496 | 76 | 114 | 204 | 75 | 12 |
| Cervix Uteri | 29 | 28 | 1 | 0 | 29 | 4 | 8 | 8 | 6 | 2 |
| Corpus uteri | 106 | 100 | 6 | 0 | 106 | 0 | 45 | 30 | 16 | 9 |
| Ovary | 45 | 42 | 3 | 0 | 45 | 2 | 2 | 7 | 25 | 6 |
| Vagina | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 |
| Vulva | 7 | 7 | 0 | 0 | 7 | 0 | 3 | 3 | 0 | 1 |
| Prostate | 58 | 57 | 1 | 58 | 0 | 0 | 24 | 12 | 18 | 3 |
| Testis | 26 | 24 | 2 | 26 | 0 | 0 | 12 | 8 | 4 | 0 |
| Bladder | 64 | 58 | 6 | 50 | 14 | 21 | 22 | 6 | 6 | 3 |
| Kidney, Renal Pelvis | 89 | 82 | 7 | 47 | 42 | 0 | 40 | 22 | 18 | 2 |
| Other Urinary Organs | 1 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| Eye & Orbit | 25 | 24 | 1 | 13 | 12 | 0 | 7 | 11 | 2 | 4 |
| Brain , CNS | 173 | 166 | 7 | 73 | 100 | 0 | 71 | 40 | 20 | 35 |
| Thyroid | 279 | 259 | 20 | 63 | 216 | 4 | 132 | 93 | 7 | 23 |
| Other Endocrine | 43 | 43 | 0 | 26 | 17 | 0 | 15 | 3 | 10 | 15 |
| Hodgkin Disease | 139 | 122 | 17 | 75 | 64 | 0 | 18 | 25 | 73 | 6 |
| Non-Hodgkin Lymphoma | 219 | 194 | 25 | 129 | 90 | 1 | 36 | 27 | 116 | 14 |
| Multiple Myeloma | 22 | 20 | 2 | 14 | 8 | 0 | 0 | 0 | 20 | 0 |
| Leukemia | 251 | 227 | 24 | 136 | 115 | 0 | 0 | 0 | 226 | 1 |
| Mesothelioma | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| Kaposi Sarcoma | 6 | 6 | 0 | 5 | 1 | 0 | 0 | 1 | 0 | 5 |
| Miscellaneous | 85 | 81 | 4 | 49 | 36 | 0 | 6 | 3 | 52 | 20 |
| Unknown or ill-Defined | 25 | 24 | 1 | 14 | 11 | 3 | 10 | 6 | 1 | 4 |
| Total | 3109 | 2893 | 216 | 1340 | 1769 | 122 | 725 | 827 | 980 | 239 |

**TABLE 5
ANALYTIC CASES SEEN AT KFSH&RC BY SITE AND AGE
2016**

| 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 | 2 | 3 | 2 | 1 | 3 | 4 | 3 | 6 | 10 | 8 | 6 | 3 | 4 | 5 | 3 | 3 | 66 |
| Nasopharynx | 0 | 0 | 0 | 5 | 0 | 4 | 5 | 8 | 7 | 10 | 14 | 9 | 2 | 4 | 5 | 0 | 1 | 0 | 74 |
| Esophagus | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 1 | 1 | 0 | 1 | 4 | 2 | 4 | 4 | 4 | 2 | 25 |
| Stomach | 0 | 0 | 0 | 0 | 2 | 1 | 2 | 4 | 1 | 3 | 5 | 3 | 8 | 4 | 2 | 1 | 1 | 1 | 38 |
| Small intestine | 0 | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 4 | 0 | 0 | 0 | 12 |
| Colon | 0 | 0 | 0 | 1 | 1 | 0 | 2 | 4 | 12 | 11 | 21 | 13 | 17 | 17 | 7 | 3 | 2 | 3 | 114 |
| Rectum & rectosigmoid | 0 | 0 | 0 | 1 | 0 | 3 | 2 | 3 | 8 | 14 | 20 | 23 | 16 | 13 | 7 | 3 | 1 | 2 | 116 |
| Anus,anal canal,anorectum | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 2 | 1 | 0 | 0 | 6 |
| Liver | 1 | 0 | 0 | 0 | 2 | 0 | 1 | 3 | 6 | 3 | 12 | 6 | 11 | 14 | 15 | 5 | 2 | 1 | 82 |
| Gallbladder | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 3 | 3 | 3 | 3 | 1 | 1 | 2 | 2 | 0 | 19 |
| Bile ducts | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 2 | 0 | 4 | 0 | 0 | 0 | 0 | 8 |
| Pancreas | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 4 | 4 | 9 | 13 | 8 | 7 | 4 | 1 | 1 | 56 |
| Peritoneum, Retroperitoneum | 1 | 0 | 0 | 1 | 2 | 1 | 0 | 1 | 0 | 0 | 0 | 2 | 3 | 0 | 0 | 0 | 0 | 0 | 11 |
| Other digestive | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 7 |
| Nasal cavity,sinus,ear | 0 | 1 | 0 | 0 | 1 | 0 | 2 | 2 | 2 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 11 |
| Larynx | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 3 | 3 | 1 | 3 | 2 | 1 | 1 | 16 |
| Lung/bronchus | 0 | 0 | 0 | 0 | 1 | 0 | 5 | 1 | 1 | 8 | 8 | 12 | 14 | 8 | 3 | 6 | 5 | 1 | 73 |
| Leukemia | 31 | 25 | 19 | 27 | 15 | 18 | 11 | 15 | 15 | 24 | 13 | 20 | 9 | 10 | 3 | 0 | 1 | 1 | 257 |
| Myeloma | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 2 | 2 | 3 | 2 | 2 | 2 | 3 | 0 | 0 | 20 |
| Other hematopoietic | 3 | 0 | 1 | 1 | 0 | 2 | 0 | 1 | 2 | 3 | 1 | 2 | 1 | 1 | 1 | 1 | 0 | 0 | 20 |
| Bone | 1 | 2 | 15 | 10 | 12 | 7 | 3 | 0 | 0 | 0 | 2 | 1 | 1 | 2 | 1 | 2 | 0 | 0 | 59 |
| Soft tissue | 3 | 2 | 3 | 2 | 2 | 3 | 2 | 2 | 1 | 3 | 6 | 0 | 2 | 0 | 0 | 1 | 2 | 1 | 35 |
| Melanoma of skin | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 2 | 0 | 1 | 0 | 2 | 1 | 0 | 0 | 0 | 9 |
| Kaposi sarcoma | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 2 | 1 | 0 | 0 | 6 |
| Other skin ca | 0 | 0 | 0 | 1 | 1 | 2 | 1 | 1 | 0 | 1 | 4 | 2 | 6 | 1 | 1 | 3 | 1 | 6 | 31 |
| Breast | 0 | 0 | 0 | 0 | 3 | 9 | 46 | 56 | 61 | 71 | 86 | 50 | 49 | 21 | 14 | 7 | 5 | 3 | 481 |
| Cervix uteri | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 2 | 3 | 7 | 3 | 5 | 0 | 1 | 3 | 0 | 0 | 1 | 28 |
| Corpus uteri | 0 | 0 | 0 | 0 | 1 | 0 | 3 | 4 | 5 | 6 | 11 | 15 | 25 | 12 | 11 | 4 | 1 | 2 | 100 |
| Ovary | 0 | 0 | 0 | 2 | 4 | 1 | 1 | 2 | 4 | 4 | 3 | 2 | 5 | 8 | 4 | 0 | 1 | 1 | 42 |
| Vagina | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| Vulva | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 1 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 7 |
| Prostate | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 5 | 12 | 8 | 14 | 10 | 4 | 1 | 57 |
| Testis | 1 | 1 | 0 | 2 | 4 | 5 | 2 | 5 | 1 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 24 |
| Bladder | 2 | 1 | 0 | 1 | 0 | 1 | 0 | 5 | 5 | 6 | 8 | 6 | 7 | 9 | 4 | 2 | 0 | 1 | 58 |
| Kidney and renal pelvis | 11 | 4 | 0 | 0 | 3 | 1 | 3 | 6 | 5 | 7 | 8 | 14 | 8 | 5 | 7 | 0 | 0 | 0 | 82 |
| Other urinary | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Eye | 16 | 3 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 24 |
| Brain, CNS | 12 | 9 | 10 | 6 | 10 | 10 | 11 | 16 | 13 | 8 | 19 | 13 | 10 | 8 | 2 | 5 | 2 | 2 | 166 |
| Thyroid | 0 | 0 | 2 | 4 | 13 | 26 | 37 | 41 | 35 | 31 | 18 | 15 | 12 | 11 | 8 | 4 | 1 | 1 | 259 |
| Other endocrine | 7 | 1 | 1 | 0 | 4 | 5 | 8 | 4 | 2 | 3 | 2 | 3 | 1 | 0 | 2 | 0 | 0 | 0 | 43 |
| Hodgkin's disease | 1 | 7 | 16 | 24 | 23 | 12 | 19 | 4 | 8 | 6 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 122 |
| Non-hodgkin's lymphoma | 3 | 4 | 7 | 7 | 11 | 12 | 19 | 11 | 11 | 24 | 12 | 18 | 19 | 11 | 6 | 4 | 2 | 4 | 185 |
| Unknown or ill-defined | 5 | 3 | 3 | 0 | 2 | 2 | 2 | 3 | 0 | 2 | 5 | 1 | 2 | 3 | 3 | 4 | 1 | 1 | 42 |
| TOTAL | 99 | 63 | 79 | 101 | 122 | 127 | 200 | 214 | 221 | 283 | 310 | 275 | 276 | 198 | 154 | 87 | 44 | 40 | 2893 |

**TABLE 6
ANALYTIC MALE CASES SEEN AT KFSH&RC BY SITE AND AGE
2017**

| 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 | 2 | 2 | 2 | 1 | 1 | 1 | 2 | 1 | 5 | 4 | 5 | 3 | 0 | 3 | 1 | 0 | 33 |
| Nasopharynx | 0 | 0 | 0 | 3 | 0 | 3 | 1 | 6 | 6 | 7 | 9 | 5 | 2 | 2 | 2 | 0 | 1 | 0 | 47 |
| Esophagus | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 2 | 3 | 2 | 2 | 1 | 12 |
| Stomach | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 3 | 0 | 2 | 4 | 1 | 4 | 2 | 1 | 1 | 0 | 1 | 22 |
| Small intestine | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 3 | 0 | 0 | 0 | 7 |
| Colon | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 2 | 5 | 4 | 8 | 8 | 8 | 9 | 4 | 2 | 2 | 1 | 55 |
| Rectum & rectosigmoid | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 1 | 3 | 11 | 14 | 17 | 11 | 7 | 5 | 1 | 1 | 2 | 77 |
| Anus,anal canal,anorectum | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 2 | 1 | 0 | 0 | 6 |
| Liver | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 1 | 5 | 2 | 9 | 6 | 7 | 11 | 13 | 4 | 2 | 1 | 63 |
| Gallbladder | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 7 |
| Bile ducts | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| Pancreas | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 2 | 4 | 6 | 8 | 4 | 4 | 2 | 1 | 0 | 34 |
| Peritoneum, Retroperitoneum | 1 | 0 | 0 | 0 | 2 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 8 |
| Other digestive | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 7 |
| Nasal cavity,sinus,ear | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 2 | 2 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 9 |
| Larynx | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 3 | 3 | 0 | 3 | 1 | 1 | 1 | 13 |
| Lung/Bronchus | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 1 | 0 | 5 | 7 | 10 | 10 | 7 | 3 | 6 | 4 | 1 | 57 |
| Leukemia | 14 | 15 | 11 | 17 | 6 | 8 | 4 | 10 | 9 | 14 | 6 | 10 | 7 | 6 | 3 | 0 | 1 | 1 | 142 |
| Myeloma | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 1 | 1 | 1 | 1 | 0 | 2 | 3 | 0 | 0 | 13 |
| Other hematopoietic | 1 | 0 | 0 | 1 | 0 | 2 | 0 | 1 | 2 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 12 |
| Bone | 1 | 1 | 7 | 7 | 4 | 5 | 2 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 32 |
| Soft tissue | 2 | 0 | 1 | 1 | 2 | 1 | 2 | 1 | 1 | 1 | 2 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 17 |
| Melanoma of skin | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 6 |
| Kaposi sarcoma | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 1 | 1 | 0 | 0 | 5 |
| Other skin ca | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 1 | 4 | 1 | 3 | 1 | 0 | 1 | 1 | 4 | 19 |
| Breast | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 5 |
| Prostate | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 5 | 12 | 8 | 14 | 10 | 4 | 1 | 57 |
| Testis | 1 | 1 | 0 | 2 | 4 | 5 | 2 | 5 | 1 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 24 |
| Bladder | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 4 | 5 | 6 | 6 | 6 | 5 | 6 | 2 | 2 | 0 | 1 | 46 |
| Kidney and renal pelvis | 5 | 1 | 0 | 0 | 2 | 0 | 1 | 4 | 2 | 4 | 5 | 4 | 7 | 3 | 3 | 0 | 0 | 0 | 41 |
| Other urinary | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Eye | 7 | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12 |
| Brain ,CNS | 4 | 5 | 5 | 2 | 7 | 5 | 6 | 6 | 4 | 1 | 8 | 1 | 6 | 3 | 1 | 4 | 2 | 1 | 71 |
| Thyroid | 0 | 0 | 1 | 0 | 1 | 6 | 4 | 12 | 8 | 9 | 1 | 3 | 3 | 7 | 2 | 0 | 0 | 1 | 58 |
| Other endocrine | 3 | 1 | 1 | 0 | 1 | 3 | 6 | 1 | 2 | 1 | 2 | 3 | 1 | 0 | 1 | 0 | 0 | 0 | 26 |
| Hodgkin disease | 1 | 5 | 10 | 14 | 12 | 5 | 10 | 2 | 4 | 4 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 69 |
| Non-hodgkin lymphoma | 2 | 3 | 3 | 6 | 8 | 5 | 12 | 8 | 9 | 16 | 6 | 9 | 10 | 5 | 4 | 2 | 2 | 1 | 111 |
| Unknown or ill-defined | 3 | 0 | 3 | 0 | 1 | 2 | 2 | 0 | 0 | 0 | 2 | 1 | 2 | 1 | 0 | 2 | 1 | 1 | 21 |
| TOTAL | 46 | 35 | 44 | 60 | 57 | 55 | 64 | 76 | 77 | 106 | 117 | 111 | 125 | 94 | 79 | 52 | 28 | 21 | 1247 |

**TABLE 7
ANALYTIC FEMALE CASES SEEN AT KFSH&RC BY SITE AND AGE
2017**

| 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 | 1 | 0 | 0 | 2 | 3 | 1 | 5 | 5 | 4 | 1 | 0 | 4 | 2 | 2 | 3 | 33 |
| Nasopharynx | 0 | 0 | 0 | 2 | 0 | 1 | 3 | 2 | 0 | 3 | 4 | 4 | 0 | 1 | 1 | 0 | 0 | 0 | 21 |
| Hypopharynx | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 6 |
| Esophagus | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 0 | 1 | 3 | 0 | 1 | 2 | 2 | 1 | 13 |
| Stomach | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 2 | 4 | 2 | 1 | 0 | 1 | 0 | 16 |
| Small intestine | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 5 |
| Colon | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 2 | 7 | 7 | 13 | 5 | 9 | 8 | 3 | 1 | 0 | 2 | 59 |
| Rectum & rectosigmoid | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 2 | 5 | 3 | 6 | 6 | 5 | 6 | 2 | 2 | 0 | 0 | 39 |
| Liver | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 1 | 1 | 3 | 0 | 4 | 3 | 2 | 1 | 0 | 0 | 19 |
| Gallbladder | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 3 | 3 | 0 | 1 | 1 | 1 | 0 | 12 |
| Bile ducts | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 6 |
| Pancreas | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | 0 | 3 | 5 | 4 | 3 | 2 | 0 | 1 | 22 |
| Peritoneum, Retroperitoneum | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 3 |
| Nasal cavity,sinus,ear | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| Larynx | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 3 |
| Lung/Bronchus | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 0 | 1 | 3 | 1 | 2 | 4 | 1 | 0 | 0 | 1 | 0 | 16 |
| Other respir & thoracic | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| Leukemia | 17 | 10 | 7 | 10 | 9 | 10 | 7 | 5 | 6 | 10 | 6 | 10 | 2 | 4 | 0 | 0 | 0 | 0 | 113 |
| Myeloma | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 2 | 1 | 2 | 0 | 0 | 0 | 0 | 7 |
| Other hematopoietic | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 8 |
| Bone | 0 | 1 | 8 | 3 | 8 | 2 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 27 |
| Soft tissue | 1 | 2 | 2 | 1 | 0 | 2 | 0 | 1 | 0 | 2 | 4 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 18 |
| Melanoma of skin | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 3 |
| Kaposi sarcoma | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| Other skin ca | 0 | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 3 | 0 | 1 | 2 | 0 | 2 | 12 |
| Breast | 0 | 0 | 0 | 0 | 3 | 9 | 46 | 56 | 61 | 71 | 84 | 50 | 48 | 21 | 14 | 6 | 5 | 2 | 476 |
| Cervix uteri | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 2 | 3 | 7 | 3 | 5 | 0 | 1 | 3 | 0 | 0 | 1 | 28 |
| Corpus uteri | 0 | 0 | 0 | 0 | 1 | 0 | 3 | 4 | 5 | 6 | 11 | 15 | 25 | 12 | 11 | 4 | 1 | 2 | 100 |
| Ovary | 0 | 0 | 0 | 2 | 4 | 1 | 1 | 2 | 4 | 4 | 3 | 2 | 5 | 8 | 4 | 0 | 1 | 1 | 42 |
| Vagina | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| Vulva | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 1 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 7 |
| Bladder | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 2 | 0 | 2 | 3 | 2 | 0 | 0 | 0 | 12 |
| Kidney and renal pelvis | 6 | 3 | 0 | 0 | 1 | 1 | 2 | 2 | 3 | 3 | 3 | 10 | 1 | 2 | 4 | 0 | 0 | 0 | 41 |
| Eye | 9 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 12 |
| Brain,CNS | 8 | 4 | 5 | 4 | 3 | 5 | 5 | 10 | 9 | 7 | 11 | 12 | 4 | 5 | 1 | 1 | 0 | 1 | 95 |
| Thyroid | 0 | 0 | 1 | 4 | 12 | 20 | 33 | 29 | 27 | 22 | 17 | 12 | 9 | 4 | 6 | 4 | 1 | 0 | 201 |
| Other endocrine | 4 | 0 | 0 | 0 | 3 | 2 | 2 | 3 | 0 | 2 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 17 |
| Hodgkin disease | 0 | 2 | 6 | 10 | 11 | 7 | 9 | 2 | 4 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 53 |
| Non-hodgkin lymphoma | 1 | 1 | 4 | 1 | 3 | 7 | 7 | 3 | 2 | 8 | 6 | 9 | 9 | 6 | 2 | 2 | 0 | 3 | 74 |
| Unknown or ill-defined | 2 | 3 | 0 | 0 | 1 | 0 | 0 | 3 | 0 | 2 | 3 | 0 | 0 | 2 | 3 | 2 | 0 | 0 | 21 |
| TOTAL | 53 | 28 | 35 | 41 | 65 | 72 | 136 | 138 | 144 | 177 | 193 | 164 | 151 | 104 | 75 | 35 | 16 | 19 | 1646 |

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 2017 analytic cases exhibit significant differences in trends from those of the U.S.A when compared to the data published in Cancer Facts & Figures - 2017, by the American Cancer Society:

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

| SITE | KFSH&RC 2017 Analytics | USA 2017 Estimates |
|----------------------|---------------------------|-----------------------|
| BREAST | 18% | 15.11% |
| THYROID | 10% | 3.37% |
| LEUKEMIA | 10% | 3.68% |
| NON-HODGKIN LYMPHOMA | 7.5% | 4.28% |
| BRAIN | 5.8% | 1.41% |
| HODGKIN LYMPHOMA | 5% | 0.49% |
| COLON | 5% | 5.66% |
| RECTUM, RECOSIGMOID | 4.5% | 2.36% |
| UTERUS | 3.4% | 0.21% |
| KIDNEY | 3.2% | 3.79% |
| LIVER | 3.1% | 2.41% |

Breast - The most common malignancy seen at KFSH&RC is breast cancer, comprising 18% of all cases, as compared to 15.11% 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.

Thyroid – 10% of all malignancies in KFSH&RC are thyroid cancer, much higher than in the West, it accounts for only 3.37% of all cases in the U.S.A.

Leukemia - The most striking feature is the high crude relative frequency of leukemia cases, 10% of all cases seen at KFSH&RC, as compared to 3.68% of all neoplasms diagnosed in the U.S.A. The male/female ratio is 1.1:1. It is the most common malignancy seen in males and third most common malignancy in females. It is also the most common malignancy among pediatric cases.

Non-Hodgkin Lymphoma - Cases of non-Hodgkin's lymphoma account for 7.5% of all cases. In the U.S.A., NHL accounts for only 4.28% of all cancers.

Brain, CNS - Primary malignant neoplasms of the brain and CNS account for 5.8% of all malignancies. This is much higher than in the U.S.A., with only 1.4% of all cases.

Hodgkin Lymphoma – The incidence of Hodgkin’s lymphoma is comparatively more frequent at KFSH&RC than in Western countries. In the U.S.A., it constitutes 0.5% of all cancers, compared to 5% at KFSH&RC.

Colon – The relative frequency of Colon cases at KFSH&RC is 5% as compared to the West recorded as 5.66%.

Rectum, Rectosigmoid – A crude relative frequency rate was also noted in cancer of Rectum. In Western countries it accounts for 2.36% of all cancers, whereas at KFSH&RC represents 4.5% of the cases.

Uterus - The relative frequency of Uterus cases at KFSH&RC is 3.4% as compared to the West recorded as 0.21%.

Kidney & renal pelvis – frequency of Kidney & Renal Pelvis malignancies in Western Countries is 3.8%, while in KFSH&RC it accounts for 3.2% of all cancers.

Liver -The relative frequency of Liver cases at KFSH&RC is 3.1% as compared to the West recorded as 2.4%.

FIGURE 10
DISTRIBUTION OF 20 MOST COMMON MALIGNANCIES
2017 ANALYTIC CASES (TOTAL CASES = 2,893)

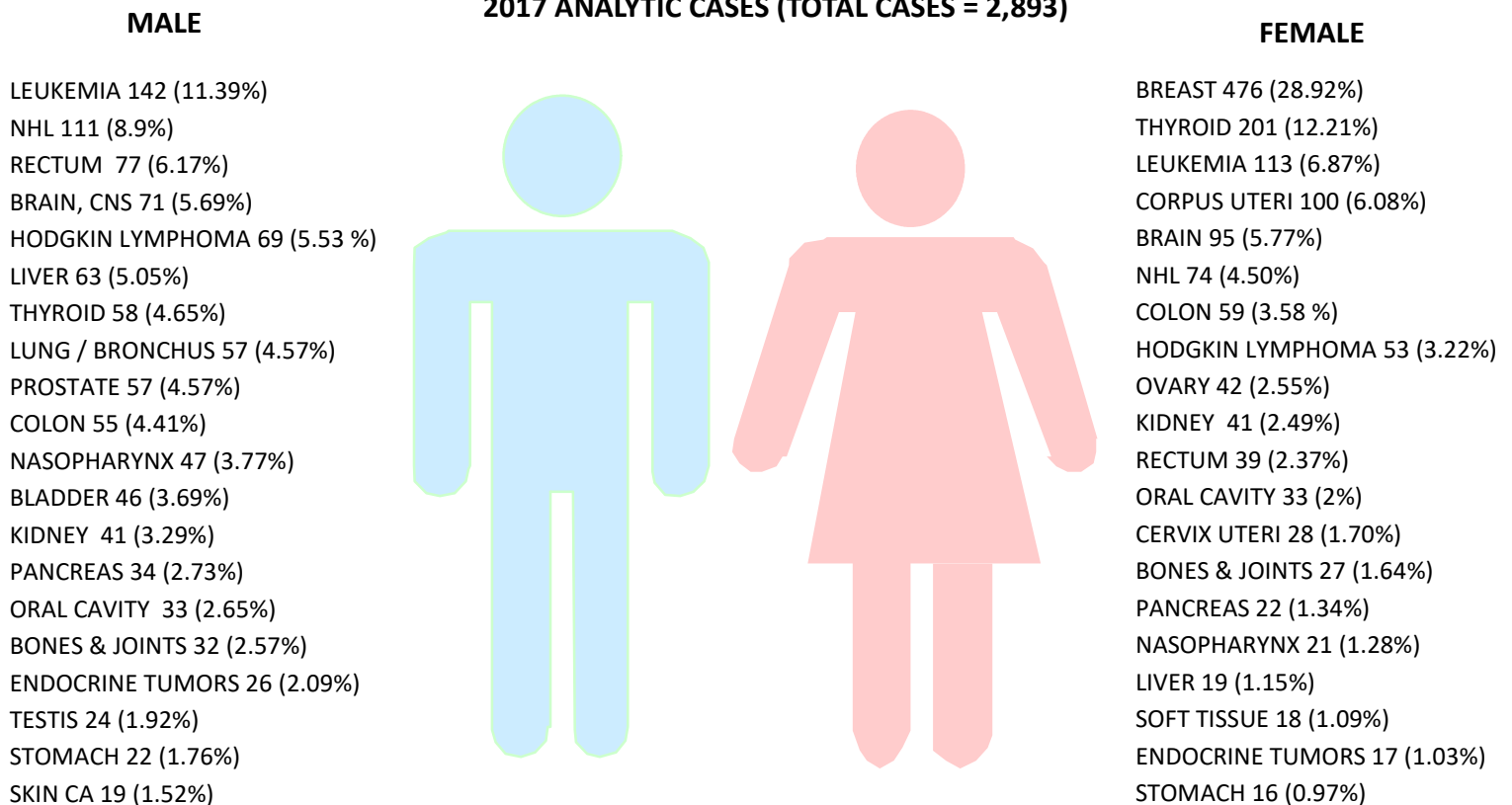


FIGURE 11
DISTRIBUTION OF MOST COMMON PEDIATRIC MALIGNANCIES
2017 ANALYTIC CASES (TOTAL CASES= 241)

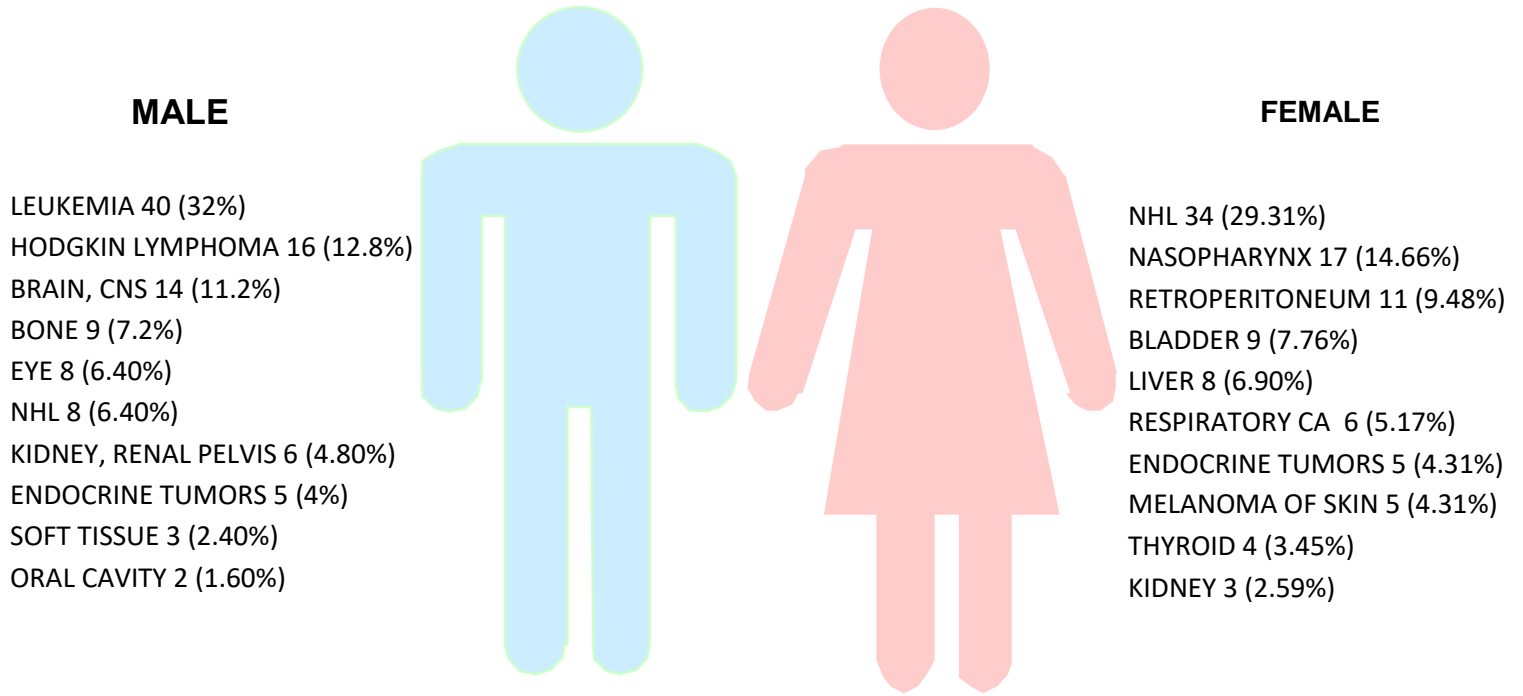


FIGURE 12
DISTRIBUTION OF MOST COMMON PEDIATRIC MALIGNANCIES BY HISTOLOGY
2017 ANALYTIC CASES (TOTAL CASES= 241)

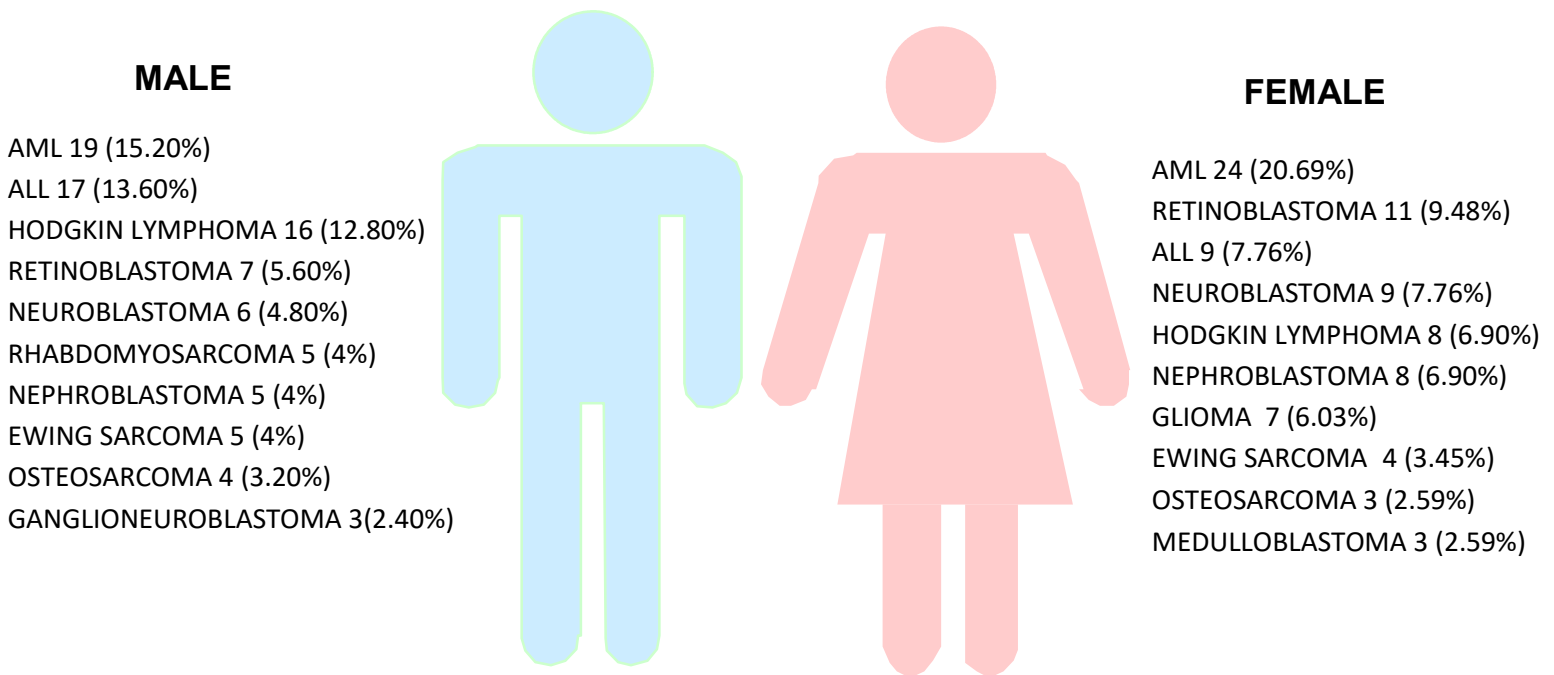


TABLE 9
PRIMARY SITE TABLE
(INCLUDES MULTIPLE PRIMARIES)
2017

| SITE | HISTOLOGY (NOS - Not Otherwise Specified) | ALL CASES | ADULTS | | PEADIATRICS | |
|-------------------------------|--|--------------|--------------|--------------|-------------|------------|
| | | | MALE | FEMALE | MALE | FEMALE |
| | | 3,109 | 1,205 | 1,645 | 135 | 124 |
| TONGUE | | 26 | 14 | 12 | 0 | 0 |
| | Adenoid Cystic Carcinoma | 1 | 0 | 1 | 0 | 0 |
| | Squamous Cell Carcinoma In Situ | 1 | 0 | 1 | 0 | 0 |
| | Squamous Cell Carcinoma Keratinizing | 1 | 1 | 0 | 0 | 0 |
| | Squamous Cell Carcinoma Nos | 23 | 13 | 10 | 0 | 0 |
| GUM | | 1 | 1 | 0 | 0 | 0 |
| | Squamous Cell Carcinoma Nos | 1 | 1 | 0 | 0 | 0 |
| FLOOR OF MOUTH | | 5 | 4 | 1 | 0 | 0 |
| | Basaloid Squamous Carcinoma In situ | 1 | 1 | 0 | 0 | 0 |
| | Squamous Cell Carcinoma In Situ | 1 | 1 | 0 | 0 | 0 |
| | Squamous Cell Carcinoma Nos | 3 | 2 | 1 | 0 | 0 |
| OTHER PARTS OF MOUTH | | 16 | 6 | 10 | 0 | 0 |
| | Adenocarcinoma | 1 | 0 | 1 | 0 | 0 |
| | Basaloid Squamous Cell Carcinoma | 1 | 0 | 1 | 0 | 0 |
| | Mucoepidermoid Carcinoma | 1 | 1 | 0 | 0 | 0 |
| | Squamous Cell Carcinoma Keratinizing | 2 | 2 | 0 | 0 | 0 |
| | Squamous Cell Carcinoma Nos | 11 | 3 | 8 | 0 | 0 |
| SALIVARY GLANDS, MAJOR | | 17 | 5 | 10 | 2 | 0 |
| | Acinar Cell Carcinoma | 3 | 0 | 3 | 0 | 0 |
| | Adenoid Cystic Carcinoma | 2 | 1 | 1 | 0 | 0 |
| | Basaloid Carcinoma | 1 | 1 | 0 | 0 | 0 |
| | Carcinoma In Situ Nos | 1 | 0 | 0 | 1 | 0 |
| | Carcinoma Nos | 2 | 2 | 0 | 0 | 0 |
| | Epithelial-Myoepithelial Carcinoma | 1 | 0 | 1 | 0 | 0 |
| | Invasive Carcinoma Of No Special Type | 1 | 1 | 0 | 0 | 0 |
| | Malignant Myoepithelioma | 3 | 0 | 3 | 0 | 0 |
| | Mucoepidermoid Carcinoma | 1 | 0 | 1 | 0 | 0 |
| | Squamous Cell Carcinoma Nos | 1 | 0 | 1 | 0 | 0 |
| | Synovial Sarcoma | 1 | 0 | 0 | 1 | 0 |
| TONSIL | | 2 | 1 | 1 | 0 | 0 |
| | Squamous Cell Carcinoma Keratinizing | 1 | 0 | 1 | 0 | 0 |
| | Squamous Cell Carcinoma Nos | 1 | 1 | 0 | 0 | 0 |
| NASOPHARYNX | | 74 | 51 | 23 | 0 | 0 |
| | Adenocarcinoma Nos | 3 | 3 | 0 | 0 | 0 |
| | Carcinoma Nos | 26 | 14 | 12 | 0 | 0 |
| | Carcinoma Undifferentiated | 35 | 24 | 11 | 0 | 0 |
| | Squamous Ca Small Nonkerat In Situ | 1 | 1 | 0 | 0 | 0 |
| | Squamous Cell Carcinoma Large Cell Nonkeratinizing | 7 | 7 | 0 | 0 | 0 |
| | Squamous Cell Carcinoma Large Nonkerat In Situ | 1 | 1 | 0 | 0 | 0 |
| | Squamous Cell Carcinoma Nos | 1 | 1 | 0 | 0 | 0 |
| HYPOPHARYNX | | 14 | 7 | 7 | 0 | 0 |
| | Neoplasm Malignant | 2 | 1 | 1 | 0 | 0 |
| | Squamous Cell Carcinoma In Situ | 2 | 1 | 1 | 0 | 0 |
| | Squamous Cell Carcinoma Keratinizing | 2 | 1 | 1 | 0 | 0 |
| | Squamous Cell Carcinoma Large Cell Nonkeratinizing | 2 | 1 | 1 | 0 | 0 |
| | Squamous Cell Carcinoma Nos | 6 | 3 | 3 | 0 | 0 |

| SITE | HISTOLOGY (NOS - Not Otherwise Specified) | ALL CASES | ADULTS | | PEADIATRICS | |
|-----------------------|--|--------------|-----------|-----------|-------------|----------|
| | | | MALE | FEMALE | MALE | FEMALE |
| LIVER | | 77 | 60 | 16 | 0 | 1 |
| | Adenocarcinoma Nos | 4 | 3 | 1 | 0 | 0 |
| | Adenocarcinoma With Mixed Subtypes | 1 | 0 | 1 | 0 | 0 |
| | Carcinoma Nos | 1 | 1 | 0 | 0 | 0 |
| | Gastrointestinal Stromal Sarcoma | 1 | 1 | 0 | 0 | 0 |
| | Hepatocellular Carcinoma | 64 | 53 | 10 | 0 | 1 |
| | Mucin-Producing Adenocarcinoma | 1 | 0 | 1 | 0 | 0 |
| | Neuroendocrine Carcinoma | 1 | 1 | 0 | 0 | 0 |
| | Papillary Adenocarcinoma | 1 | 0 | 1 | 0 | 0 |
| | Squamous Cell Carcinoma Keratinizing | 1 | 0 | 1 | 0 | 0 |
| | Squamous Cell Carcinoma Nos | 2 | 1 | 1 | 0 | 0 |
| BILE DUCT | | 20 | 8 | 12 | 0 | 0 |
| | Adenocarcinoma | 4 | 0 | 4 | 0 | 0 |
| | Carcinoid Tumor | 1 | 1 | 0 | 0 | 0 |
| | Cholangiocarcinoma | 15 | 7 | 8 | 0 | 0 |
| GALLBLADDER | | 20 | 8 | 12 | 0 | 0 |
| | Adenocarcinoma In Tubulovillous Adenoma | 1 | 0 | 1 | 0 | 0 |
| | Adenocarcinoma Nos | 13 | 5 | 8 | 0 | 0 |
| | Adenosquamous Carcinoma | 1 | 0 | 1 | 0 | 0 |
| | Carcinoma Nos | 2 | 2 | 0 | 0 | 0 |
| | Neoplasm Malignant | 2 | 0 | 2 | 0 | 0 |
| | Transitional Cell Carcinoma | 1 | 1 | 0 | 0 | 0 |
| PANCREAS | | 61 | 38 | 23 | 0 | 0 |
| | Adenocarcinoma Nos | 44 | 27 | 17 | 0 | 0 |
| | Atypical Carcinoid Tumor | 2 | 2 | 0 | 0 | 0 |
| | Carcinoid Tumor Nos | 1 | 0 | 1 | 0 | 0 |
| | Carcinoma Nos | 2 | 1 | 1 | 0 | 0 |
| | Invasive Carcinoma Of No Special Type | 3 | 2 | 1 | 0 | 0 |
| | Mucinous Adenocarcinoma | 1 | 1 | 0 | 0 | 0 |
| | Neuroendocrine Carcinoma Nos | 3 | 3 | 0 | 0 | 0 |
| | Pancreatic Endocrine Tumor Malignant | 3 | 1 | 2 | 0 | 0 |
| | Signet Ring Cell Carcinoma | 2 | 1 | 1 | 0 | 0 |
| LARYNX | | 17 | 13 | 4 | 0 | 0 |
| | Squamous Cell Carcinoma Nos | 17 | 13 | 4 | 0 | 0 |
| LUNG, BRONCHUS | | 76 | 59 | 17 | 0 | 0 |
| | Small Cell Carcinoma Nos | 7 | 7 | 0 | 0 | 0 |
| | Acinar Cell Carcinoma | 1 | 1 | 0 | 0 | 0 |
| | Adenocarcinoma In Situ, Mucinous | 1 | 1 | 0 | 0 | 0 |
| | Adenocarcinoma Nos | 33 | 23 | 10 | 0 | 0 |
| | Adenosquamous Carcinoma | 1 | 1 | 0 | 0 | 0 |
| | Atypical Carcinoid Tumor | 1 | 1 | 0 | 0 | 0 |
| | Bronchiolo-Alveolar Adenocarcinoma Nos | 1 | 0 | 1 | 0 | 0 |
| | Carcinoid Tumor Nos | 3 | 1 | 2 | 0 | 0 |
| | Carcinoma Nos | 1 | 1 | 0 | 0 | 0 |
| | Carcinoma Undifferentiated Nos | 1 | 1 | 0 | 0 | 0 |
| | Large Cell Neuroendocrine Carcinoma | 1 | 1 | 0 | 0 | 0 |
| | Mucinous Adenocarcinoma | 2 | 1 | 1 | 0 | 0 |
| | Neoplasm Malignant | 2 | 2 | 0 | 0 | 0 |
| | Non-Small Cell Carcinoma | 5 | 4 | 1 | 0 | 0 |
| | Spindle Cell Sarcoma | 1 | 1 | 0 | 0 | 0 |
| | Squamous Cell Carcinoma Keratinizing Nos | 1 | 1 | 0 | 0 | 0 |
| | Squamous Cell Carcinoma Nos | 14 | 12 | 2 | 0 | 0 |

| SITE | HISTOLOGY (NOS - Not Otherwise Specified) | ALL CASES | ADULTS | | PEADIATRICS | |
|---|--|--------------|-----------|------------|-------------|-----------|
| | | | MALE | FEMALE | MALE | FEMALE |
| OTHER RESPIRATORY & THORACIC | | 2 | 1 | 1 | 0 | 0 |
| | Neurilemoma Malignant | 1 | 0 | 1 | 0 | 0 |
| | Mesothelioma Malignant | 1 | 1 | 0 | 0 | 0 |
| KAPOSI SARCOMA | | 6 | 5 | 1 | 0 | 0 |
| | Kaposi Sarcoma | 6 | 5 | 1 | 0 | 0 |
| BONE, JOINTS, CARTILAGE | | 64 | 24 | 18 | 11 | 11 |
| | Chondroblastic Osteosarcoma | 5 | 2 | 1 | 1 | 1 |
| | Chondrosarcoma Nos | 3 | 2 | 0 | 0 | 1 |
| | Chordoma Nos | 1 | 0 | 1 | 0 | 0 |
| | Dedifferentiated Liposarcoma | 1 | 1 | 0 | 0 | 0 |
| | Epithelioid And Spindle Cell Nevus | 1 | 0 | 1 | 0 | 0 |
| | Epithelioid Sarcoma | 1 | 1 | 0 | 0 | 0 |
| | Ewing Sarcoma | 22 | 7 | 5 | 6 | 4 |
| | Giant Cell Sarcoma (Except Of Bone) | 1 | 1 | 0 | 0 | 0 |
| | Giant Cell Tumor Of Bone Malignant | 6 | 2 | 4 | 0 | 0 |
| | Malignant Tenosynovial Giant Cell Tumor | 1 | 1 | 0 | 0 | 0 |
| | Malignant Tumor Giant Cell Type | 1 | 0 | 1 | 0 | 0 |
| | Meningioma Malignant | 1 | 1 | 0 | 0 | 0 |
| | Osteosarcoma Nos | 12 | 3 | 2 | 4 | 3 |
| | Peripheral Neuroectodermal Tumor | 1 | 0 | 1 | 0 | 0 |
| | Sarcoma Nos | 1 | 1 | 0 | 0 | 0 |
| | Small Cell Sarcoma | 1 | 0 | 1 | 0 | 0 |
| | Spindle Cell Sarcoma | 1 | 0 | 0 | 0 | 1 |
| | Squamous Cell Carcinoma Nos | 2 | 2 | 0 | 0 | 0 |
| | Telangiectatic Osteosarcoma | 2 | 0 | 1 | 0 | 1 |
| BREAST | | 500 | 5 | 495 | 0 | 0 |
| | Adenocarcinoma Nos | 6 | 0 | 6 | 0 | 0 |
| | Adenoid Cystic Carcinoma | 1 | 0 | 1 | 0 | 0 |
| | Carcinoma In Situ Nos | 2 | 0 | 2 | 0 | 0 |
| | Carcinoma Nos | 4 | 0 | 4 | 0 | 0 |
| | Comedocarcinoma Noninfiltrating | 2 | 0 | 2 | 0 | 0 |
| | Cribriform Carcinoma In Situ | 1 | 0 | 1 | 0 | 0 |
| | Cribriform Carcinoma Nos | 1 | 0 | 1 | 0 | 0 |
| | Ductal Carcinoma In Situ Solid Type | 2 | 0 | 2 | 0 | 0 |
| | Infiltrating Duct And Lobular Carcinoma | 1 | 0 | 1 | 0 | 0 |
| | Intraductal Carcinoma Noninfiltrating Nos | 94 | 0 | 94 | 0 | 0 |
| | Intraductal Papillary Adenocarcinoma With Invasion | 1 | 0 | 1 | 0 | 0 |
| | Invasive Carcinoma Of No Special Type | 335 | 5 | 330 | 0 | 0 |
| | Lobular Carcinoma In Situ | 8 | 0 | 8 | 0 | 0 |
| | Lobular Carcinoma Nos | 32 | 0 | 32 | 0 | 0 |
| | Metaplastic Carcinoma Nos | 2 | 0 | 2 | 0 | 0 |
| | Mucinous Adenocarcinoma | 1 | 0 | 1 | 0 | 0 |
| | Neoplasm Malignant | 2 | 0 | 2 | 0 | 0 |
| | Neuroendocrine Carcinoma Nos | 1 | 0 | 1 | 0 | 0 |
| | Noninfiltrating Intraductal Papillary Adenocarcinoma | 1 | 0 | 1 | 0 | 0 |
| | Paget Disease And Intraductal Carcinoma Of Breast | 1 | 0 | 1 | 0 | 0 |
| | Paget Disease Mammary | 1 | 0 | 1 | 0 | 0 |
| | Papillary Carcinoma Nos | 1 | 0 | 1 | 0 | 0 |

| SITE | HISTOLOGY (NOS - Not Otherwise Specified) | ALL CASES | ADULTS | | PEADIATRICS | |
|------------------------------------|--|--------------|-----------|-----------|-------------|----------|
| | | | MALE | FEMALE | MALE | FEMALE |
| ESOPHAGUS | | 25 | 12 | 13 | 0 | 0 |
| | Adenocarcinoma Intestinal Type | 2 | 1 | 1 | 0 | 0 |
| | Adenocarcinoma NOS | 6 | 5 | 1 | 0 | 0 |
| | Mucinous Adenocarcinoma | 1 | 1 | 0 | 0 | 0 |
| | Small Cell Carcinoma | 1 | 0 | 1 | 0 | 0 |
| | Squamous Cell Carcinoma Keratinizing | 1 | 1 | 0 | 0 | 0 |
| | Squamous Cell Carcinoma Nos | 14 | 4 | 10 | 0 | 0 |
| STOMACH | | 38 | 22 | 16 | 0 | 0 |
| | Adenocarcinoma Intestinal Type | 4 | 3 | 1 | 0 | 0 |
| | Adenocarcinoma NOS | 16 | 9 | 7 | 0 | 0 |
| | Carcinoid Tumor | 2 | 1 | 1 | 0 | 0 |
| | Carcinoma Diffuse Type | 2 | 2 | 0 | 0 | 0 |
| | Carcinoma In Situ NOS | 1 | 0 | 1 | 0 | 0 |
| | Gastrointestinal Stromal Sarcoma | 2 | 2 | 0 | 0 | 0 |
| | Peripheral Neuroectodermal Tumor | 1 | 0 | 1 | 0 | 0 |
| | Signet Ring Cell Carcinoma | 10 | 5 | 5 | 0 | 0 |
| SMALL INTESTINE | | 12 | 7 | 5 | 0 | 0 |
| | Adenocarcinoma | 7 | 5 | 2 | 0 | 0 |
| | Carcinoid Tumor | 2 | 0 | 2 | 0 | 0 |
| | Gastrinoma Malignant | 1 | 0 | 1 | 0 | 0 |
| | Gastrointestinal Stromal Tumor | 1 | 1 | 0 | 0 | 0 |
| | Neuroendocrine Carcinoma | 1 | 1 | 0 | 0 | 0 |
| COLON | | 137 | 65 | 72 | 0 | 0 |
| | Adenocarcinoma In Situ | 1 | 1 | 0 | 0 | 0 |
| | Adenocarcinoma Nos | 122 | 58 | 64 | 0 | 0 |
| | Atypical Carcinoid Tumor | 1 | 0 | 1 | 0 | 0 |
| | Carcinoma In Situ Nos | 1 | 0 | 1 | 0 | 0 |
| | Carcinoma Nos | 1 | 0 | 1 | 0 | 0 |
| | Germinoma | 1 | 0 | 1 | 0 | 0 |
| | Mucinous Adenocarcinoma | 8 | 4 | 4 | 0 | 0 |
| | Squamous Intraepithelial Neoplasia Grade III | 1 | 1 | 0 | 0 | 0 |
| | Villous Adenocarcinoma | 1 | 1 | 0 | 0 | 0 |
| RECTUM & RECTOSIGMOID | | 125 | 82 | 42 | 0 | 1 |
| | Adenocarcinoma In Situ In Adenomatous Polyp | 1 | 0 | 1 | 0 | 0 |
| | Adenocarcinoma In Situ, Mucinous | 1 | 1 | 0 | 0 | 0 |
| | Adenocarcinoma In Tubulovillous Adenoma | 1 | 1 | 0 | 0 | 0 |
| | Adenocarcinoma Nos | 108 | 71 | 37 | 0 | 0 |
| | Carcinoma In Situ Nos | 2 | 0 | 2 | 0 | 0 |
| | Mucinous Adenocarcinoma | 5 | 4 | 1 | 0 | 0 |
| | Neoplasm Malignant | 3 | 2 | 1 | 0 | 0 |
| | Neuroendocrine Carcinoma Nos | 2 | 1 | 0 | 0 | 1 |
| | Squamous Cell Carcinoma Nos | 1 | 1 | 0 | 0 | 0 |
| | Villous Adenocarcinoma In Situ | 1 | 1 | 0 | 0 | 0 |
| ANUS, ANAL CANAL, ANORECTUM | | 6 | 6 | 0 | 0 | 0 |
| | Adenocarcinoma | 2 | 2 | 0 | 0 | 0 |
| | Squamous Cell Carcinoma | 4 | 4 | 0 | 0 | 0 |
| OTHER DIGESTIVE | | 8 | 7 | 1 | 0 | 0 |
| | Adenocarcinoma Intestinal Type | 1 | 1 | 0 | 0 | 0 |
| | Adenocarcinoma Nos | 4 | 3 | 1 | 0 | 0 |
| | Atypical Carcinoid Tumor | 1 | 1 | 0 | 0 | 0 |
| | Gastrointestinal Stromal Sarcoma | 2 | 2 | 0 | 0 | 0 |

| SITE | HISTOLOGY (NOS - Not Otherwise Specified) | ALL CASES | ADULTS | | PEADIATRICS | |
|--|---|--------------|-----------|-----------|-------------|-----------|
| | | | MALE | FEMALE | MALE | FEMALE |
| CONNECTIVE, SUBCUTEANEOUS, SOFT TISSUES | | 37 | 15 | 14 | 3 | 5 |
| | Dermatofibrosarcoma NOS | 1 | 1 | 0 | 0 | 0 |
| | Epithelioid Sarcoma | 2 | 0 | 1 | 0 | 1 |
| | Ewing Sarcoma | 1 | 1 | 0 | 0 | 0 |
| | Fibromyxosarcoma | 1 | 1 | 0 | 0 | 0 |
| | Giant Cell Sarcoma (Except Of Bone) | 3 | 2 | 1 | 0 | 0 |
| | Hemangiosarcoma | 2 | 1 | 1 | 0 | 0 |
| | Leiomyosarcoma NOS | 4 | 1 | 3 | 0 | 0 |
| | Liposarcoma NOS | 1 | 0 | 1 | 0 | 0 |
| | Liposarcoma Well Differentiated | 2 | 0 | 2 | 0 | 0 |
| | Giant Cell Tumor | 1 | 0 | 1 | 0 | 0 |
| | Melanoma NOS | 1 | 1 | 0 | 0 | 0 |
| | Myxoid Liposarcoma | 1 | 1 | 0 | 0 | 0 |
| | Pleomorphic Carcinoma | 1 | 1 | 0 | 0 | 0 |
| | Sarcoma NOS | 6 | 3 | 3 | 0 | 0 |
| | Spindle Cell Rhabdomyosarcoma | 1 | 1 | 0 | 0 | 0 |
| | Spindle Cell Sarcoma | 1 | 0 | 1 | 0 | 0 |
| | Synovial Sarcoma NOS | 1 | 1 | 0 | 0 | 0 |
| | Desmoplastic Small Round Cell Tumor | 1 | 0 | 0 | 1 | 0 |
| | Embryonal Rhabdomyosarcoma NOS | 1 | 0 | 0 | 0 | 1 |
| | Ganglioneuroblastoma | 1 | 0 | 0 | 1 | 0 |
| | Malignant Periphral Sheath Tumor | 1 | 0 | 0 | 0 | 1 |
| | Neoplasm Malignant | 1 | 0 | 0 | 0 | 1 |
| | Rhabdomyosarcoma NOS | 2 | 0 | 0 | 1 | 1 |
| SKIN (MELANOMA) | | 10 | 7 | 2 | 0 | 1 |
| | Malignant Melanoma Nos (Except Juvenile Melanoma) | 7 | 5 | 1 | 0 | 1 |
| | Melanoma In Situ | 1 | 0 | 1 | 0 | 0 |
| | Melanoma Nodular | 2 | 2 | 0 | 0 | 0 |
| OTHER SKIN | | 34 | 21 | 13 | 0 | 0 |
| | Basal Cell Adenocarcinoma | 1 | 1 | 0 | 0 | 0 |
| | Basal Cell Carcinoma Nodular | 4 | 2 | 2 | 0 | 0 |
| | Basal Cell Carcinoma Nos | 7 | 4 | 3 | 0 | 0 |
| | Clear Cell Sarcoma Nos (Except Of Kidney) | 1 | 1 | 0 | 0 | 0 |
| | Dermatofibrosarcoma Nos | 5 | 3 | 2 | 0 | 0 |
| | Fibromyxosarcoma | 1 | 1 | 0 | 0 | 0 |
| | Sebaceous Adenocarcinoma | 1 | 1 | 0 | 0 | 0 |
| | Squamous Cell Carcinoma Adenoid | 1 | 1 | 0 | 0 | 0 |
| | Squamous Cell Carcinoma Nos | 13 | 7 | 6 | 0 | 0 |
| EYE, ADNEXA | | 25 | 5 | 1 | 8 | 11 |
| | Basal Cell Carcinoma Nos | 2 | 2 | 0 | 0 | 0 |
| | Malignant Melanoma | 2 | 1 | 1 | 0 | 0 |
| | Rhabdomyosarcoma | 2 | 1 | 0 | 1 | 0 |
| | Squamous Cell Carcinoma | 1 | 1 | 0 | 0 | 0 |
| | Retinoblastoma Differentiated | 2 | 0 | 0 | 1 | 1 |
| | Retinoblastoma Nos | 17 | 0 | 0 | 5 | 7 |
| | Retinoblastoma Undifferentiated | 4 | 0 | 0 | 1 | 3 |

| SITE | HISTOLOGY (NOS - Not Otherwise Specified) | ALL CASES | ADULTS | | PEADIATRICS | |
|---|---|--------------|------------|-----------|-------------|----------|
| | | | MALE | FEMALE | MALE | FEMALE |
| NASAL CAVITY, MIDDLE EAR | | 11 | 8 | 2 | 1 | 0 |
| | Adenocarcinoma With Neuroendocrine Differentiation | 1 | 1 | 0 | 0 | 0 |
| | Carcinoma Nos | 1 | 0 | 1 | 0 | 0 |
| | Carcinoma Undifferentiated | 1 | 1 | 0 | 0 | 0 |
| | Neuroendocrine Carcinoma | 1 | 1 | 0 | 0 | 0 |
| | Olfactory Neuroblastoma | 3 | 1 | 1 | 1 | 0 |
| | Squamous Cell Carcinoma In Situ | 1 | 1 | 0 | 0 | 0 |
| | Squamous Cell Carcinoma Keratinizing | 1 | 1 | 0 | 0 | 0 |
| | Squamous Cell Carcinoma Nos | 2 | 2 | 0 | 0 | 0 |
| MULTIPLE MYELOMA | | 22 | 14 | 8 | 0 | 0 |
| | Multiple Myeloma | 21 | 14 | 7 | 0 | 0 |
| | Plasmacytoma Nos | 1 | 0 | 1 | 0 | 0 |
| VAGINA | | 1 | 0 | 1 | 0 | 0 |
| | Squamous Cell Carcinoma Nos | 1 | 0 | 1 | 0 | 0 |
| VULVA | | 7 | 0 | 7 | 0 | 0 |
| | Epithelioid Sarcoma | 1 | 0 | 1 | 0 | 0 |
| | Paget Disease Extramammary (Except Paget Disease Of Bone) | 1 | 0 | 1 | 0 | 0 |
| | Squamous Cell Carcinoma Keratinizing Nos | 1 | 0 | 1 | 0 | 0 |
| | Squamous Cell Carcinoma Large Cell Nonkeratinizing Nos | 1 | 0 | 1 | 0 | 0 |
| | Squamous Cell Carcinoma Nos | 2 | 0 | 2 | 0 | 0 |
| | Thymoma Malignant Nos | 1 | 0 | 1 | 0 | 0 |
| PROSTATE | | 58 | 58 | 0 | 0 | 0 |
| | Adenocarcinoma Nos | 52 | 52 | 0 | 0 | 0 |
| | Carcinoma Nos | 3 | 3 | 0 | 0 | 0 |
| | Neoplasm Malignant | 2 | 2 | 0 | 0 | 0 |
| | Papillary Transitional Cell Carcinoma | 1 | 1 | 0 | 0 | 0 |
| LYMPH NODES (NON HODGKIN'S LYMPHOMA) | | 210 | 113 | 80 | 9 | 8 |
| | Anaplastic Large Cell Lymphoma T Cell And Null Cell Type | 2 | 2 | 0 | 0 | 0 |
| | Burkitt Lymphoma Nos | 13 | 3 | 3 | 3 | 4 |
| | Composite Hodgkin And Non-Hodgkin Lymphoma | 2 | 2 | 0 | 0 | 0 |
| | Cutaneous T-Cell Lymphoma Nos | 1 | 1 | 0 | 0 | 0 |
| | Follicular Lymphoma Grade 1 | 1 | 0 | 1 | 0 | 0 |
| | Follicular Lymphoma Grade 2 | 3 | 3 | 0 | 0 | 0 |
| | Follicular Lymphoma Grade 3 | 4 | 3 | 1 | 0 | 0 |
| | Follicular Lymphoma Nos | 7 | 6 | 1 | 0 | 0 |
| | Malignant Lymphoma Large B-Cell Diffuse Nos | 63 | 35 | 27 | 0 | 1 |
| | Malignant Lymphoma Non-Hodgkin Nos | 36 | 15 | 20 | 1 | 0 |
| | Malignant Lymphoma Nos | 39 | 20 | 16 | 2 | 1 |
| | Mantle Cell Lymphoma | 1 | 1 | 0 | 0 | 0 |
| | Marginal Zone B-Cell Lymphoma Nos | 1 | 0 | 1 | 0 | 0 |
| | Mature T-Cell Lymphoma Nos | 7 | 4 | 2 | 1 | 0 |
| | Mycosis Fungoides | 24 | 15 | 7 | 0 | 2 |
| | Nk/T-Cell Lymphoma Nasal And Nasal-Type | 1 | 1 | 0 | 0 | 0 |
| | Primary Cutaneous T-Cell Lymphoproliferative Disorder | 2 | 1 | 1 | 0 | 0 |
| | Sezary Syndrome | 1 | 1 | 0 | 0 | 0 |
| | Precursor Cell Lymphoblastic Lymphoma Nos | 2 | 0 | 0 | 2 | 0 |

| SITE | HISTOLOGY (NOS - Not Otherwise Specified) | ALL CASES | ADULTS | | PEADIATRICS | |
|--|--|------------|-----------|------------|-------------|----------|
| | | | MALE | FEMALE | MALE | FEMALE |
| RETROPERITONEUM, PERITONEUM | | 12 | 7 | 4 | 1 | 0 |
| Adenocarcinoma NOS | | 1 | 1 | 0 | 0 | 0 |
| Mucinous Adenocarcinoma | | 1 | 0 | 1 | 0 | 0 |
| Neuroblastoma NOS | | 1 | 0 | 0 | 1 | 0 |
| Differentiated Liposarcoma | | 2 | 1 | 1 | 0 | 0 |
| Liposarcoma NOS | | 1 | 1 | 0 | 0 | 0 |
| Well Differentiated Liposarcoma | | 1 | 1 | 0 | 0 | 0 |
| Sarcoma NOS | | 2 | 0 | 2 | 0 | 0 |
| Spindle Cell Sarcoma | | 2 | 2 | 0 | 0 | 0 |
| Yolk Sac Tumor | | 1 | 1 | 0 | 0 | 0 |
| CERVIX UTERI | | 29 | 0 | 29 | 0 | 0 |
| Squamous Cell Carcinoma In Situ | | 2 | 0 | 2 | 0 | 0 |
| Squamous Intraepithelial Neoplasia Grade III | | 2 | 0 | 2 | 0 | 0 |
| Adenocarcinoma NOS | | 7 | 0 | 7 | 0 | 0 |
| Carcinoma NOS | | 1 | 0 | 1 | 0 | 0 |
| Clear Cell Adenocarcinoma NOS | | 1 | 0 | 1 | 0 | 0 |
| Small Cell Carcinoma NOS | | 1 | 0 | 1 | 0 | 0 |
| Squamous Cell Carcinoma Keratinizing | | 2 | 0 | 2 | 0 | 0 |
| Squamous Large Cell Carcinoma Non-Keratinizing | | 4 | 0 | 4 | 0 | 0 |
| Squamous Cell Carcinoma NOS | | 9 | 0 | 9 | 0 | 0 |
| CORPUS UTERI | | 71 | 0 | 71 | 0 | 0 |
| Adenocarcinoma Endocervical Type | | 1 | 0 | 1 | 0 | 0 |
| Adenocarcinoma Nos | | 20 | 0 | 20 | 0 | 0 |
| Adenocarcinoma With Squamous Metaplasia | | 3 | 0 | 3 | 0 | 0 |
| Adenosarcoma | | 1 | 0 | 1 | 0 | 0 |
| Adenosquamous Carcinoma | | 1 | 0 | 1 | 0 | 0 |
| Carcinoma Nos | | 1 | 0 | 1 | 0 | 0 |
| Carcinosarcoma Embryonal | | 1 | 0 | 1 | 0 | 0 |
| Carcinosarcoma Nos | | 3 | 0 | 3 | 0 | 0 |
| Clear Cell Adenocarcinoma Nos | | 1 | 0 | 1 | 0 | 0 |
| Endometrial Stromal Sarcoma Low Grade | | 1 | 0 | 1 | 0 | 0 |
| Endometrial Stromal Tumor | | 1 | 0 | 1 | 0 | 0 |
| Endometrioid Adenocarcinoma Nos | | 43 | 0 | 43 | 0 | 0 |
| Mullerian Mixed Tumor | | 2 | 0 | 2 | 0 | 0 |
| Neoplasm Malignant | | 2 | 0 | 2 | 0 | 0 |
| Papillary Serous Cystadenocarcinoma | | 3 | 0 | 3 | 0 | 0 |
| Sarcoma Nos | | 1 | 0 | 1 | 0 | 0 |
| Serous Adenofibroma Nos | | 1 | 0 | 1 | 0 | 0 |
| Serous Cystadenocarcinoma Nos | | 3 | 0 | 3 | 0 | 0 |
| Spindle Cell Sarcoma | | 1 | 0 | 1 | 0 | 0 |
| Squamous Cell Carcinoma Large Cell Nonkeratinizing Nos | | 1 | 0 | 1 | 0 | 0 |
| Squamous Cell Carcinoma Nos | | 1 | 0 | 1 | 0 | 0 |
| Stromal Sarcoma Nos | | 1 | 0 | 1 | 0 | 0 |
| Trophoblastic Placenta Malignant | | 1 | 0 | 1 | 0 | 0 |
| THYROID | | 280 | 62 | 216 | 1 | 1 |
| Adenocarcinoma Nos | | 1 | 0 | 1 | 0 | 0 |
| Carcinoma Anaplastic Nos | | 1 | 0 | 1 | 0 | 0 |
| Carcinoma Nos | | 2 | 1 | 1 | 0 | 0 |
| Follicular Adenocarcinoma Nos | | 5 | 1 | 4 | 0 | 0 |
| Follicular Carcinoma Minimally Invasive | | 7 | 2 | 5 | 0 | 0 |
| Follic Thyroid Carcinoma (Ftc), Encapsulated Angoinvasive | | 3 | 0 | 3 | 0 | 0 |
| Inv. Encap.Follicular Variant Of Papillary Thyroid Carcinoma | | 3 | 0 | 3 | 0 | 0 |
| Medullary Carcinoma Nos | | 5 | 3 | 2 | 0 | 0 |
| Oxyphilic Adenocarcinoma | | 1 | 1 | 0 | 0 | 0 |
| Papillary & Follic Ca In Situ | | 1 | 0 | 1 | 0 | 0 |
| Papillary Adenocarcinoma Nos | | 197 | 41 | 155 | 0 | 1 |
| Papillary Carcinoma Columnar Cell | | 8 | 1 | 7 | 0 | 0 |
| Papillary Carcinoma Follicular Variant | | 17 | 1 | 15 | 1 | 0 |
| Papillary Carcinoma In Situ | | 1 | 0 | 1 | 0 | 0 |
| Papillary Carcinoma Nos | | 15 | 4 | 11 | 0 | 0 |
| Papillary Microcarcinoma | | 12 | 7 | 5 | 0 | 0 |
| Inv. Encap. Follic Variant Of Papillary Thyroid Carcinoma | | 1 | 0 | 1 | 0 | 0 |

| SITE | HISTOLOGY (NOS - Not Otherwise Specified) | ALL CASES | ADULTS | | PEADIATRICS | |
|---|--|-----------|-----------|-----------|-------------|----------|
| | | | MALE | FEMALE | MALE | FEMALE |
| UTERUS, NOS | | 12 | 0 | 12 | 0 | 0 |
| Adenosarcoma | | 1 | 0 | 1 | 0 | 0 |
| Carcinoma Nos | | 1 | 0 | 1 | 0 | 0 |
| Carcinosarcoma Nos | | 2 | 0 | 2 | 0 | 0 |
| Choriocarcinoma Nos | | 1 | 0 | 1 | 0 | 0 |
| Endometrial Stromal Sarcoma Nos | | 1 | 0 | 1 | 0 | 0 |
| Epithelioid Leiomyoma | | 1 | 0 | 1 | 0 | 0 |
| Leiomyosarcoma Nos | | 2 | 0 | 2 | 0 | 0 |
| Mullerian Mixed Tumor | | 1 | 0 | 1 | 0 | 0 |
| Neoplasm Malignant | | 1 | 0 | 1 | 0 | 0 |
| Trophoblastic Placenta Malignant | | 1 | 0 | 1 | 0 | 0 |
| OVARY | | 45 | 0 | 45 | 0 | 0 |
| Adenocarcinoma Nos | | 5 | 0 | 5 | 0 | 0 |
| Carcinoma Nos | | 3 | 0 | 3 | 0 | 0 |
| Dysgerminoma | | 3 | 0 | 3 | 0 | 0 |
| Endometrioid Adenocarcinoma Nos | | 2 | 0 | 2 | 0 | 0 |
| Leiomyosarcoma Nos | | 1 | 0 | 1 | 0 | 0 |
| Micropapillary Serous Carcinoma Non-Invasive | | 1 | 0 | 1 | 0 | 0 |
| Mucinous Adenocarcinoma | | 4 | 0 | 4 | 0 | 0 |
| Mucinous Cystadenocarcinoma Nos | | 1 | 0 | 1 | 0 | 0 |
| Mucinous Cystadenoma Borderline In Situ | | 1 | 0 | 1 | 0 | 0 |
| Neoplasm Malignant Serous | | 1 | 0 | 1 | 0 | 0 |
| Adenocarcinofibroma | | 2 | 0 | 2 | 0 | 0 |
| Serous Cystadenocarcinoma Nos | | 13 | 0 | 13 | 0 | 0 |
| Sertoli-Leydig Cell Tumor Poorly Differentiated | | 1 | 0 | 1 | 0 | 0 |
| Sex Cord Stromal Tumor Malignant | | 6 | 0 | 6 | 0 | 0 |
| Yolk Sac Tumor | | 1 | 0 | 1 | 0 | 0 |
| TESTIS | | 25 | 24 | 0 | 2 | 0 |
| Embryonal Carcinoma Nos | | 4 | 4 | 0 | 0 | 0 |
| Germ Cell Tumor Non-Seminomatous | | 1 | 1 | 0 | 0 | 0 |
| Germinoma | | 4 | 4 | 0 | 0 | 0 |
| Mixed Germ Cell Tumor | | 6 | 6 | 0 | 0 | 0 |
| Seminoma In Situ | | 1 | 1 | 0 | 0 | 0 |
| Seminoma Nos | | 7 | 7 | 0 | 0 | 0 |
| Yolk Sac Tumor | | 2 | 1 | 0 | 1 | 0 |
| Rhabdomyosarcoma Nos | | 1 | 0 | 0 | 1 | 0 |
| KIDNEY AND RENAL PELVIS | | 89 | 40 | 33 | 7 | 9 |
| Clear Cell Adenocarcinoma Nos | | 4 | 3 | 1 | 0 | 0 |
| Ewing Sarcoma | | 1 | 1 | 0 | 0 | 0 |
| Leiomyosarcoma Nos | | 1 | 0 | 1 | 0 | 0 |
| Neoplasm Malignant | | 1 | 0 | 1 | 0 | 0 |
| Papillary Adenocarcinoma Nos | | 7 | 6 | 1 | 0 | 0 |
| Papillary Transitional Cell Carcinoma | | 2 | 1 | 1 | 0 | 0 |
| Renal Cell Carcinoma Chromophobe Type | | 8 | 4 | 4 | 0 | 0 |
| Renal Cell Carcinoma Nos | | 48 | 25 | 23 | 0 | 0 |
| Renal Cell Carcinoma Sarcomatoid | | 1 | 0 | 1 | 0 | 0 |
| Clear Cell Sarcoma Of Kidney | | 2 | 0 | 0 | 1 | 1 |
| Nephroblastoma Nos | | 14 | 0 | 0 | 6 | 8 |
| URINARY BLADDER | | 64 | 48 | 13 | 2 | 1 |
| Papillary Carcinoma Nos | | 3 | 3 | 0 | 0 | 0 |
| Papillary Transitional Cell Carcinoma | | 27 | 23 | 4 | 0 | 0 |
| Papillary Transitional Cell Carcinoma Noninvasive | | 15 | 11 | 4 | 0 | 0 |
| Squamous Cell Carcinoma Nos | | 2 | 1 | 1 | 0 | 0 |
| Transitional Cell Carcinoma In Situ | | 3 | 2 | 1 | 0 | 0 |
| Transitional Cell Carcinoma Micropapillary | | 1 | 1 | 0 | 0 | 0 |
| Transitional Cell Carcinoma Nos | | 3 | 6 | 3 | 0 | 0 |
| Urothelial Papilloma Nos | | 1 | 1 | 0 | 0 | 0 |
| Embryonal Rhabdomyosarcoma Nos | | 2 | 0 | 0 | 1 | 1 |
| Rhabdomyosarcoma Nos | | 1 | 0 | 0 | 1 | 0 |

| SITE | HISTOLOGY (NOS - Not Otherwise Specified) | ALL CASES | ADULTS | | PEADIATRICS | |
|---|---|------------|-----------|-----------|-------------|-----------|
| | | | MALE | FEMALE | MALE | FEMALE |
| BRAIN | | 161 | 58 | 70 | 14 | 19 |
| | Angiomatous Meningioma | 1 | 1 | 0 | 0 | 0 |
| | Astrocytoma Anaplastic | 1 | 0 | 1 | 0 | 0 |
| | Astrocytoma Nos | 3 | 2 | 1 | 0 | 0 |
| | Atypical Meningioma | 2 | 0 | 2 | 0 | 0 |
| | Central Neurocytoma | 1 | 0 | 1 | 0 | 0 |
| | Chordoma Nos | 2 | 1 | 1 | 0 | 0 |
| | Dysembryoplastic Neuroepithelial Tumor | 2 | 1 | 0 | 1 | 0 |
| | Dysplastic Gangliocytoma Of Cerebellum | 1 | 0 | 1 | 0 | 0 |
| | Ependymoma Nos | 3 | 2 | 1 | 0 | 0 |
| | Fibrous Meningioma | 2 | 0 | 2 | 0 | 0 |
| | Ganglioglioma Anaplastic | 1 | 1 | 0 | 0 | 0 |
| | Ganglioglioma Nos | 6 | 2 | 1 | 3 | 0 |
| | Glioblastoma Nos | 35 | 22 | 12 | 1 | 0 |
| | Glioma Malignant | 20 | 8 | 3 | 1 | 8 |
| | Gliosarcoma | 2 | 0 | 2 | 0 | 0 |
| | Hemangioblastoma | 2 | 0 | 1 | 0 | 1 |
| | Hemangiopericytoma Malignant | 1 | 1 | 0 | 0 | 0 |
| | Leiomyosarcoma Nos | 1 | 0 | 1 | 0 | 0 |
| | Medulloblastoma Nos | 8 | 2 | 1 | 2 | 3 |
| | Meningioma Malignant | 6 | 3 | 3 | 0 | 0 |
| | Meningioma Nos | 27 | 1 | 25 | 0 | 1 |
| | Myxopapillary Ependymoma | 1 | 1 | 0 | 0 | 0 |
| | Neoplasm Malignant | 4 | 2 | 1 | 0 | 1 |
| | Neurilemoma Nos | 7 | 2 | 5 | 0 | 0 |
| | Oligodendroblastoma [Obs] | 1 | 0 | 1 | 0 | 0 |
| | Oligodendroglioma Anaplastic | 1 | 1 | 0 | 0 | 0 |
| | Oligodendroglioma Nos | 8 | 5 | 2 | 0 | 1 |
| | Pleomorphic Xanthoastrocytoma | 2 | 0 | 1 | 1 | 0 |
| | Psammomatous Meningioma | 1 | 0 | 1 | 0 | 0 |
| | Ependymoma Anaplastic | 4 | 0 | 0 | 1 | 3 |
| | Neuroblastoma Nos | 3 | 0 | 0 | 2 | 1 |
| | Pilocytic Astrocytoma | 2 | 0 | 0 | 2 | 0 |
| OTHER NERVOUS SYSTEM | | 12 | 1 | 11 | 0 | 0 |
| | Atypical Meningioma | 2 | 1 | 1 | 0 | 0 |
| | Fibrous Meningioma | 2 | 0 | 2 | 0 | 0 |
| | Malignant Meningioma | 1 | 0 | 1 | 0 | 0 |
| | Meningioma Nos | 6 | 0 | 6 | 0 | 0 |
| | Meningothelial Meningioma | 1 | 0 | 1 | 0 | 0 |
| OTHER ENDOCRINE GLANDS | | 43 | 21 | 13 | 5 | 4 |
| | Adenoma Nos | 6 | 1 | 5 | 0 | 0 |
| | Adrenal Cortical Carcinoma | 2 | 1 | 0 | 1 | 0 |
| | Carcinoma Nos | 1 | 0 | 1 | 0 | 0 |
| | Craniopharyngioma | 4 | 3 | 1 | 0 | 0 |
| | Germinoma | 2 | 1 | 0 | 1 | 0 |
| | Glioblastoma Nos | 1 | 0 | 1 | 0 | 0 |
| | Neoplasm Malignant | 3 | 2 | 1 | 0 | 0 |
| | Neuroendocrine Carcinoma Nos | 1 | 1 | 0 | 0 | 0 |
| | Pheochromocytoma Malignant | 1 | 0 | 1 | 0 | 0 |
| | Pineoblastoma | 1 | 1 | 0 | 0 | 0 |
| | Pituitary Adenoma Nos | 11 | 9 | 2 | 0 | 0 |
| | Thymoma Malignant Nos | 1 | 1 | 0 | 0 | 0 |
| | Thymoma Type B2 Malignant | 2 | 1 | 1 | 0 | 0 |
| | Ganglioneuroblastoma | 1 | 0 | 0 | 1 | 0 |
| | Neuroblastoma | 6 | 0 | 0 | 2 | 4 |
| LYMPH NODES (HODGKIN'S LYMPHOMA) | | 139 | 59 | 56 | 16 | 8 |
| | Hodgkin Lymphoma Lymphocyte-Rich | 7 | 3 | 2 | 1 | 1 |
| | Hodgkin Lymphoma Mixed Cellularity Nos | 9 | 5 | 2 | 1 | 1 |
| | Hodgkin Lymphoma Nodular Lymphocyte Predominance | 15 | 6 | 6 | 3 | 0 |
| | Hodgkin Lymphoma Nodular Sclerosis Cellular Phase | 3 | 1 | 1 | 0 | 1 |
| | Hodgkin Lymphoma Nodular Sclerosis Grade 1 | 2 | 2 | 0 | 0 | 0 |
| | Hodgkin Lymphoma Nodular Sclerosis Nos | 62 | 24 | 24 | 10 | 4 |
| | Hodgkin Lymphoma Nos | 41 | 18 | 21 | 1 | 1 |

| SITE | HISTOLOGY (NOS - Not Otherwise Specified) | ALL CASES | ADULTS | | PEADIATRICS | |
|-------------------------------|---|--------------|------------|-----------|-------------|-----------|
| | | | MALE | FEMALE | MALE | FEMALE |
| BONE MARROW | | 279 | 112 | 88 | 43 | 36 |
| | Acute Leukemia | 11 | 4 | 4 | 2 | 1 |
| | Acute Myeloid Leukemia | 56 | 20 | 23 | 7 | 6 |
| | Acute Panmyelosis With Myelofibrosis | 1 | 1 | 0 | 0 | 0 |
| | Acute Promyelocytic Leukemia | 6 | 2 | 3 | 0 | 1 |
| | B Lymphoblastic Leukemia | 9 | 1 | 3 | 3 | 2 |
| | B-Cell Chronic Lymphocytic Leukemia | 14 | 12 | 2 | 0 | 0 |
| | Burkitt Cell Leukemia | 16 | 4 | 2 | 5 | 5 |
| | Chronic Myelogenous Leukemia Bcr/Abl Positive | 1 | 0 | 1 | 0 | 0 |
| | Chronic Myeloid Leukemia Nos | 31 | 10 | 20 | 1 | 0 |
| | Chronic Myelomonocytic Leukemia Nos | 2 | 2 | 0 | 0 | 0 |
| | Hairy Cell Leukemia | 1 | 1 | 0 | 0 | 0 |
| | Langerhans Cell Histiocytosis Nos | 2 | 1 | 0 | 0 | 1 |
| | Leukemia Nos | 67 | 25 | 14 | 11 | 17 |
| | Lymphoid Leukemia Nos | 1 | 1 | 0 | 0 | 0 |
| | Lymphoproliferative Disorder Nos | 1 | 1 | 0 | 0 | 0 |
| | Myelodysplastic Syndrome Nos | 8 | 5 | 2 | 1 | 0 |
| | Myelodysplastic/MyeLoproliferative Neoplasm, Unclassifiable | 5 | 2 | 3 | 0 | 0 |
| | Myeloid Leukemia Nos | 2 | 2 | 0 | 0 | 0 |
| | Myeloid Sarcoma | 2 | 2 | 0 | 0 | 0 |
| | Myelosclerosis With Myeloid Metaplasia | 2 | 2 | 0 | 0 | 0 |
| | Plasma Cell Leukemia | 1 | 1 | 0 | 0 | 0 |
| | Polycythemia Vera | 2 | 1 | 1 | 0 | 0 |
| | Polymorphic Ptld | 1 | 1 | 0 | 0 | 0 |
| | Precursor B-Cell Lymphoblastic Leukemia | 2 | 1 | 0 | 0 | 1 |
| | Precursor Cell Lymphoblastic Leukemia Nos | 24 | 8 | 7 | 7 | 2 |
| | Precursor T-Cell Lymphoblastic Leukemia | 8 | 2 | 3 | 3 | 0 |
| | Juvenile Myelomonocytic Leukemia | 2 | 0 | 0 | 2 | 0 |
| | T-Cell Large Cell Leukemia | 1 | 0 | 0 | 1 | 0 |
| OTHER HEMATOPOIETIC | | 21 | 11 | 5 | 2 | 3 |
| | Essential Thrombocythemia | 5 | 2 | 2 | 1 | 0 |
| | Langerhans Cell Histiocytosis Nos | 2 | 1 | 0 | 1 | 0 |
| | Malignant Melanoma Nos (Except Juvenile Melanoma) | 1 | 0 | 1 | 0 | 0 |
| | Malignant Myoepithelioma | 1 | 1 | 0 | 0 | 0 |
| | Myelodysplastic Syndrome Nos | 8 | 5 | 2 | 0 | 1 |
| | Plasmablastic Lymphoma | 1 | 1 | 0 | 0 | 0 |
| | Polycythemia Vera | 1 | 1 | 0 | 0 | 0 |
| | Neuroblastoma Nos | 2 | 0 | 0 | 0 | 2 |
| UNKNOWN OR III DEFINED | | 45 | 16 | 16 | 8 | 5 |
| | Adenocarcinoma Endocervical Type | 1 | 0 | 1 | 0 | 0 |
| | Adenocarcinoma Nos | 9 | 4 | 5 | 0 | 0 |
| | Basal Cell Carcinoma Nos | 1 | 1 | 0 | 0 | 0 |
| | Carcinoma Nos | 4 | 3 | 1 | 0 | 0 |
| | Clear Cell Sarcoma Nos (Except Of Kidney) | 1 | 0 | 1 | 0 | 0 |
| | Ewing Sarcoma | 3 | 1 | 0 | 1 | 1 |
| | Large B Lymphoma Rising In Multicentric Castleman Disease | 1 | 1 | 0 | 0 | 0 |
| | Leiomyosarcoma Nos | 1 | 0 | 1 | 0 | 0 |
| | Neoplasm Malignant | 2 | 0 | 2 | 0 | 0 |
| | Neuroendocrine Carcinoma Nos | 1 | 1 | 0 | 0 | 0 |
| | Osteosarcoma Nos | 1 | 1 | 0 | 0 | 0 |
| | Pleomorphic Carcinoma | 1 | 1 | 0 | 0 | 0 |
| | Sarcoma Nos | 1 | 1 | 0 | 0 | 0 |
| | Sertoli-Leydig Cell Tumor Poorly Differentiated | 1 | 0 | 1 | 0 | 0 |
| | Small Cell Carcinoma Nos | 2 | 0 | 2 | 0 | 0 |
| | Solid Pseudopapillary Carcinoma | 1 | 0 | 1 | 0 | 0 |
| | Spindle Cell Carcinoma Nos | 1 | 1 | 0 | 0 | 0 |
| | Squamous Cell Carcinoma Nos | 3 | 1 | 1 | 0 | 1 |
| | Dermatofibrosarcoma Nos | 1 | 0 | 0 | 1 | 0 |
| | Desmoplastic Small Round Cell Tumor | 1 | 0 | 0 | 1 | 0 |
| | Ganglioneuroblastoma | 1 | 0 | 0 | 1 | 0 |
| | Neuroblastoma Nos | 3 | 0 | 0 | 1 | 2 |
| | Rhabdomyosarcoma Nos | 2 | 0 | 0 | 2 | 0 |
| | Teratoma Malignant Nos | 1 | 0 | 0 | 1 | 0 |
| | Yolk Sac Tumor | 1 | 0 | 0 | 0 | 1 |

TABLE 10
MULTIPLE PRIMARY SITE TABLE
2017

| PRIMARY SITE 2017 | HISTOLOGY (NOS - Not Otherwise Specified) | OTHER PRIMARIES (PREVIOUS OR CONCURRENT) | ALL CASES | MALE | FEMALE |
|----------------------------------|--|--|-----------|------|--------|
| | | | 73 | 12 | 61 |
| COLON | | | 5 | 2 | 3 |
| Adenocarcinoma | | Rectosigmoid - Adenocarcinoma | 3 | 1 | 2 |
| Adenocarcinoma | | Small intestine - Adenocarcinoma | 2 | 1 | 1 |
| LIVER | | | 1 | 1 | 0 |
| Hepatocellular Carcinoma | | Lung - Sq Cell Carcinoma | 1 | 1 | 0 |
| PANCREAS | | | 1 | 1 | 0 |
| Adenocarcinoma | | Thyroid - Papillary Adenocarcinoma | 1 | 1 | 0 |
| LUNG | | | 1 | 1 | 0 |
| Small Cell Carcinoma | | LN's - Lymphoma | 1 | 1 | 0 |
| BONE | | | 1 | 0 | 1 |
| Epithelioid & Spindle Cell Nevus | | Thyroid - Papillary Adenocarcinoma | 1 | 0 | 1 |
| BONE MARROW | | | 2 | 1 | 1 |
| Acute Myeloid Leukemia | | Bone - Myeloid Sarcoma | 1 | 1 | 0 |
| Chronic Myeloid Leukemia | | Mouth - Sq Cell Carcinoma | 1 | 0 | 1 |
| SKIN | | | 1 | 0 | 1 |
| Mycosis Fungoides | | Skin - Mycosis Fungoides | 1 | 0 | 1 |
| BREAST | | | 49 | 0 | 49 |
| Ductal Carcinoma | | Breast - Ductal Carcinoma | 3 | 0 | 3 |
| Ductal Carcinoma | | Breast - Intraductal Ca NonInfiltrating | 31 | 0 | 31 |
| Ductal Carcinoma | | Breast - Lobular Carcinoma | 2 | 0 | 2 |
| Ductal Carcinoma | | LN's - Small Lymphocytic Lymphoma | 1 | 0 | 1 |
| Ductal Carcinoma | | BM - Myeloma | 1 | 0 | 1 |
| Ductal Carcinoma | | Kidney - Renal Cell Ca | 1 | 0 | 1 |
| Ductal Carcinoma | | Stomach - Peripheral Neuroectodermal Tumor | 1 | 0 | 1 |
| Intraductal Ca NonInfiltrating | | Breast - Intraductal Ca NonInfiltrating | 1 | 0 | 1 |
| Lobular Carcinoma | | Breast - Ductal Carcinoma | 3 | 0 | 3 |
| Lobular Carcinoma | | Breast - Intraductal Ca Noninfiltrating | 2 | 0 | 2 |
| Lobular Carcinoma | | Breast - Lobular Carcinoma | 3 | 0 | 3 |
| CORPUS UTERI | | | 4 | 0 | 4 |
| Cystadenocarcinoma | | Cervix - Carcinoma | 1 | 0 | 1 |
| Sq Cell Carcinoma | | Kidney - Renal Cell Ca | 1 | 0 | 1 |
| Adenocarcinoma | | Uterus - Carcinosarcoma | 1 | 0 | 1 |
| Endometrioid Adenoca | | Ovary - Carcinoma | 1 | 0 | 1 |
| PROSTATE GLAND | | | 1 | 1 | 0 |
| Adenocarcinoma | | Thyroid - Papillary Adenocarcinoma | 1 | 1 | 0 |
| KIDNEY | | | 2 | 2 | 0 |
| Renal Cell Ca | | LN's - Follicular Lymphoma | 1 | 1 | 0 |
| Renal Cell Ca | | Prostate - Adenocarcinoma | 1 | 1 | 0 |
| URINARY BLADDER | | | 2 | 2 | 0 |
| Transitional Cell Ca | | Skin - Mycosis Fungoides | 1 | 1 | 0 |
| Transitional Cell Ca | | Liver - Hepatocellular Ca | 1 | 1 | 0 |
| THYROID | | | 2 | 0 | 2 |
| Papillary Adenocarcinoma | | Nasopharynx - Carcinoma | 1 | 0 | 1 |
| Papillary Adenocarcinoma | | Retroperitoneum - Dedifferentiated Liposarcoma | 1 | 0 | 1 |
| UNKNOWN PRIMARY | | | 1 | 1 | 0 |
| Basal Cell Carcinoma | | Mouth - Sq Cell Carcinoma | 1 | 1 | 0 |

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 2017 (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

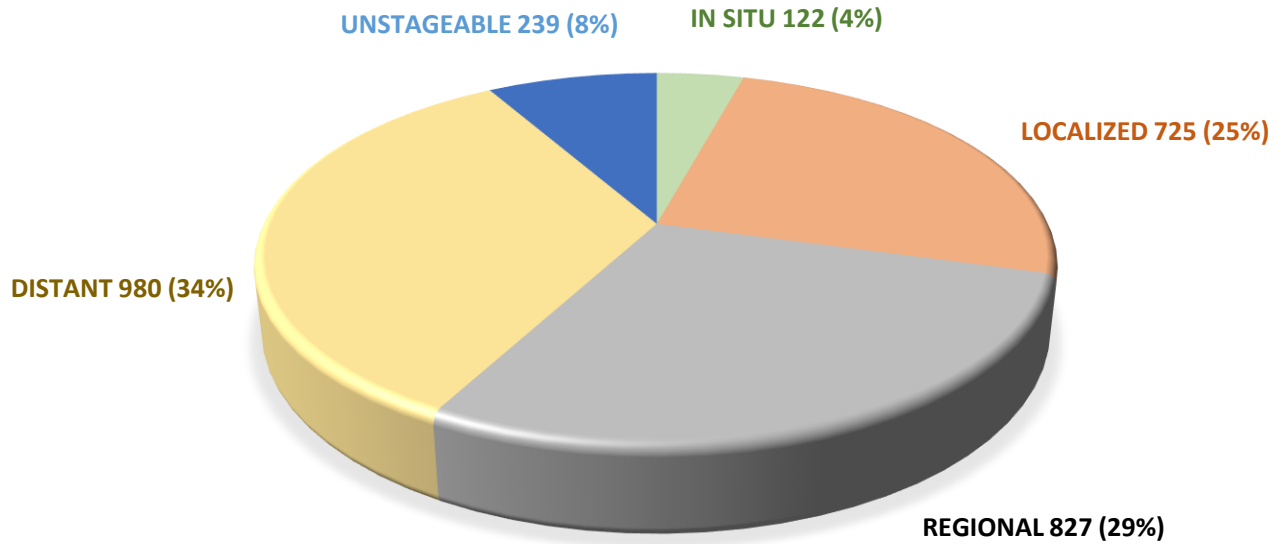
N: Absence or presence and extent of regional lymph node involvement

M: Absence or presence of distant metastasis

Analytic cases of five major sites, i.e., Breast, Thyroid, Non-Hodgkin Lymphoma, Hodgkin Lymphoma and Colon are presented in Table 12 with their clinical group stages and yearly comparative figures from 2012 to 2017.

FIGURE 13

**DISTRIBUTION OF ANALYTIC CASES BY (SEER) STAGE AT DIAGNOSIS
2017 (TOTAL CASES=2,893)**



*Excludes Hematopoietic Primaries (227cases)

**Excludes Unstageable Unknown Primaries (24 cases)

TABLE 12

AJCC CLINICAL TNM STAGE GROUP OF 2012-2017 CASES OF MAJOR SITES *BY YEAR

| BREAST | | | | | | | |
|--------------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------|
| STAGE | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | TOTAL |
| 0 | 14 | 13 | 8 | 6 | 4 | 51 | 96 |
| 0A | 0 | 0 | 0 | 0 | 2 | 0 | 2 |
| 0IS | 0 | 0 | 0 | 1 | 1 | 0 | 2 |
| 1 | 0 | 7 | 12 | 3 | 11 | 13 | 46 |
| 1A | 37 | 27 | 14 | 19 | 11 | 22 | 130 |
| 1B | 0 | 2 | 0 | 0 | 1 | 3 | 6 |
| 1C | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 2 | 0 | 1 | 1 | 0 | 1 | 1 | 4 |
| 2A | 72 | 84 | 50 | 42 | 28 | 42 | 318 |
| 2B | 34 | 61 | 62 | 51 | 23 | 51 | 282 |
| 3 | 0 | 0 | 1 | 1 | 2 | 2 | 6 |
| 3A | 31 | 47 | 43 | 50 | 19 | 31 | 221 |
| 3B | 39 | 50 | 48 | 37 | 11 | 34 | 219 |
| 3C | 8 | 2 | 9 | 10 | 8 | 10 | 47 |
| 4 | 72 | 70 | 52 | 66 | 23 | 48 | 331 |
| 4B | 0 | 0 | 1 | 1 | 1 | 0 | 3 |
| UNSTAGEABLE | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| UNK | 66 | 66 | 30 | 24 | 9 | 77 | 272 |
| TOTAL | 373 | 431 | 331 | 311 | 155 | 386 | 1987 |

| THYROID | | | | | | | |
|-------------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------|
| STAGE | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | TOTAL |
| 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 1 | 167 | 166 | 64 | 85 | 37 | 51 | 570 |
| 1A | 0 | 0 | 0 | 0 | 1 | 4 | 5 |
| 1B | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 2 | 12 | 15 | 8 | 16 | 9 | 15 | 75 |
| 3 | 12 | 8 | 8 | 11 | 11 | 24 | 74 |
| 4 | 2 | 0 | 4 | 3 | 1 | 3 | 13 |
| 4A | 1 | 6 | 0 | 4 | 1 | 2 | 14 |
| 4B | 0 | 0 | 0 | 0 | 2 | 0 | 2 |
| 4C | 3 | 8 | 0 | 8 | 0 | 0 | 19 |
| UNTAGEABLE | 1 | 0 | 0 | 1 | 0 | 3 | 5 |
| UNK | 48 | 40 | 19 | 48 | 17 | 82 | 254 |
| TOTAL | 246 | 243 | 103 | 176 | 79 | 186 | 1033 |

| NHL | | | | | | | |
|-------------|------|------|------|------|------|------|-------|
| STAGE | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | TOTAL |
| 1 | 4 | 6 | 5 | 2 | 1 | 5 | 23 |
| 1A | 27 | 17 | 11 | 11 | 1 | 4 | 71 |
| 1B | 3 | 7 | 7 | 9 | 1 | 5 | 32 |
| 2 | 3 | 2 | 3 | 2 | 1 | 3 | 14 |
| 2A | 16 | 14 | 17 | 15 | 1 | 3 | 66 |
| 2B | 5 | 10 | 5 | 10 | 0 | 3 | 33 |
| 3 | 5 | 2 | 8 | 6 | 1 | 2 | 24 |
| 3A | 10 | 13 | 4 | 11 | 1 | 3 | 42 |
| 3B | 9 | 16 | 5 | 7 | 0 | 5 | 42 |
| 3C | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 4 | 8 | 5 | 12 | 15 | 3 | 14 | 57 |
| 4A | 24 | 17 | 11 | 14 | 0 | 2 | 68 |
| 4B | 31 | 46 | 30 | 25 | 4 | 9 | 145 |
| UNSTAGEABLE | 2 | 1 | 1 | 5 | 2 | 76 | 87 |
| UNK | 6 | 3 | 6 | 5 | 27 | 25 | 72 |
| TOTAL | 153 | 159 | 125 | 138 | 43 | 159 | 777 |

| HODGKIN LYMPHOMA | | | | | | | |
|------------------|------|------|------|------|------|------|-------|
| STAGE | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | TOTAL |
| 1 | 1 | 0 | 1 | 1 | 0 | 1 | 4 |
| 1A | 9 | 8 | 14 | 10 | 0 | 4 | 45 |
| 1B | 0 | 1 | 1 | 0 | 0 | 0 | 2 |
| 2 | 1 | 0 | 3 | 1 | 1 | 4 | 10 |
| 2A | 24 | 17 | 27 | 26 | 0 | 10 | 104 |
| 2B | 13 | 13 | 17 | 7 | 1 | 2 | 53 |
| 3 | 0 | 3 | 6 | 3 | 1 | 3 | 16 |
| 3A | 17 | 14 | 17 | 12 | 0 | 3 | 63 |
| 3B | 11 | 17 | 13 | 7 | 5 | 4 | 57 |
| 4 | 1 | 5 | 5 | 10 | 1 | 9 | 31 |
| 4A | 11 | 3 | 3 | 5 | 0 | 0 | 22 |
| 4B | 28 | 25 | 34 | 19 | 1 | 10 | 117 |
| UNSTAGEABLE | 0 | 0 | 0 | 0 | 3 | 45 | 48 |
| UNK | 1 | 1 | 0 | 2 | 23 | 8 | 35 |
| TOTAL | 117 | 107 | 141 | 103 | 36 | 103 | 607 |

| COLON | | | | | | | |
|-------------|------|------|------|------|------|------|-------|
| STAGE | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | TOTAL |
| 0 | 2 | 1 | 0 | 1 | 0 | 4 | 8 |
| 1 | 1 | 0 | 2 | 2 | 1 | 2 | 8 |
| 2 | 0 | 0 | 0 | 1 | 1 | 2 | 4 |
| 2A | 4 | 7 | 3 | 0 | 12 | 7 | 33 |
| 2B | 0 | 1 | 0 | 0 | 0 | 1 | 2 |
| 2C | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3 | 0 | 0 | 1 | 1 | 1 | 0 | 3 |
| 3A | 0 | 0 | 1 | 1 | 1 | 0 | 3 |
| 3B | 2 | 5 | 4 | 8 | 8 | 17 | 44 |
| 3C | 2 | 0 | 3 | 1 | 1 | 0 | 7 |
| 4 | 3 | 0 | 13 | 21 | 17 | 28 | 82 |
| 4A | 14 | 27 | 5 | 12 | 8 | 0 | 66 |
| 4B | 23 | 26 | 1 | 12 | 0 | 3 | 65 |
| 4C | 0 | 1 | 1 | 1 | 0 | 0 | 3 |
| UNSTAGEABLE | 0 | 0 | 0 | 1 | 0 | 4 | 5 |
| UNK | 49 | 50 | 18 | 31 | 4 | 42 | 194 |
| TOTAL | 101 | 118 | 52 | 93 | 54 | 110 | 528 |

IV. APPENDIX

REQUESTS FOR TUMOR REGISTRY DATA 2017

January

- Patient with Metastatic Breast cancer HER2 treatment with Pretuzumab and progression free survival. Dr. k. Suliman
- KFSHRC experience of patients with Breast Cancer their stage of diagnosis, treatment, prognosis and survival, in all patients thirty years and below thirty years, risk factors, biology of disease. Dr. k. Suliman
- Patient with locally advanced Breast Cancer. Dr. K. Suliman
- To get the permission to obtain the data Breast Cancer registry. Dr. A. Alay
- Multiple myeloma patient number referred to KFSHRC from 2013-2015. Dr. F. Alsharif

February

- MRN's of giant cell tumor patients on Denosumab from 2003-2015. Dr. M. Elshenawy

March

- Number of Cases of low grade Serous ovarian adenocarcinoma till 2013. Dr. M. Elshenawy
 - Number of Cases of uterine Carcinosarcoma till 2013.
 - Number of Cases of uterine sarcoma till 2013
- (All Lymphoma)
MRN list of all NHL+Hodgkin lymphoma seen+ diagnosis as captured.
For cross checking purpose of RAC 2010 2013 cases. Dr. S. Akhtar
- Allogenic SCT patients 2015- audit NRM. Dr. W. Rasheed
Need MRN of deceased patients for all SCT 2015: Age, Co- morbidity score, Disease conditioning.

May

- All donors with +ve serology of 1:640 for Brucella, to trace their recipient If Brucella was acquired within 100 days' post stem cell transplant. Dr. S. Alfraih
 - All Adult post hematopoietic stem cell transplant patients who diagnosed with Brucella serology >1:640 +ve blood culture or stem cell culture.
- Review Cardiotoxicity of Herceptin. Dr. A. Alsayed
- Trastuzumab associated cardiotoxicity in breast Cancer Patients.
- All Lymphoma (all type) NHL/Hodgkin/NOS patients who developed 2nd Cancer (any type/any time). Dr. S. Akhtar

July

- Final analysis of t (8:12) AML. For final publication. Dr. S. Osman
- Relative predictive value of different cancer classification of young Patients with AML. For ASH presentation. Dr. S. Osman
- Giant Cell tumor, Retrospective review doing statistic. Dr. M. Elshenawy
- Prevalence of depression and anxiety among Saudi Brest Cancer Patients. Statistical Analysis. Dr. A. Alsayed

August

- The data is needed for Diseaseome project (RAC# 2110 006). We need to obtain detailed Clinical and pathological information for Saudi/Arab Breast cancer (BC). For the Epidemiological analysis of Saudi BC data since 2000. Dr. M. Aleid
- ALL patients treated with Allogenic HSCT in the last 15 years. To study Outcome of ALL patients who relapse post Allo-SCT and the Ch.Ch at TXP. Dr. A. Hanbali

October

- Review of Cardiac toxicity in Brest Cancer patients receiving Trastuzumab. Retrospective review cardiotoxicity of Trastuzumab. Dr. A. Alsayed
- Colon and rectal Cancer. Dr. A. Alzahrani
- Underwent resection of primary tumor plus metastasectomy (Liver, Lung peritoneum, Ovary).
- Between 01/01/2005-01/06/2017.

November

- GVHD ALL patients + ECP. Dr. M. Shaheen
- Metaplastic breast cancer in last 10 years. Dr. M. Elshenawy
- Malignant thymoma, numbers of such patients, for each year since last 10 years. Dr. E. Devol

December

- The number of patients with soft tissue Sarcoma, metastatic in 2013-2014. Dr. S. Bazarbashi

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.