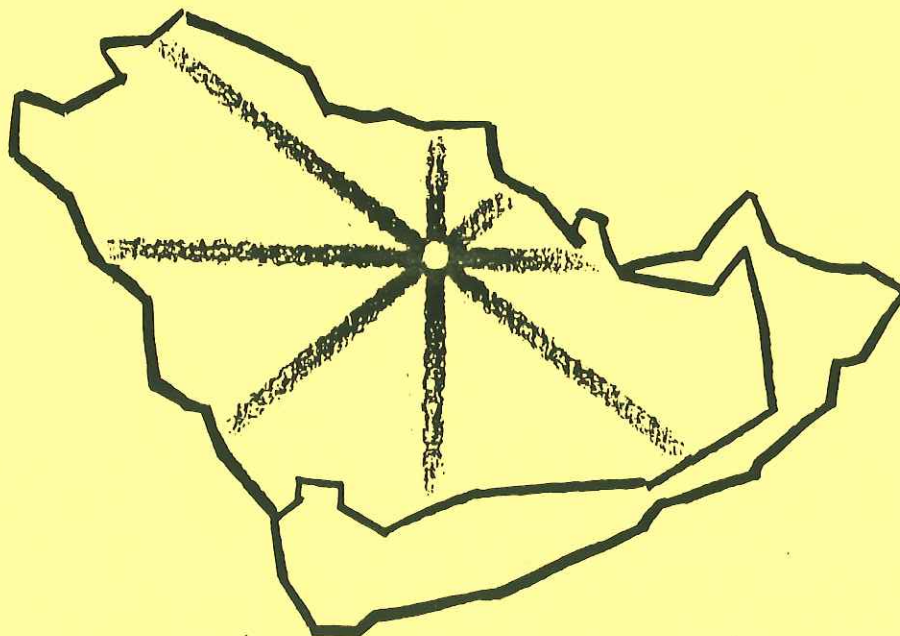


*1986
TUMOR REGISTRY
ANNUAL REPORT*



*KING FAISAL SPECIALIST HOSPITAL
AND RESEARCH CENTER*

1986 ANNUAL REPORT OF THE TUMOR REGISTRY

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I. KING FAISAL SPECIALIST HOSPITAL & RESEARCH CENTRE CANCER PROGRAM ACTIVITIES

Tumor Registry

The KFSH & RC Tumor Registry is a data system designed for the collection, management, and analysis of data on patients with the diagnosis of a malignant disease (cancer). The basic source document is the patient's medical record from which pertinent information is abstracted for use in the Registry.

The primary responsibility of the Registrar is to assure that complete and accurate data are collected and maintained for all cancer patients diagnosed and/or treated within this institution. Records are reviewed for both inpatients (patients admitted to the Hospital) and outpatients (patients seen in a clinic, emergency room, Polyclinic, Family Health, or other hospital facility). The Cancer Registry Abstract is the primary document on which the details of each diagnosed cancer are recorded. Included are pertinent facts such as demographic information, medical history, diagnostic findings, stage of disease, cancer therapy, and follow-up data.

Once the data are collected, the ability and need to utilize them is paramount. One of the major functions of the Tumor Registry is to prepare annual reports which summarize the Registry's cancer experience. In addition, the Registry provides a wide variety of reports at the request of physicians and researchers. The goal of the Tumor Registry of KFSH&RC is to provide the medical staff with data that will enable them to see the results of their diagnostic and therapeutic efforts, and to provide them with information with which to improve the care of the patient with cancer.

Additionally the Registry serves as a resource for continuing education of physicians and paramedical personnel at clinical conferences, medical society meetings, seminars, and discussion groups. The Tumor Registry can serve as the focus for the interdisciplinary approach to cancer management, including surgery, radiotherapy, chemotherapy, immunotherapy, and hormone therapy. The Registry can provide the hospital staff, both medical and administrative, with statistical and analytic summary reports evaluating the cancer problem in the institution. These reports assist administrators with solving their operational problems and assist physicians with the development of comprehensive cancer care.

The registry, under the medical supervision of the Tumor Committee maintains a complete data base of all cancer cases diagnosed and/or treated at KFSH & RC. This database now includes more than 12,000 cases diagnosed from June 1975 through December 31, 1986. Approximately, 1,700 new cases are being added annually.

The data maintained by the registry are available for use by the medical staff for special studies, audits, and research. During 1986, the Registry participated in 40 special studies utilizing data from the computerized file. The use of registry data has steadily increased during the past year and its continued use is encouraged. Please refer to Appendix A for a listing of Special Studies requested in 1986.

Tumor Committee

The multidisciplinary Tumor Committee, which meets monthly, is the policy-making body of the Cancer Program at KFSH & RC. During 1986, the Committee provided professional guidance to the Tumor Registry, initiated the redesign of the Cancer Registry Abstract Form to bring it into conformity with other regional and national registries, and completed the conversion from ICD-9 to ICD-0 coding system. The Committee designed the letter to be used in follow-up of patients referred from other hospitals in the Kingdom. Guidelines were established for the authorship of papers utilizing tumor registry data. Please refer to Appendix B for a listing of the 1986 Tumor Committee Members.

Tumor Board

This educational conference is held once weekly for the benefit of the attending staff, house staff, allied health professionals and visiting attending staff from other hospitals. Cases of various types of malignant disease are selected for presentation on the basis of complexity, unusual manifestations of the disease, or interest. A total of 76 cases were presented in 1986. Each presentation includes an outline of the medical history, physical findings, clinical course, radiographic studies, and pathological interpretations. Following each presentation, there is an informal discussion of the case and a review of pertinent medical literature. Those attending are encouraged to share personal experience in the management of similar cases. Please refer to Appendix C for a summary of cases presented.

Tumor Conference

This didactic conference is held weekly and is attended by the Medical staff and allied health professionals. Speakers are drawn from the KFSH Medical and Research staff as well as from visiting guests. Please refer to Appendix D for listing of the topics presented at Tumor Conference in 1986.

II. DESCRIPTION OF THE PATIENT POPULATION - 1986

The total number of cancer patients accrued in the King Faisal Specialist Hospital and Research Centre Tumor Registry rose significantly in 1986. There were a total of 1749 new cases accessioned, representing a fifteen percent increase over the past years. Of these 1749, 84.6% were analytic cases (defined as cases which were first diagnosed and/or received all or part of their first course of treatment at KFSH & RC).

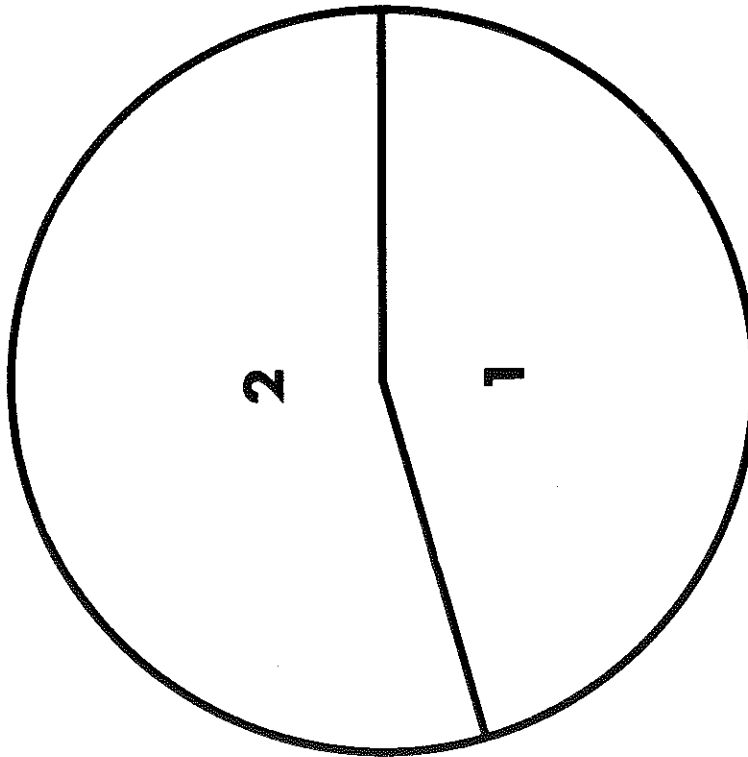
Males predominated with a total of 956 cases (54.7%); females numbered 793 (45.3%). Please refer to Figure 1 for a graphic illustration of the sex distribution of the cases.

Nationality of the patients treated in 1986 was 86.6% (1515 cases) Saudi Arabian and 13.4% (234 cases) Non-Saudi (Figure 2).

Geographically, the referral pattern is mainly from the Central Region with 27.2% (476 patients) coming from Region 1. Patients from Regions 3, 6, and 4 represent 18.6%, 16.4%, and 13.3% respectively. Please refer to Figure 3 for a summary of the geographical distribution of 1986 cases.

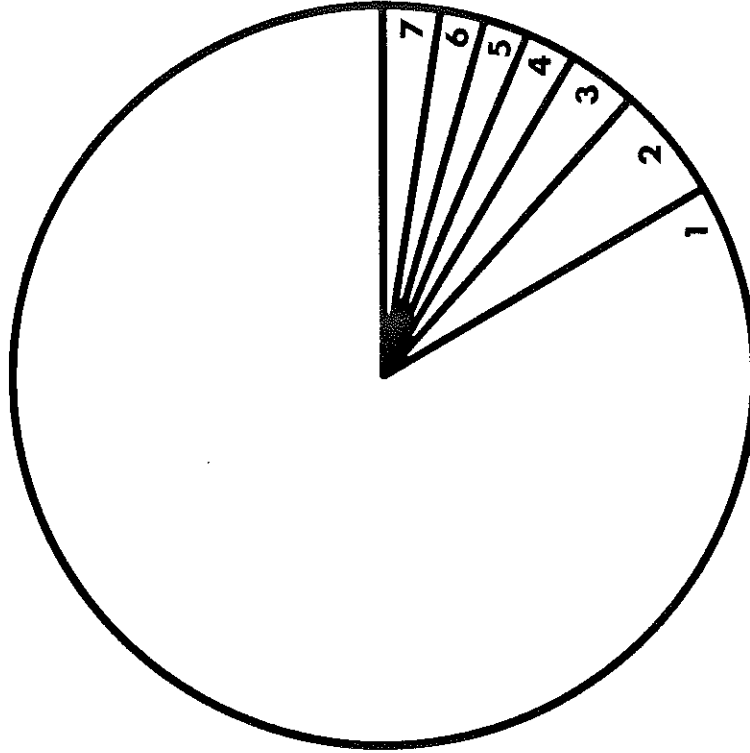
Age distribution of the 1986 cases is illustrated in Figure 4. The mean age is 44; the mode 60; and the median age 46. Patients under the age of 15 made up 13.6% (238 cases) and adults 86.4% (1511 cases).

Figure 1
1986 Distribution by Sex
Based on 1749 Cases Referred to
King Faisal Specialist Hospital



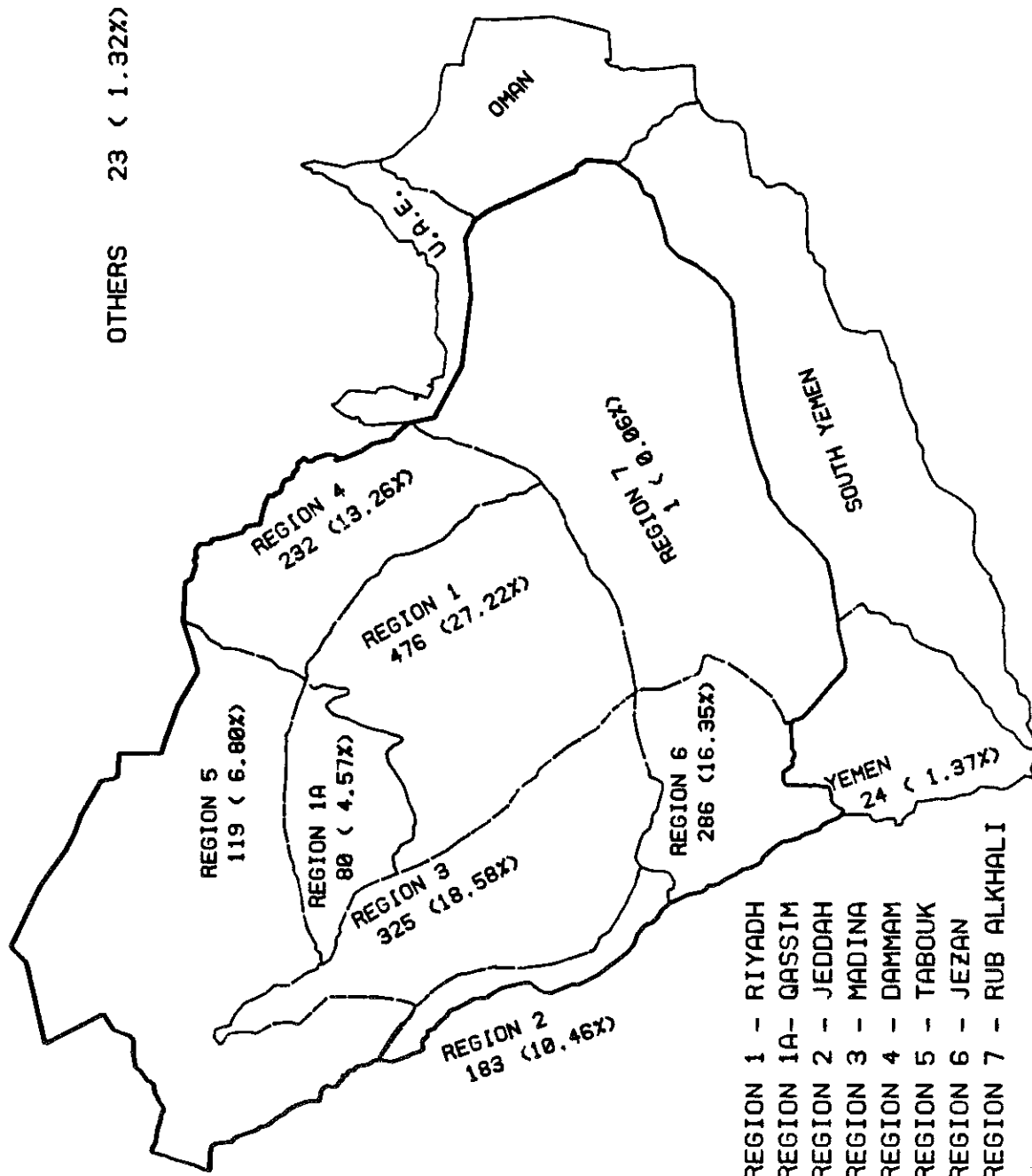
- 1) Males 956 Cases (54.7%)
- 2) Females 793 Cases (45.3%)

Figure 2
1986 Distribution by Nationality
Based on 1749 Cases Referred to
King Faisal Specialist Hospital



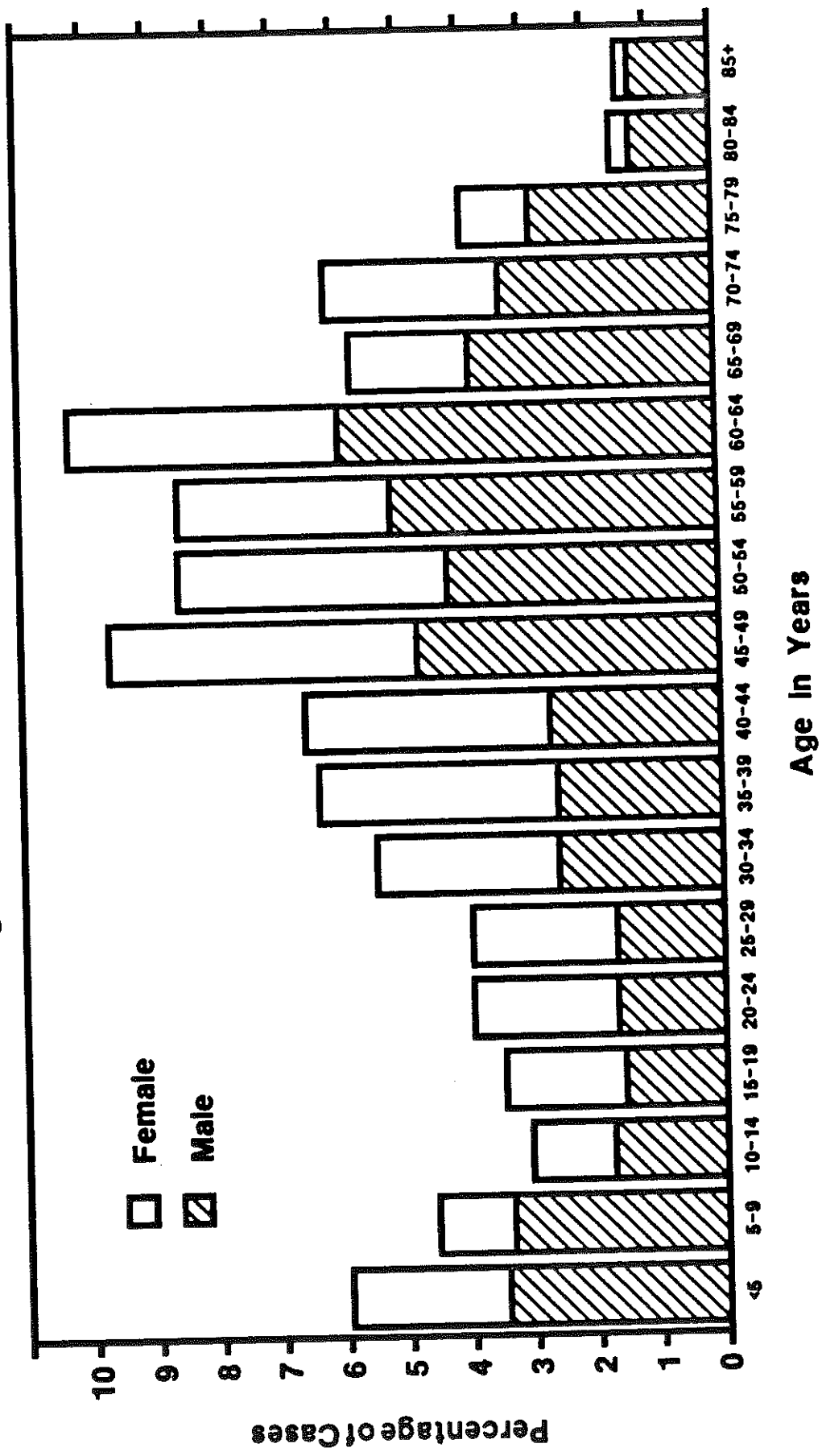
- 1) S.A 1515 Cases (86.6%)
- 2) Yemani 102 Cases (5.8%)
- 3) Leb,Syr,Pai,Jord 43 Cases (2.5%)
- 4) Egyptian 21 Cases (1.2%)
- 5) USA,Can,British 19 Cases (1.1%)
- 6) African 17 Cases (1.0%)
- 7) All Others 32 Cases (1.8%)

DISTRIBUTION OF 1749 CASES BY GEOGRAPHIC REGION
 REFERRED TO K F S H IN 1986



- REGION 1 - RIYADH
- REGION 1A - QASSIM
- REGION 2 - JEDDAH
- REGION 3 - MADINA
- REGION 4 - DAMMAM
- REGION 5 - TABOUK
- REGION 6 - JEZAN
- REGION 7 - RUB ALKHALI

Figure 4
1986 Distribution by Age
Based on 1749 Cases Referred to
King Faisal Specialist Hospital



III. PRIMARY ANATOMIC SITE AND HISTOLOGY SUMMARIES

Leukemias led the list of malignancies diagnosed in 1986 (representing almost 9%), followed by non-Hodgkin's lymphomas (7%), breast cancer (7%), and brain/CNS tumors (6%).

The solid tumors represented 71.9% (1257 cases), the lymphatic neoplasms 11.3% (198 cases), the leukemias 9.6% (168 cases), benign tumors 4.9% (86 cases) and the neoplasms of uncertain behavior totaled 2.3% (40 cases). For detailed statistics by primary site and histology please refer to Table 1, the Primary Site Table. Figure 5 illustrates the distribution of the 25 most common sites accessioned in 1986.

Ninety-seven percent of the cases were histologically confirmed; 2.5% were confirmed radiologically and less than 1% were diagnosed on the basis of clinical examination.

Histologically, the solid tumors were predominately squamous cell carcinoma (334 cases, 19%) and adenocarcinomas (228 cases, 13%). Other major histologies were the sarcomas (123 cases, 7%) and duct cell carcinoma (91 cases, 5%).

In 1986, there were 21 cases with second primary malignancies, and one case with a third primary malignancy.

TABLE 1
KING FAISAL SPECIALIST HOSPITAL & RESEARCH CENTRE
PRIMARY SITE TABLE
1986

SITE (ICDO CODE)	HISTOLOGY	TOTAL NO.	MALES	FEMALES
ALL SITES	ALL HISTOLOGIES	1749	956	793
LIP (140)		3	2	1
	Squamous Cell			
TONGUE (141)		21	12	9
	Squamous Cell	20	11	9
	Mucous Producing Adenocarcinoma	1	1	0
MAJOR SALIVARY GLANDS (142)		4	3	1
	Pleomorphic Adenoma	2	1	1
	Squamous Cell Carcinoma	1	1	0
	Mucoepidermoid Carcinoma	1	1	0
GUM (143)		7	4	3
	Squamous Cell	6	4	2
	Carcinoma, NOS	1	0	1
FLOOR OF MOUTH (144)		6	2	4
	Squamous Cell	4	1	3
	Mucoepidermoid Carcinoma	2	1	1
BUCCAL MUCOSA (145.0)		2	0	2
	Squamous Cell			
PALATE (145.5)		8	5	3
	Squamous Cell	4	4	0
	Adenoma	2	0	2
	Adenoid Cystic Carcinoma	1	1	0
	Malignant Lymphoma	1	0	1
RETROMOLAR TRIGONE (145.6)		3	1	2
	Squamous Cell			
OTHER PARTS OF THE MOUTH (145)		1	0	1
	Squamous Cell			
TONSIL (146)		6	5	1
	Squamous Cell	4	4	0
	Malignant Lymphoma	2	1	1
NASOPHARYNX (147)		50	36	14
	Squamous Cell	38	31	7
	Undifferentiated Carcinoma	5	1	4
	Malignant Lymphoma	5	3	2
	Mucoepidermoid Carcinoma	1	0	1
	Carcinoma, NOS	1	1	0

SITE (ICDO CODE)	HISTOLOGY	TOTAL NO.	MALES	FEMALES
HYPOPHARYNX (148)		15	9	6
	Squamous Cell			
OTHER SITES, PHYARYNX/HYPOPHARYNX (149)		3	3	0
	Squamous Cell	2	2	0
	Carcinoma, NOS	1	1	0
ESOPHAGUS (150)		68	40	28
	Squamous Cell	65	38	27
	Adenocarcinoma	2	2	0
	Intraepithelial Carcinoma	1	0	1
STOMACH (151)		76	59	17
	Adenocarcinoma	51	41	10
	Malignant Lymphoma	11	6	5
	Carcinoma, NOS	5	4	1
	Mucin-Producing Adenocarcinoma	3	3	0
	Signet Ring Adenocarcinoma	4	4	0
	Leiomyosarcoma	1	1	0
	Squamous Cell Carcinoma	1	0	1
SMALL INTESTINE (152)		9	5	4
	Malignant Lymphoma	4	3	1
	Adenocarcinoma	3	1	2
	Papillary Adenocarcinoma	1	1	0
	Trabecular Carcinoid	1	0	1
COLON (153)		25	15	10
	Adenocarcinoma	16	9	7
	Mucin-Producing Adenocarcinoma	4	2	2
	Signet Ring Adenocarcinoma	2	1	1
	Undifferentiated Carcinoma	1	1	0
	Malignant Lymphoma	1	1	0
	Familial Polyposis Coli	1	1	0
RECTOSIGMOID JUNCTION (154.0)		3	1	2
	Adenocarcinoma			
RECTUM/ANUS (154)		25	17	8
	Adenocarcinoma	12	9	3
	Squamous Cell	7	4	3
	Mucin-Producing Adenocarcinoma	4	3	1
	Carcinoid, NOS	1	1	0
	Malignant Melanoma	1	0	1
LIVER (155.0)		81	62	19
	Hepatocellular Carcinoma	78	60	18
	Adenocarcinoma, NOS	2	1	1
	Hemangioma	1	1	0
GALLBLADDER/BILE DUCTS (156)		14	5	9
	Adenocarcinoma	10	4	6
	Carcinoma, NOS	1	1	0
	Adenosquamous	1	0	1
	Cholangiocarcinoma	1	0	1
	Squamous Cell	1	0	1

SITE (ICDO CODE)	HISTOLOGY	TOTAL NO.	MALES	FEMALES
PANCREAS (157)		25	17	8
	Adenocarcinoma	15	11	4
	Carcinoma, NOS	9	6	3
	Malignant Neoplasm, NOS	1	0	1
OTHER GI (159)		2	1	1
	Teratoma	1	0	1
	Papillary Adenocarcinoma	1	1	0
NASAL CAVITIES (160)		6	3	3
	Squamous Cell	2	1	1
	Adenoid Cystic Carcinoma	1	1	0
	Adenocarcinoma	1	0	1
	Malignant Lymphoma	1	1	0
	Transitional Cell	1	0	1
LARYNX (161)		16	15	1
	Squamous Cell			
TRACHEA (162.0)		1	1	0
	Squamous Cell Carcinoma			
BRONCHUS/LUNG (162)		82	67	15
	Squamous Cell	35	30	5
	Adenocarcinoma	26	22	4
	Oat Cell (Small Cell)	8	7	1
	Carcinoma, NOS	4	3	1
	Large Cell Carcinoma	4	3	1
	Bronchiolo-Alveolar Carcinoma	3	1	2
	Giant Cell	2	1	1
PLEURA (163)		1	1	0
	Mesothelioma			
MULTIPLE MYELOMA (169)		13	9	4
	Plasma Cell Myeloma	12	8	4
	Plasmacytoma	1	1	0
BONE MARROW (169)		165	106	59
	Acute Lymphoid Leukemia	75	47	28
	Acute Myeloid Leukemia	37	17	20
	Chronic Myeloid Leukemia	29	21	8
	Chronic Lymphoid Leukemia	6	5	1
	Aplastic Anemia	6	6	0
	Acute Promyelocytic Leukemia	5	4	1
	Hairy Cell Leukemia	2	2	0
	Polycythemia Rubra Vera	2	2	0
	Myeloproliferative Disease	2	1	1
	Acute Monoblastic Leukemia	1	1	0

SITE (ICDO CODE)	HISTOLOGY	TOTAL NO.	MALES	FEMALES
BONE & CARTILAGE (170)		35	20	15
	Ewing's Sarcoma	14	6	8
	Osteosarcoma	10	7	3
	Giant Cell Tumor	4	3	1
	Chondrosarcoma	3	1	2
	Ameloblastoma	1	1	0
	Osteochondroma	1	1	0
	Osteoblastoma	1	1	0
	Aneurysmal Bone Cyst	1	0	1
CONNECTIVE & SOFT TISSUE (171)		73	36	37
	Hemangioma/Angiofibroma	12	6	6
	Rhabdomyosarcoma	11	7	4
	Fibrous Histiocytoma	7	4	3
	Fibrosarcoma	6	3	3
	Spindle Cell Sarcoma	5	2	3
	Sarcoma, NOS	4	1	3
	Liposarcoma	4	2	2
	Neurofibromatosis	4	2	2
	Leiomyosarcoma	3	2	1
	Schwannoma, benign	3	0	3
	Synovial Sarcoma	2	0	2
	Neuroblastoma	2	0	2
	Angiosarcoma	2	1	1
	Desmoid Tumor	2	2	0
	Malignant Schwannoma	1	1	0
	Ganglioneuroblastoma	1	1	0
	Round Cell Tumor	1	0	1
	Clear Cell Sarcoma	1	1	0
	Giant Cell Tumor	1	1	0
	Paraganglioma	1	0	1
SKIN (MELANOMA) (172)		8	6	2
	Malignant Melanoma	7	5	2
	Melanoma in situ	1	1	0
SKIN (NON-MELANOMA) (173)		69	39	30
	Squamous Cell	30	20	10
	Basal Cell	14	3	11
	Kaposi's Sarcoma	9	7	2
	Basosquamous	6	2	4
	Dermatofibrosarcoma protuberans	3	3	0
	Sweat-Gland Carcinoma	1	1	0
	Adenocarcinoma, NOS	1	0	1
	Adenoid Cystic Basal Cell	1	1	0
	Xeroderma Pigmentosum	1	0	1
	Syringoma chondroid	1	1	0
	Small Cell Undifferentiated	1	0	1
	Alveolar Soft Part Sarcoma	1	1	0

SITE (ICDO CODE)	HISTOLOGY	TOTAL NO.	MALES	FEMALES
BREAST, FEMALE (174)		122	0	122
	Infiltrating Duct Cell	90	0	90
	Carcinoma, NOS	8	0	8
	Adenocarcinoma, NOS	8	0	8
	Lobular Carcinoma	5	0	5
	Mucinous Carcinoma	3	0	3
	Cystosarcoma phyllodes	2	0	2
	Infiltrating Duct w/Paget's Disease	1	0	1
	Intraductal Carcinoma	1	0	1
	Scirrhouc Carcinoma	1	0	1
	Medullary	1	0	1
	Squamous Cell	1	0	1
	Tubular Ductal Carcinoma	1	0	1
BREAST, MALE (175)		1	1	0
	Infiltrating Duct Cell			
CERVIX UTERI (180)		55	0	55
	Squamous Cell	46	0	46
	Adenocarcinoma	3	0	3
	Carcinoma, NOS	3	0	3
	Carcinoma in situ	2	0	2
	Adenosquamous	1	0	1
PLACENTA (181)		16	0	16
	Choriocarcinoma	12	0	12
	Invasive Hydatidiform Mole	3	0	3
	Hydatidiform Mole	1	0	1
CORPUS UTERI (182)		10	0	10
	Adenocarcinoma	6	0	6
	Stromal Cell Sarcoma	3	0	3
	Mixed Mullerian Tumor	1	0	1
OVARY (183)		38	0	38
	Papillary Cystadenocarcinoma	18	0	18
	Adenocarcinoma	4	0	4
	Mucinous Cystadenocarcinoma	4	0	4
	Mucinous Cystadenoma	3	0	3
	Dysgerminoma	2	0	2
	Endometrioid Carcinoma	2	0	2
	Malignant Teratoma	1	0	1
	Gynandroblastoma	1	0	1
	Granulosa Cell Tumor	1	0	1
	Arrhenoblastoma	1	0	1
	Sertoli-Leydig Cell Tumor	1	0	1
FEMALE GENITAL ORGANS (184)		7	0	7
	Squamous Cell	5	0	5
	Embryonal rhabdomyosarcoma	1	0	1
	Malignant Epithelial Tumor	1	0	1

SITE (ICDO CODE)	HISTOLOGY	TOTAL NO.	MALES	FEMALES
PROSTATE (185)		15	15	0
	Adenocarcinoma	13	13	0
	Carcinoma, NOS	2	2	0
TESTIS (186)		14	14	0
	Seminoma	6	6	0
	Mixed Tumor	3	3	0
	Teratoma	2	2	0
	Choriocarcinoma	1	1	0
	Embryonal Carcinoma	1	1	0
	Yolk Sac Tumor	1	1	0
BLADDER (188)		49	39	10
	Transitional Cell	30	24	6
	Squamous Cell	15	11	4
	Carcinoma, NOS	4	4	0
KIDNEY (189)		43	25	18
	Renal Cell Carcinoma (Hypernephroma)	22	10	12
	Wilms' Tumor	15	10	5
	Papillary Transitional Cell	3	3	0
	Clear Cell Adenocarcinoma	1	0	1
	Adenocarcinoma, NOS	1	1	0
	Squamous Cell Carcinoma	1	1	0
EYE (190)		23	12	11
	Retinoblastoma	11	8	3
	Squamous Cell Carcinoma	8	3	5
	Malignant Melanoma	2	0	2
	Adenoid Cystic Carcinoma	1	0	1
	Carcinoma in situ	1	1	0
BRAIN (191)		72	42	30
	Astrocytoma	25	9	16
	Medulloblastoma	18	15	3
	Glioblastoma multiforme	14	11	3
	Malignant Lymphoma	4	1	3
	Neoplasm, NOS	4	3	1
	Ependymoma	2	1	1
	Glioma	2	0	2
	Oligodendroglioma	1	1	0
	Endodermal Sinus Tumor	1	1	0
	Schwannoma	1	0	1
SPINAL CORD, MENINGES (192)		36	21	15
	Meningioma	27	14	13
	Glioma	3	2	1
	Astrocytoma	3	2	1
	Chordoma	2	2	0
	Ependymoma	1	1	0

SITE (ICDO CODE)	HISTOLOGY	TOTAL NO.	MALES	FEMALES
THYROID (193)		89	24	65
	Papillary Carcinoma	55	18	37
	Papillary & Follicular	12	3	9
	Follicular Adenoma	6	0	6
	Follicular Adenocarcinoma	5	1	4
	Anaplastic Carcinoma	4	1	3
	Malignant Lymphoma	4	0	4
	Medullary Carcinoma	2	1	1
	Hurthle Cell Carcinoma	1	0	1
ADRENAL GLAND (194.0)		11	6	5
	Neuroblastoma	7	5	2
	Pheochromocytoma	2	0	2
	Adrenal Cortical Carcinoma	1	0	1
	Neoplasm, NOS	1	1	0
PITUITARY/OTHER ENDOCRINE (194)		30	20	10
	Adenoma	21	13	8
	Craniopharyngioma	3	1	2
	Tumor, NOS	2	2	0
	Yolk Sac Tumor	1	1	0
	Pineocytoma	1	1	0
	Carotid Body Tumor	1	1	0
	Paraganglioma	1	1	0
OTHER, ILL-DEFINED SITES (195)		5	4	1
	Teratoma	2	2	0
	Malignant Tumor, NOS	1	1	0
	Malignant Lymphoma	1	0	1
	Leiomyosarcoma	1	1	0
LYMPH NODES, NON-HODGKIN'S LYMPHOMA (196)		123	82	41
Excluding the Extra-Nodal Lymphomas				
	Diffuse Histiocytic Lymphoma	43	28	15
	Other Lymphomas, NOS	39	27	12
	Diffuse Lymphocytic Lymphoma	14	9	5
	Burkitt's Lymphoma	6	4	2
	Malignant Histiocytosis	5	3	2
	Mixed, Lymphocytic-Histiocytic	4	9	5
	Eosinophilic Granuloma	3	3	0
	Mycosis Fungoides	3	2	1
	Waldenstrom's Macroglobulinemia	2	0	2
	Histiocytosis X, Malignant	2	2	0
	Lymphoma, Immunoblastic	1	1	0
	Lymphoproliferative Disease	1	1	0
LYMPH NODES, HODGKIN'S DISEASE (196)		45	31	14
	Nodular Sclerosis	23	15	8
	Mixed Cellularity	17	14	3
	Lymphocytic Predominance	2	1	1
	Hodgkin's Disease (NOS)	2	1	1
	Lymphocytic Depletion	1	0	1

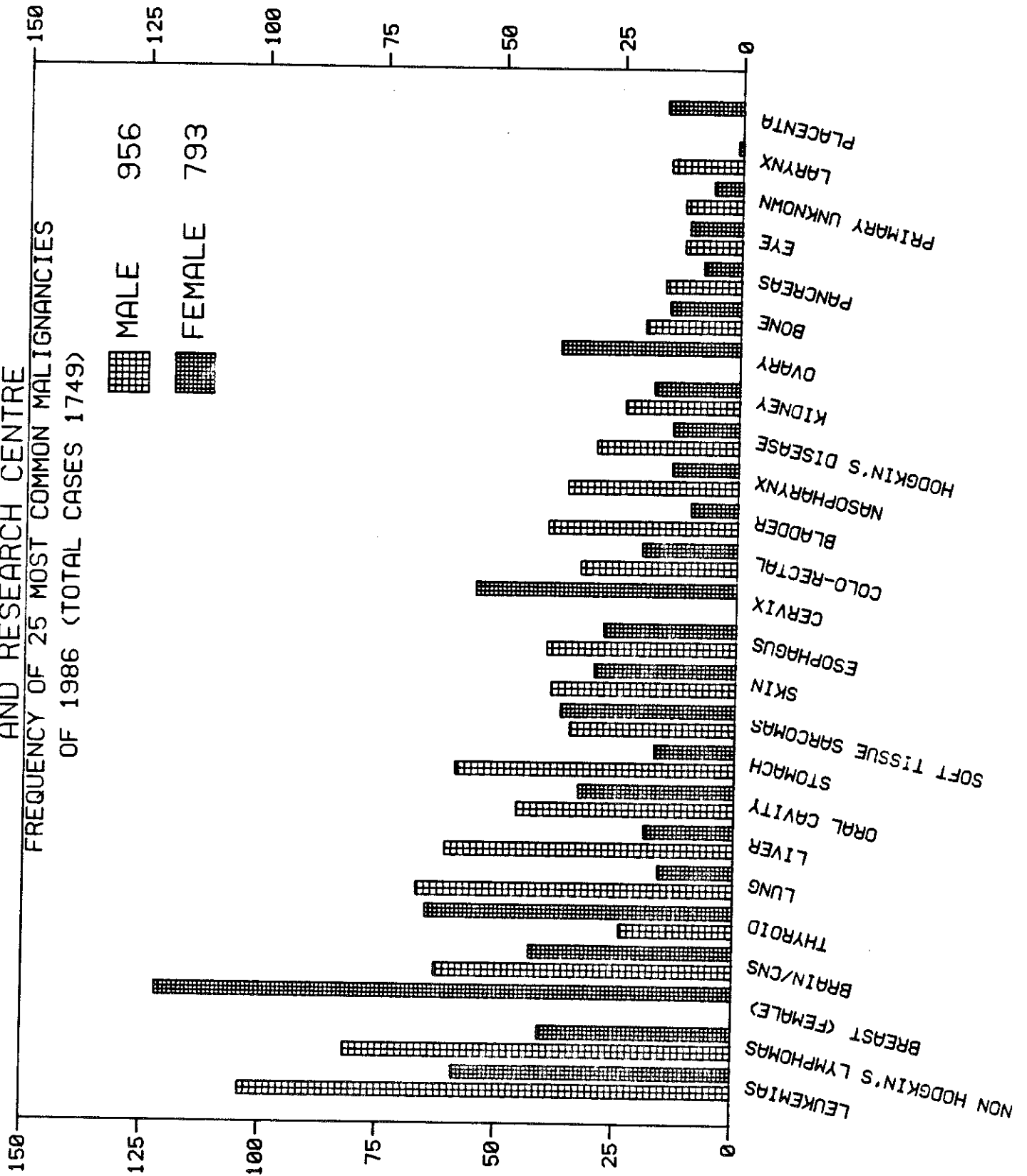
SITE	(ICDO CODE)	HISTOLOGY	TOTAL NO.	MALES	FEMALES
		PRIMARY UNKNOWN (199)	19	13	6
		Adenocarcinoma	10	6	4
		Carcinoma, NOS	3	2	1
		Squamous Cell Carcinoma	2	2	0
		Malignant Neoplasm, NOS	3	2	1
		Clear Cell Carcinoma	1	1	0

LISTING OF 1986 CASES WITH MULTIPLE PRIMARIES

PRIMARY SITE 1986	HISTOLOGY	OTHER PRIMARIES (PREVIOUS OR CONCURRENT)	TOTAL NO.	MALES	FEMALES
ALL MULTIPLE PRIMARIES			22	10	12
LUNG			5	4	1
	Squamous Cell Carcinoma	ESOPHAGUS	1	0	1
	Squamous Cell Carcinoma	LARYNX	1	1	0
	Squamous Cell Carcinoma	TONGUE	1	1	0
	Squamous Cell Carcinoma	PITUITARY	1	1	0
	Squamous Cell Carcinoma	PINEAL	1	1	0
BREAST			3	1	2
	Lobular Carcinoma	CONTRALAT. BREAST	1	0	1
	Infiltrating Duct Cell	BASAL CELL SKIN	1	1	0
	Infiltrating Duct Cell	THYROID	1	0	1
THYROID			3	0	3
	Medullary Carcinoma	ADRENAL GLAND	1	0	1
	Papillary Carcinoma	HYDATIDIFORM MOLE	1	0	1
	Papillary Carcinoma	MENINGES, BRAIN	1	0	1
OVARY			2	0	2
	Papillary Serous Adenoca.	CORPUS UTERI	1	0	1
	Papillary Serous Adenoca.	BREAST	1	0	1
TONSIL			2	2	0 *
	Squamous Cell Carcinoma	EPIGLOTTIS AND PYRIFORM SINUS			
CERVIX			1	0	1
	Ca in situ	BASAL CELL FACE			
FOOT			1	0	1
	Cavernous Hemangioma	THYROID			
SKIN			1	1	0
	Dermatofibrosarcoma protuber.	HODGKIN'S DISEASE			
ANUS			1	0	1
	Squamous Cell Carcinoma	KIDNEY, RIGHT			
PERIORBITAL REGION			1	0	1
	Rhabdomyosarcoma	RETINOBLASTOMA			
BRAIN			1	1	0
	Glioblastoma multiforme	COLON			
STOMACH			1	1	0
	Adenocarcinoma	SKIN			

* This patient presented with three primary tumors.

KING FAISAL SPECIALIST HOSPITAL
AND RESEARCH CENTRE
FREQUENCY OF 25 MOST COMMON MALIGNANCIES
OF 1986 (TOTAL CASES 1749)



STAGE OF DISEASE AT DIAGNOSIS

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

Summary Staging Definitions:

- IN SITU:** Intraepithelial, noninvasive, noninfiltrating
- LOCALIZED:** Within organ
- a. Invasive cancer confined to the organ of origin
 - b. Intraluminal extension where specified
- REGIONAL:** Beyond the organ of origin
- a. By direct extension to adjacent organs/tissues
 - b. To regional lymph nodes
 - c. Both (a) and (b)
- DISTANT:** Direct extension or metastasis
- a. Direct continuity to organs other than above
 - b. Discontinuous metastasis
 - c. To distant lymph nodes

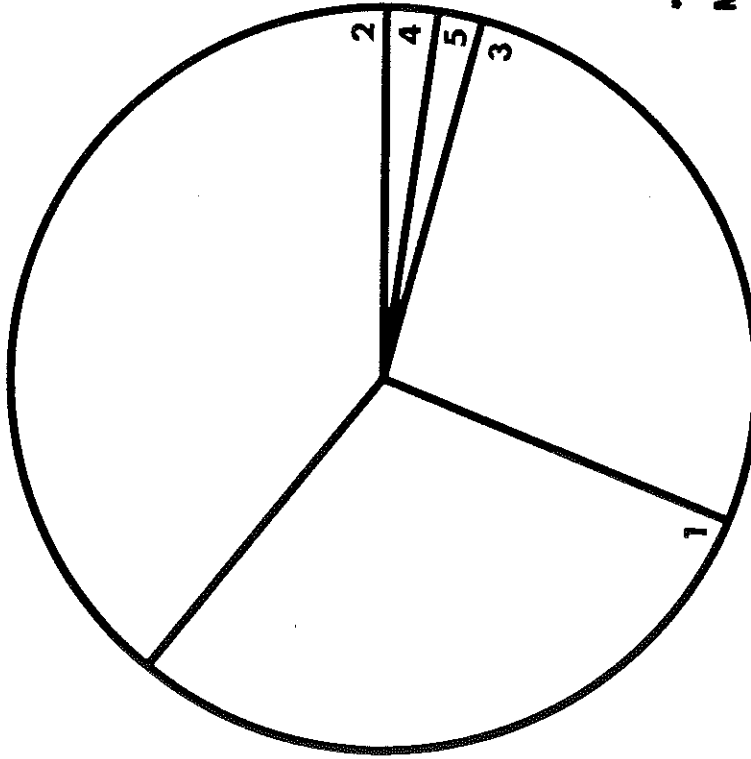
In addition to the SEER Summary Stage, if a physician utilizes the AJCC (TNM) Staging System or a site-specific staging system (for example FIGO, Dukes, etc.) this is also recorded in the patient record.

TABLE -2-

STAGE AT DIAGNOSIS BY PRIMARY SITE CODE
SEER SUMMARY STAGE

ICD-O	DESCRIPTION	IN-SITU LOCAL			DIRX	REGIONAL		DIST	UNSTG	TOTAL
						LN	BOTH			
140-145,146,148-9	Oral Cavity	0	21	13	9	16	0	19	1	79
147	Nasopharynx	0	5	3	10	4	0	28	0	50
150	Esophagus	1	31	9	3	6	0	18	0	68
151	Stomach	0	8	20	7	8	0	33	0	76
153,154	Colon, Rectum	0	8	17	2	8	0	17	1	53
155	Liver	0	38	20	2	1	0	20	0	81
157	Pancreas	0	4	4	2	3	0	12	0	25
152,156,158-9	Other GI	0	4	5	4	2	0	10	0	25
161	Larynx	0	5	2	2	3	0	4	0	16
162-163	Lung	0	22	5	8	1	0	48	0	84
169(973)	Multiple Myeloma	0	0	0	0	0	0	13	0	13
169(982)	Lymphoid Leukemia	0	0	0	0	0	0	81	0	81
169(986)	Myeloid Leukemia	0	0	0	0	0	0	71	0	71
169(980-1,983-5,987-94)	Other Leukemias	0	0	0	0	0	0	3	0	3
170	Bone, Cartilage	0	14	14	0	0	0	6	1	35
171	Soft Tissue Sarcoma	0	33	11	0	4	1	24	0	73
172	Skin Melanoma	1	2	0	2	0	0	3	0	8
173	Skin	0	34	6	4	1	0	24	0	69
174-175	Breast	1	30	12	49	9	0	16	6	123
179,181-2,184	Uterus, Genital	0	16	7	0	2	0	8	0	33
180	Cervix	3	10	27	0	4	0	11	0	55
183	Ovary	0	17	2	1	0	0	18	0	38
185	Prostate	0	5	2	0	1	0	7	0	15
186,187	Testis, Genital	0	2	2	2	0	0	8	0	14
188	Bladder	0	21	9	0	2	0	16	1	49
189	Kidney, Urinary	0	17	6	1	1	0	18	0	43
190	Eye	1	10	3	0	0	0	9	0	23
191-192	CNS	0	82	24	0	0	0	2	0	108
193	Thyroid	0	43	5	15	13	0	12	1	89
194	Other Endocrine	0	29	4	0	0	0	8	0	41
196(959-64,969-72,974-5)	Non Hodgkin's Lymphoma	0	10	4	17	3	6	81	1	122
196(965,966)	Hodgkin's Disease	0	15	3	5	0	0	22	0	45
199	Primary Unknown	0	0	0	0	0	0	19	0	19
All Others	*****	0	3	0	0	2	0	17	0	22
TOTALS		7	539	239	145	94	7	706	12	1749

Figure 6
1986 Distribution by Stage at Diagnosis
Based on 1571 Cases Referred to
King Faisal Specialist Hospital



* Excludes Leukemias and
 Multiple Myeloma Cases (178 Patients)

- 1) Distant 528 Cases (33.6%) *
- 2) Localized 539 Cases (34.3%)
- 3) Regional 485 Cases (30.9%)
- 4) Unstaged 12 Cases (0.8%)
- 5) In Situ 7 Cases (0.4%)

TABLE -3-
 PRIMARY CANCER CASES IN TOTAL REFERRED TO KFSH BY AGE AND SITE
 FOR THE YEAR 1986
 FOR ALL NATIONALITIES

ICD-O	DESCRIPTION	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+	
140-145,146,148-9	Oral Cavity	0	0	1	2	2	2	4	5	2	13	9	6	11	10	4	5	1	4	79
147	Nasopharynx	0	1	2	3	4	1	0	6	1	10	2	7	8	3	2	0	0	0	50
150	Esophagus	0	0	0	0	0	0	2	2	4	3	5	7	12	9	13	6	2	3	68
151	Stomach	0	0	0	0	0	0	2	5	5	8	7	3	8	11	9	10	5	3	76
153,154	Colon, Rectum	0	0	1	0	1	0	2	5	1	4	9	6	7	3	2	4	1	1	53
155	Liver	0	0	0	0	0	0	3	3	3	9	6	10	13	15	9	8	2	1	81
157	Pancreas	0	0	0	0	0	0	1	2	4	4	2	1	4	4	1	2	2	2	25
152,156,158-9	Other GI	2	0	1	1	0	0	1	1	4	2	3	3	2	2	4	1	0	0	25
161	Larynx	0	0	0	0	0	0	0	1	1	4	7	11	13	15	10	10	6	0	84
162-163	Lung	0	0	0	0	0	0	1	1	1	2	2	3	0	1	1	2	0	0	13
169(973)	Multiple Myeloma	0	0	0	0	0	0	0	1	1	2	2	2	3	0	1	1	2	0	13
169(982)	Lymphoid Leukemia	23	23	7	6	6	3	1	2	1	4	1	1	1	1	1	0	0	0	81
169(986)	Myeloid Leukemia	7	3	5	6	1	11	5	6	4	5	5	6	3	1	3	0	0	0	71
169(980-1,983-5,987-94)	Other Leukemias	0	0	1	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	3
170	Bone, Cartilage	1	2	5	4	9	6	3	1	3	0	1	0	0	0	4	4	0	1	35
171	Soft Tissue Sarcoma	9	8	7	8	5	2	5	4	1	8	5	1	0	1	1	0	0	1	73
172	Skin Melanoma	0	0	0	0	0	0	1	0	1	3	0	1	1	1	1	0	0	0	8
173	Skin	1	0	0	1	3	1	4	5	8	3	9	9	7	5	4	3	3	3	69
174-175	Breast	0	0	0	1	2	3	15	17	17	22	16	12	12	2	2	1	0	1	123
179,181-2,184	Uterus, Genital	1	0	0	1	2	0	1	2	5	5	3	0	7	2	1	2	0	1	33
180	Cervix	0	0	0	0	0	1	6	10	8	9	5	4	4	2	4	1	1	0	55
183	Ovary	0	0	1	4	2	3	3	1	1	6	7	3	4	1	2	0	0	0	38
185	Prostate	0	0	0	0	0	0	0	0	0	0	0	1	2	4	2	4	1	1	15
186,187	Testis, Genital	1	0	0	1	1	1	3	3	2	0	1	1	0	0	0	0	0	0	14
188	Bladder	0	0	0	0	0	0	3	2	2	4	9	5	14	2	3	4	1	0	49
189	Kidney, Urinary	12	2	2	0	1	1	1	1	2	1	1	3	5	6	3	1	1	0	43
190	Eye	11	0	0	1	0	0	1	1	0	0	1	2	4	0	2	0	0	0	23
191-192	CNS	10	17	8	6	6	9	5	10	7	6	4	10	3	2	3	2	0	0	108
193	Thyroid	0	0	2	4	13	7	9	10	7	7	5	5	7	4	4	5	0	0	89
194	Other Endocrine	6	4	2	0	3	4	4	3	4	3	3	2	3	0	0	0	0	0	41
196(959-64,969-72,974-5)	Non Hodgkin's Lymphoma	17	8	1	3	6	6	4	6	4	12	8	14	11	3	13	1	2	3	122
196(965,966)	Hodgkin's Disease	2	10	7	8	4	6	2	1	0	3	2	0	0	0	0	0	0	0	45
199	Primary Unknown	0	0	0	0	0	0	1	0	1	1	0	5	6	0	2	3	0	0	19
*****	All Others	2	2	2	2	0	0	0	1	3	5	1	3	5	1	3	0	1	0	22
TOTALS	TOTALS ARE	105	80	54	61	71	70	96	112	116	169	151	149	180	102	108	70	29	26	1749

TOTALS ARE 1749 956 793

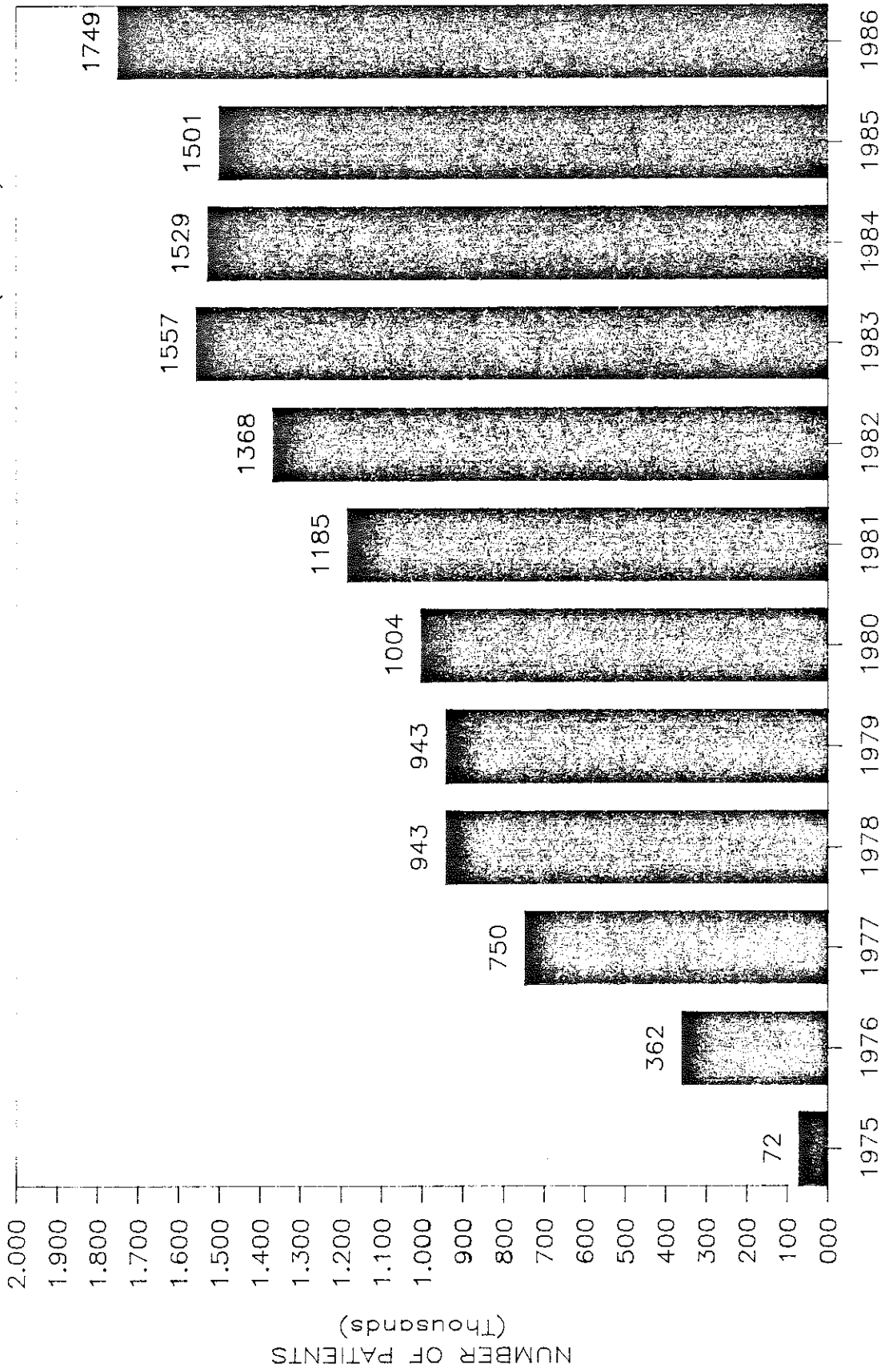
V. ADMINISTRATIVE REPORT

Total hospital patient discharges have shown a steady increase over the past three years. In 1984 total discharges were 9678, 1985 equaled 10503, and in 1986 hospital discharges were 12336. Total cancer patient discharges also showed an increase: 1984 equaled 1267 discharges (13.1%), 1985 1436 discharges (13.7%) and 1986 1796 (14.6%). Patient discharges with a diagnosis of cancer make up the largest single grouping of patients of any disease category.

Not only are the neoplastic diseases the most frequent diagnosis but the average length of stay (ALOS) for these patients is considerable. In 1986, the ALOS for patients with leukemias was 40.15 days. Other malignant diseases had an ALOS of: Esophagus - 23.44; Bladder - 22.76; Uterus/Cervix - 17.87; Lymphoma - 16.84; and Lung - 15.02 days.

Figure 7 illustrates the increase in the number of cancer cases accessioned by the Tumor Registry since the Hospital opened in 1975. In the year 1986, a significant increase in the number of new patients was seen; this represents an approximate 15% raise over the past year.

NUMBER OF PATIENTS ACCESSIONED IN KFISH TUMOR REGISTRY (BY YEAR)



APPENDIX A

1986 SPECIAL STUDY REQUESTS FROM TUMOR REGISTRY DATA

January		
Colo-rectal Cancer in Young Adults	Dr. Bakhsh	
Carcinoma of the Lung, 1982-Present	Dr. D. Booser	
1976 and 1977 Cases Summaries	Ms. N. Becker	
February		
Head and Neck Cancers	Dr. B. Clubb	
Total Cancer Cases 1985	Mr. A. Al Dublan	
Childhood Head and Neck Cancers	Dr. S. Shebib	
Female Patients 20+ Years Old	Dr. M. El-Senoussi	
March		
Bone Tumors Referred from Qassim Region	Dr. R. Sabbah	
Malignant Non-Hodgkin's Lymphoma	Dr. M. Amer	
Acute Lymphoblastic Leukemia Over Age 15	Dr. H. Clink	
Multiple Myeloma Cases	Dr. H. Clink	
Number of Cervix Cases	Dr. J. McGill	
April		
Oral Cavity Cancers	Dr. S. El-Akkad	
Kaposi's Sarcoma	Dr. Akhtar	
Squamous Cell Ca of Extremities	Dr. R. Rooney	
Thyroid Carcinoma	Dr. P. Hearn	
May		
Nasopharyngeal Carcinoma	Dr. B. Clubb	
Lymphocytic Leukemia	Dr. H. Clink	
June		
Cancer of the Corpus Uteri	Dr. H. Grundsell	
Tumors of the Head & Neck	Dr. B. Clubb	
July		
Patients with Retinoblastoma	Dr. A. Rifai	
Brain and CNS Tumors	Drs. Aur & Siquiera	
August		
Childhood Cancer in Saudi Arabia	Dr. R. Aur	
Head & Neck Tumors in Children	Dr. C. Quick	
Tumors of the Vertebral Column	Dr. R. Lifeso	
Pituitary Tumors	Dr. P. Kansal	
September		
Tumors of the Salivary Gland	Dr. A. Salem	
Hodgkin's & Non-Hodgkin's Lymphomas	Dr. S. El-Akkad	
Wilms' Tumors	Dr. K. Sackey	
Adenocarcinoma of Corpus Uteri	Dr. M. El-Senoussi	

APPENDIX A - con't

1986 SPECIAL STUDY REQUESTS FROM TUMOR REGISTRY DATA

October

Pattern of Cancer in Saudi Arabia by Nationality	Dr. M. Amer
Kaposi's Sarcoma	Dr. W. Qunibi
Number of Patients by Year/Primary Site	Mr. A. Cafege
Hodgkin's Lymphoma	Dr. R. Sabbah
Nasopharynx Patients Rec. Radiation Therapy	Dr. A. Al-Marzouky
Graphic Display for January Symposium	Mr. B. Faskin

November

Patients Under the Age of Two Years	Dr. Q. Sackey
Carcinoma of the Tongue	Drs. Clubb & Andreasson
Female Patients Between 15 and 45	Drs. El-Senoussi & Bakri
Patients from Qasseem Region with Esophageal Ca	Dr. M. Amer

December

None

APPENDIX B**1986 TUMOR COMMITTEE MEMBERS**

S. El Akkad, M.D., Radiation Oncology
A. Ali, M.D., Pathology
E. Aloud, Quality Assurance
Y. Bakri, M.D., Obstetrics & Gynecology
N. Becker, A.R.T., Tumor Registry
* A. Bedikian, M.D., Medical Oncology
M. Hannan, Ph.D., B&MR Research Centre
M. Al Jalahma, Social Services
E. Mahboubi, M.D., B&MR Research Centre
R. Phillips, Ph.D., BS&SC Research Centre
R. Rooney, M.D., Surgery
J.O. Sieck, M.D., Medicine
S. Skillicorn, M.D., Quality Assurance
S. Willoughby, C.T.R., Tumor Registry

* Tumor Committee Chairman

APPENDIX C

SUMMARY OF CASES PRESENTED
KFSH TUMOR BOARD - 1986

SITE	NO.
SARCOMA	19
Fibrous Histiocytoma	3
Rhabdomyosarcoma	2
Small Cell Sarcoma	2
Fibrosarcoma	2
Liposarcoma	2
Clear Cell Sarcoma	2
All Other Sarcomas	6
NON-HODGKIN'S LYMPHOMA	6
HODGKIN'S DISEASE	5
GYNECOLOGICAL	8
Cervix	5
Ovary	2
Other	1
GENITO/URINARY SYSTEM	7
Testis	3
Kidney	2
Wilms' Tumor	1
Bladder	1
HEMATOPOIETIC & RETICULOENDO. SYSTEM	6
Acute Lymphoid Leukemia	4
Acute Myeloid Leukemia	2
BONE	4
Ewing's Sarcoma	3
Osteosarcoma	1
NEUROBLASTOMA	4
NERVOUS SYSTEM	4
ENDOCRINE GLANDS	3
SALIVARY GLAND	1
STOMACH	1
THYMUS	1
LIVER	1
RETROPERITONEAL	1
NASAL CAVITIES	1
SKIN	1
BREAST	1
RETINA	1
UNKNOWN PRIMARY	1

*Tumor Board Moderator: Dr. B. Clubb

APPENDIX D

SUMMARY OF TUMOR CONFERENCE TOPICS

05 January	Modern Devel. in H&N Surg. Oncology	Dr. Ram Tiwari
19 January	Gastric Lymphoma	Dr. A. Ali
26 January	New Tx Cancer of the Breast	Dr. A. El-Madhi
02 February	Neutron Therapy of Cancer	Dr. S. El-Akkad
16 February	Dental Mgt. of Pats. Rad/ChemoRx	Dr. Terezhalmay
23 February	Pain Management in Cancer Patients	Dr. K. Sami
16 March	Cancer of the Esophagus	Dr. E. Mahboubi
23 March	Psychiatric Aspects of Cancer	Dr. Chalaby
30 March	Role of SCM in Cancer Diagnosis	Dr. Schnuda
27 April	FNA in Cancer	Dr. M. Akhtar
22 June	AIDS	Dr. H. Harfi
06 July	Case Presentations	
03 August	Case Presentations	
24 August	Case Presentations	
31 August	Value of Pre-Op Chemo Esophageal Ca	Dr. A. Bedikian
28 September	Pheresis in Mgt of Malig. Disease	Dr. S. Ballas
05 October	Patterns of Blast Trans. in CML	Dr. G. Roberts
	Hyperviscosity Syndrome	Dr. A. Padmos
19 October	Carcinoma of Testis	Dr. H. Schultz
	Introduction to Oncogenes	Dr. Malcolm Goyns
26 October	Small Cell Ca of Lung	Dr. D. Booser
	B-Cell Leukemia with Hypo/Iridocy.	Dr. R. Aur
02 November	Breast Cancer Studies	Dr. E. Mahboubi
	Choriocarcinoma	Dr. Y. Bakri
16 November	Ewing's Sarcoma	Dr. R. Sabbah
	Regional Chemotherapy of Liver Ca	Dr. O. Almersjo
23 November	Brain Tumor - Is it Familial	Dr. M. El-Senoussi
	Familial Thyroid Medullary Ca	Dr. S. Ingemansson
30 November	Carcinoma of Lip	Dr. Clubb/Quick
	Horner's Syndrome/Paralysis	Dr. Amer/Siqueira
07 December	Signet Cell Carcinoma	Dr. A. Bedikian
	Esophageal Cancer - Which Direction	Dr. S. El-Akkad
21 December	Spinal Cord Tumor	Dr. R. Lifeso
	Chemotherapy of Refractory Myeloma	Dr. F. Almhareb
28 December	Early Breast Cancer	Dr. Claude Maylin

Tumor Conference Moderators: Dr. Y. Bakri & Dr. A. Padmos

VI. GLOSSARY OF TERMS

Accessioned: Patients 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 for analytic cases. For nonanalytic cases, it is reported at age first entered into the Tumor Registry.

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

Nonanalytic Cases: Cases diagnosed elsewhere and receiving all of their first course of treatment elsewhere.

Stage of Disease: Determined at the time of the first course of treatment.

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 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.

Unknown: Tumor is said to be unknown when the stage cannot be determined by the medical record or a medical authority.

American Joint Committee on Cancer - TMN Staging: A classification scheme based on the premise that cancers of similar histology or site of origin share similar patterns of growth and extension:

T+N+M = Stage

(T) tumor size

(N) node involvement

(M) distant metastases

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

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VII. REFERENCES

1. "Reporting of Cancer Survival and End Results," **Manual for Staging of Cancer** , second edition, American Joint Committee on Cancer, Philadelphia, Lippincott, 1983.
2. **Summary Staging Guide** , SEER Program, U.S. Department of Health Services, National Institutes of Health, Publication No. (NHI)77-1448, Washington, 1977.
3. **Cancer Patient Survival: SEER Program, 1973-1979** , JNCI, Vol. 70, No. 4, April 1983.

