

# ANNUAL CANCER REGISTRY REPORT-2004

## INTRODUCTION

The Cancer Registry at the Shaukat Khanum Cancer Hospital & Research Center (SKMCH & RC) has been in existence since December 1994. The Registry utilizes a data system designed for collection, management, analysis, and reporting of information of all persons with cancer who have been diagnosed or treated at SKMCH & RC. The data maintained by the Cancer Registry is available for use by medical staff and other health professionals for special studies, reports, and research purposes. Earlier, the International Classification of Diseases, Ninth Edition, Clinical Modification, (ICD-9 CM), was being used to assign a specific code to each disease. On January 2004, the International Classification of Diseases for Oncology, 3rd Revision, (ICD-O-3), was implemented to code cancer cases.

## CANCER STATISTICS

### Distribution of neoplasms

Of a total of 2,688 neoplasms diagnosed or treated at the Hospital from January 2004 to December, 2004, 1,281 were in males (47.6%) and 1,407 (52.34%) in females. Two thousand three hundred and ninety one (2,391, 89%) neoplasms were found in adults, whereas, 297 (11.0%) were seen in children. Children were classified as those 18 years or less in age and adults as more than 18 years of age. Table 1 shows the stratification of cases by behavior and age groups.

**Table 1. Distribution of neoplasm cases by behavior and age groups.**

<b>Behavior</b>	<b>Age Group</b>	<b>Registered patients (2,663)</b>	<b>Reported neoplasm* (2,577)</b>
<b>Malignant</b> <sup>1</sup>	Adults	2,317	2,331
	Pediatrics	246	246
	Total	2,563	2,577
<b>Benign</b> <sup>2</sup> & <b>Uncertain Behavior</b>	Adults	84	95
	Pediatrics	16	16
	Total	100	111

\*The difference in the number of registered patients and reported neoplasms is attributed to multiple neoplasms in 25 patients.

<sup>1</sup> Cases with behavior code /3 and /2 are considered as malignant cases.

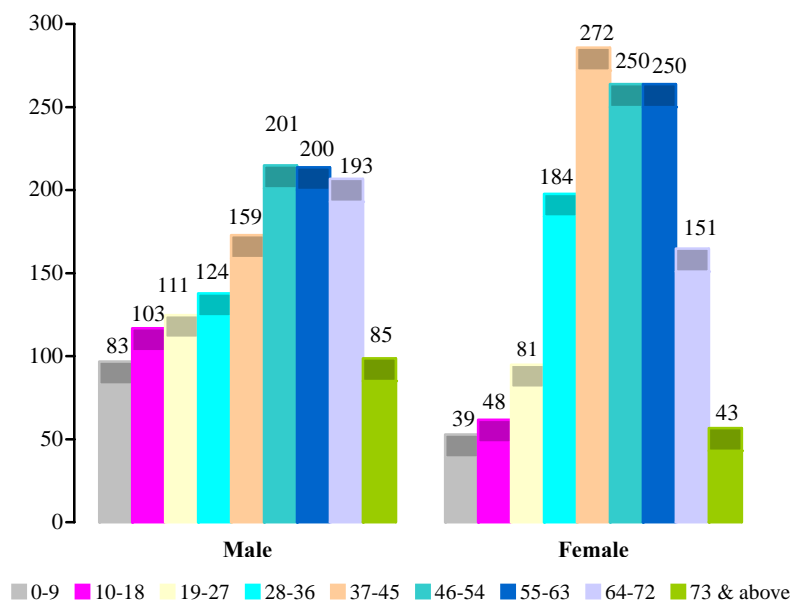
<sup>2</sup> Cases with behavior code /0 and /1 are considered as benign and uncertain respectively.

## Distribution of malignancies

In the year 2004, 2,577 malignant cases were diagnosed at the Hospital with 1,259 seen among males and 1,318 among females. Table 2 displays the segregation of male and female patients according to different age groups.

**Table 2. Distribution of cancer cases by sex and age groups**

Age range	Male	Female	Total
0-9	83	39	122
10-18	103	48	151
19-27	111	81	192
28-36	124	184	308
37-45	159	272	431
46-54	201	250	451
55-63	200	250	450
64-72	193	151	344
73 & above	85	43	128
<b>Total</b>	<b>1,259</b>	<b>1,318</b>	<b>2,577</b>

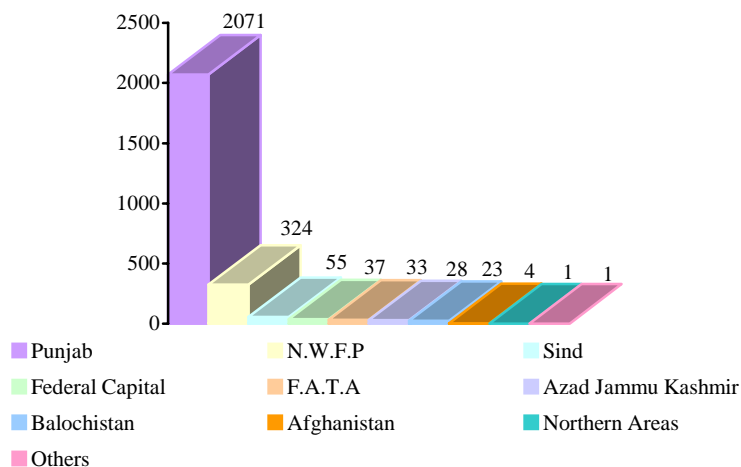


## Demographics

Among the 2,577 patients, nearly 80% (2,071) belonged to the province of Punjab and approximately 12.6% to the North West Frontier Province (N.W.F.P) (Table 3). The fact that the geographic area of residence of a vast majority of patients was Punjab can be explained in light of the information that the hospital is situated in the provincial capital of Punjab and that this province accounts for almost 56% of the total population of the country.

**Table 3. Province wise Distribution of Patients**

Province/Region	Patients
Punjab	2,071
N.W.F.P	324
Sindh	55
Federal Capital	37
F.A.T.A	33
Azad Jammu, Kashmir	28
Balochistan	23
Afghanistan	4
Northern Areas	1
Others	1
<b>Total</b>	<b>2,577</b>

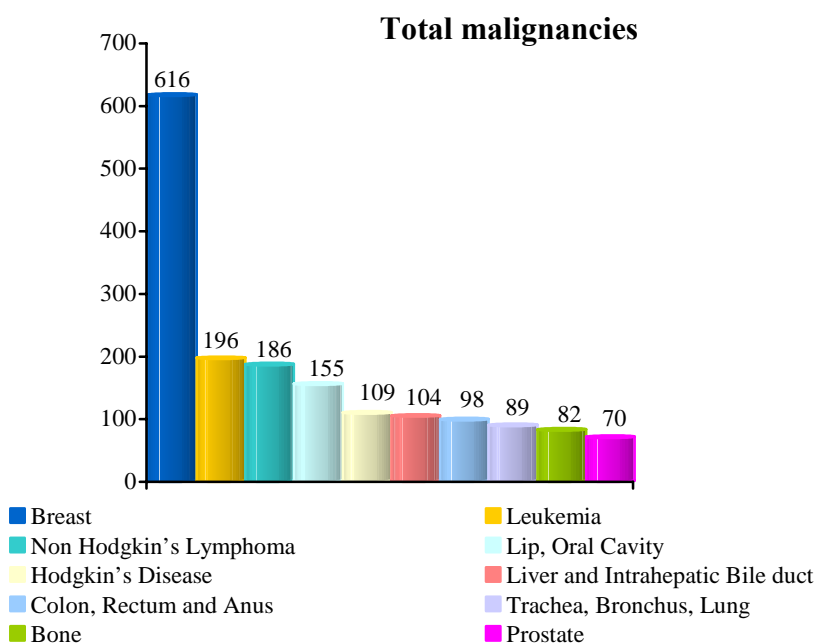


### Top ten cancers

Table 4 shows the list of top ten most common malignancies seen at SKMCH & RC during the period of 2004. Breast cancer is the leading malignancy with 616 cases accessioned into the registry. Leukemia and lymphomas are the second and third most frequently seen cancers, respectively.

**Table 4. Top 10 malignancies seen at SKMCH & RC from January 2004 till December 2004 for all age groups (both sexes) combined.**

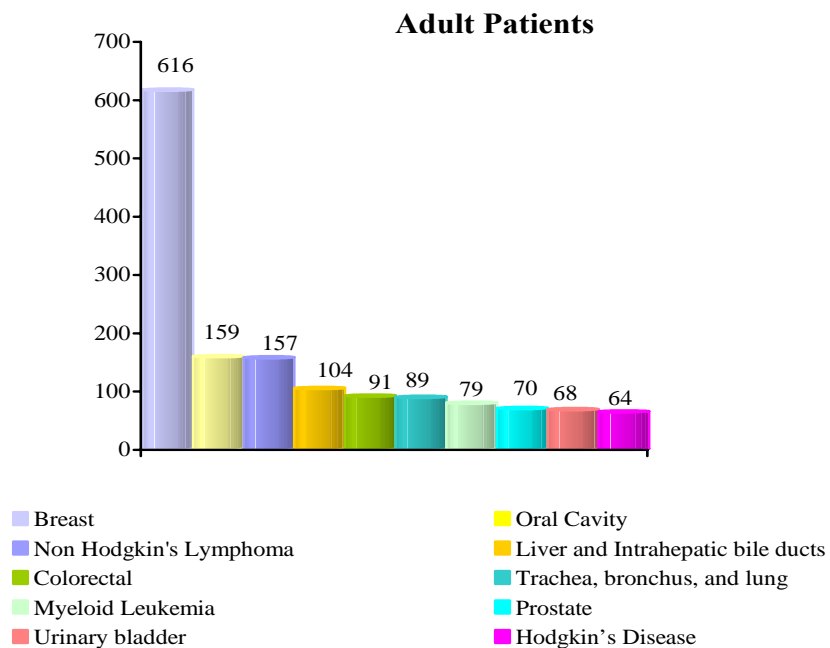
Sr. No.	ICD-O-3 Category	Count	Percentage	ICD-O-3 Code
1	Breast	616	23.90	C50.0-C50.9
2	Leukemia	196	7.61	M982-M994
3	Non-Hodgkin's lymphoma	186	7.22	M9590,91-M967-972
4	Oral cavity	155	6.01	C0.0-C08.9
5	Hodgkin's disease	109	4.23	M9650-M9667
6	Liver and intrahepatic bile ducts	104	4.04	C22.0-C22.1
7	Colon, rectum, and anus	98	3.80	C18.0-C21.8
8	Trachea, bronchus, lung	89	3.45	C33.9-C34.9
9	Bone	82	3.18	C40.0-C41.9
10	Prostate	70	2.72	C61.9



During the year 2004, a total of 2,331 adult malignancies were diagnosed/treated at the Hospital reflecting that breast cancer, cancer of oral cavity, and NHL were the most frequently seen cancers.

**Table 5. Top 10 malignancies seen at SKMCH & RC from January 2004 till December 2004 for adult patients (age >18) only.**

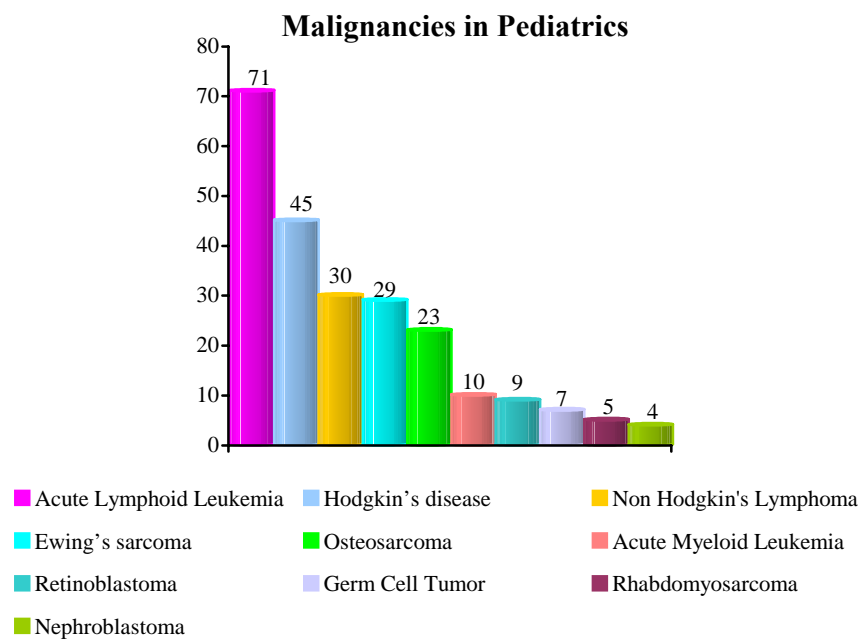
Sr. No.	ICD-O-3 Category	Count	Percentage	ICD-O-3 Code
1	Breast	616	26.42	C50-C50.9
2	Oral cavity	159	6.82	C00-C08
3	Non-Hodgkin's lymphoma	157	6.74	M9590,91- M967-972
4	Leukemia	109	4.68	M982-M994
5	Liver and intrahepatic bile ducts	104	4.46	C22.0-C22.1
6	Colorectal	91	3.90	C18-C21.8
7	Trachea, bronchus, and lungs	89	3.82	C33.9-C34.9
8	Prostate	70	3.00	C61.9
9	Urinary bladder	68	2.91	C67.0-C67.9
10	Hodgkin's disease	64	2.75	M9650-M9667



In children, using the classification based on tumor morphology, acute lymphoid leukemia, Hodgkin's disease, and Non-Hodgkin's disease were identified as the three most common malignancies diagnosed or treated at the hospital Table 6 shows the distributions of top ten malignancies seen in children at SKMCH and RC.

**Table 6. Top 10 malignancies seen at SKMCH & RC from January 2004 till December 2004 for children (age ≤ 18) only.**

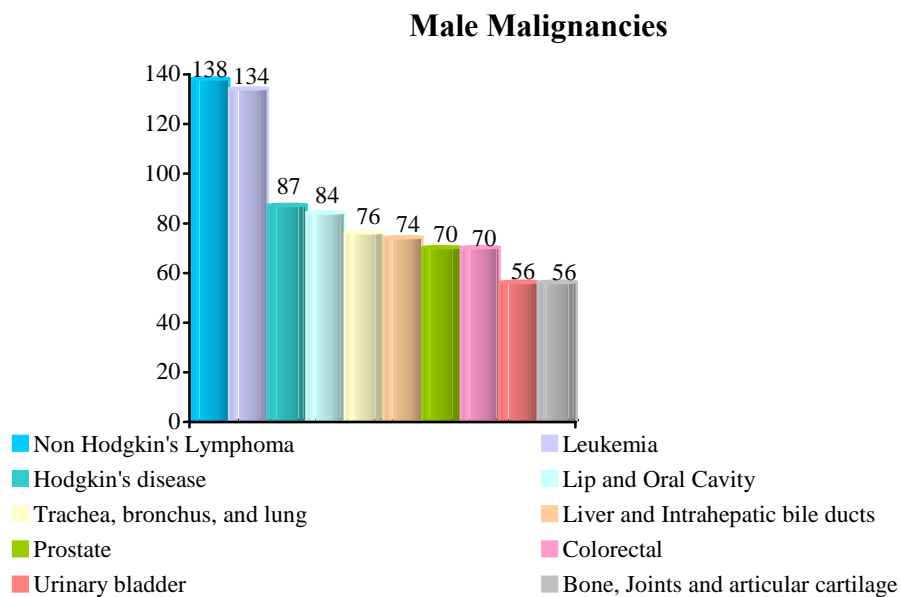
Sr. No.	ICD-O-3 Category	Count	Percentage	ICD-O-3 Code
1	Acute lymphoid leukemia	71	28.86	M982-983
2	Hodgkin's disease	45	18.29	M9650-M9667
3	Non-Hodgkin's lymphoma	30	12.20	M9590, 91- M967-972
4	Ewing's sarcoma	29	11.79	M9260-9364
5	Osteosarcoma	23	9.35	M918-919
6	Acute myeloid leukemia	10	4.07	M9861
7	Retinoblastoma	9	3.66	M951
8	Germ cell tumor	7	2.85	M906-909
9	Rhabdomyosarcoma	5	2.03	M890
10	Nephroblastoma	4	1.63	M8960



The commonest malignancies seen among males were Non-Hodgkin's lymphoma, Leukemia and Hodgkin's disease (Table 7).

**Table 7. Top 10 malignancies seen at SKMCH & RC from January 2004 till December 2004 in males.**

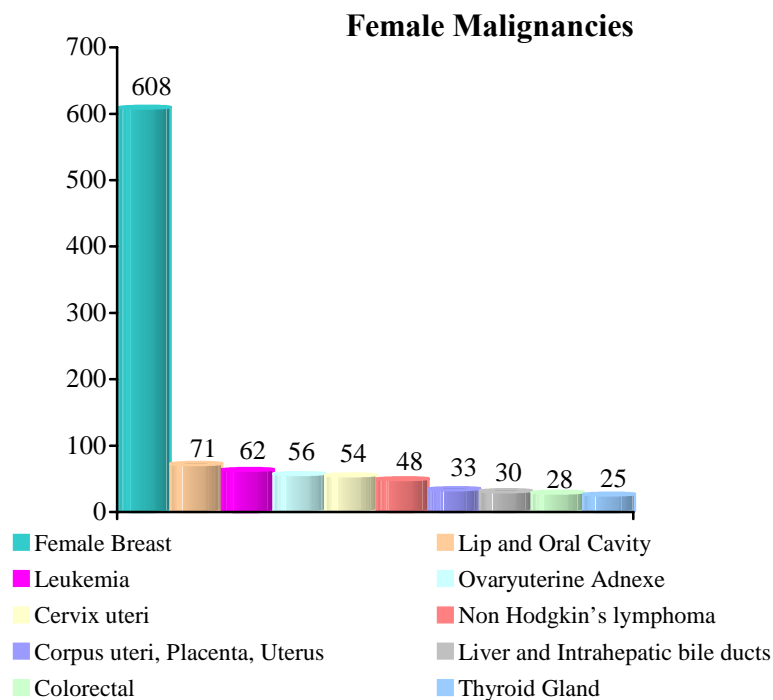
Sr.No.	ICD Category	Count	Percentage	ICD-O-3 Code
1	Non-Hodgkin's lymphoma	138	10.96	M9590, 91- M967-972
2	Leukemia	134	10.64	M982-M994
3	Hodgkin's disease	87	6.91	M9650-M9667
4	Oral cavity	84	6.67	C00.0-C08.9
5	Trachea, bronchus, and lungs	76	6.04	C33.9-C34.9
6	Liver and intrahepatic bile ducts	74	5.88	C22.0-C22.1
7	Prostate	70	5.56	C61.9
8	Colorectal	70	5.56	C18.0-C21.8
9	Urinary bladder	56	4.45	C67.0-C67.9
10	Bone and articular cartilage	56	4.45	C40.0-C41.9



Most frequently diagnosed cancer among women was breast cancer reflecting 43.13% of female cancers. Oral cancer was ranked as the second highest cancer accounting for 5.39% of the cases and leukemia the third most common malignancy with a total of 62 (4.70%) patients.

**Table8: Top 10 malignancies seen at SKMCH & RC from January 2004 till December 2004 among females.**

Sr. No.	ICD Category	Count	Percentage	ICD-O 3 Code
1	Female breast	608	46.13	C50.0-C50.9
2	Lips and oral cavity	71	5.39	C00.0-C08.9
3	Leukemia	62	4.70	M982-M994
4	Ovary/uterine addenda	56	4.25	C56.9-C57.9
5	Cervix uteri	54	4.10	C53.0-C53.9
6	Non Hodgkin's lymphoma	48	3.64	M9590, 91- M967-972
7	Corpus uteri, placenta, uterus	33	2.50	C54.0-C55.9, C58.9
8	Liver and intrahepatic bile ducts	30	2.28	C22.0-C22.1
9	Colorectal	28	2.12	C18.0-C21.8
10	Thyroid gland	25	1.90	C73.9



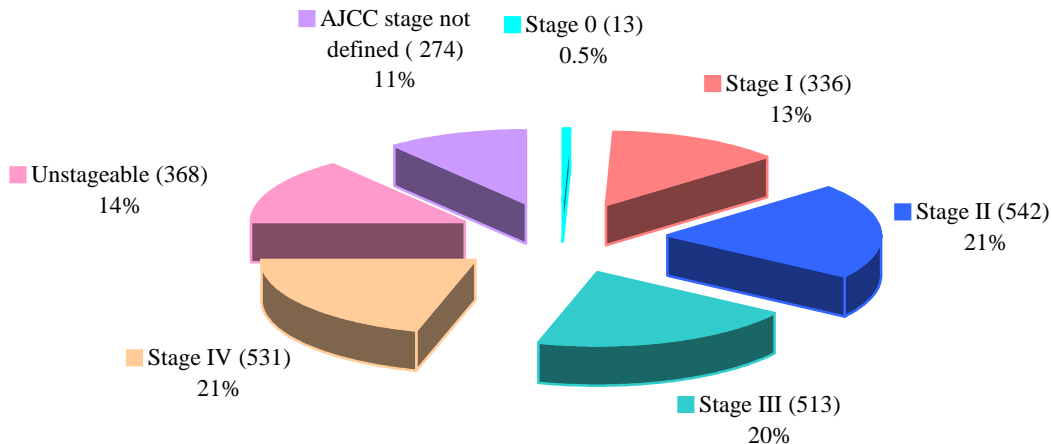
**Staging**

The Registry uses the American Joint Commission on Cancer TNM staging system for all available cancer sites. TNM categorizes cancers in stages 0, 1, 2, 3, 4, and unstageable. Cancers may be unstageable due to non-availability of AJCC staging for that site. The patients may be unstageable as they choose to have no treatment or further tests needed to establish an appropriate stage. During the year 2004, cancer staging for 2,577 patients showed that 13 (0.5%) patients fell into 0 or in situ category, 336 (13%) in stage I, 542 (21%) in stage II, 513 (20%) patients in stage III, and 531 (21%) in stage IV, (table 9); 368 (14.3%) patients were unstageable. Of these, 274 (10.6%) had no AJCC stage for the site.

**Table 9. Cancer stage of patients at SKMCH & RC during year 2004.**

AJCC Stage	No. of Patients
Stage 0	13
Stage I	336
Stage II	542
Stage III	513
Stage IV	531
Unstageable	368
AJCC stage not defined	274
<b>Total</b>	<b>2,577</b>

**Cancer Stage**





**Extent of disease**

SEER Summary Staging Manual-2000 Codes and Coding Instructions were used to describe how far the tumor had spread from the organ or site of origin. This manual consists of a one digit hierarchical code for each and every site. The cancer data for year 2004 reflects that there were 0.43% in situ cases, 26% localized cancers, 30% regional cases, 30% distant, and there were 14% cases in which the summary stage was unknown.

**Table 10. Classification according to the extent of disease at SKMCH & RC during the year 2004.**

EXTENT OF DISEASE	
LOCAL	673
REGIONAL	763
DISTANT	773
UNKNOWN	357
IN SITU	11
<b>TOTAL</b>	<b>2,577</b>

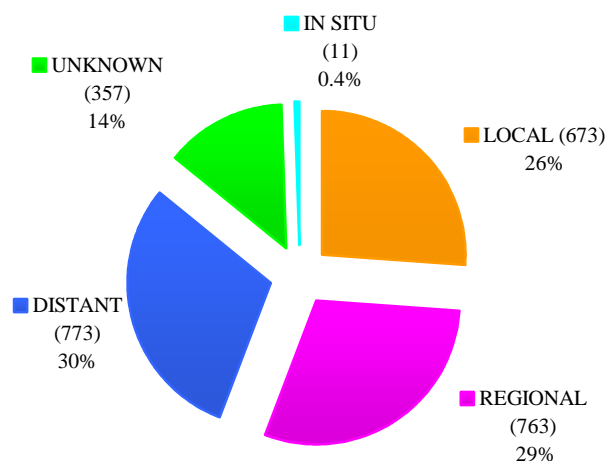


Table 11 depicts the results stratified by various systems according to the ICD-O-3 nomenclature. According to this, breast cancer, digestive cancers, and lymphoma are the commonest system/site(s) for the malignancies seen at the hospital.

**Table 11. Distribution of primary malignant sites, 2004**

Primary site	ICD-0-3 Code	Female	Male	Total
<b>Lip, Oral Cavity, Pharynx</b>	<b>C00-C14</b>	<b>90</b>	<b>111</b>	<b>201</b>
Lip	C00	4	2	6
Tongue	C01-C02	22	39	61
Salivary glands	C07-C08	8	6	14
Gum	C03	14	10	24

Floor and other				
Parts of mouth	C04-C06	23	27	50
Oropharynx	C10	1	0	1
Nasopharynx	C11-C12	6	19	25
Hypopharynx	C13	11	8	19
Tonsil	C09	1	0	1

<b>Digestive system</b>	<b>C15.0-C26.9</b>	<b>119</b>	<b>226</b>	<b>345</b>
Esophagus	C15	18	23	41
Stomach	C16	12	21	33
Small intestine	C17	0	5	5
Colon	C18	10	30	40
Rectum, anal canal, anus	C19	18	40	58
Liver & Intrahepatic bile ducts	C22.0-C22.1	30	74	104
Gall bladder & Extra hepatic bile duct	C23-C24	23	17	40
Pancreas	C25	8	16	24

<b>Retro peritoneum, Peritoneum</b>	<b>C48</b>	<b>0</b>	<b>2</b>	<b>2</b>
---	------------	----------	----------	----------

<b>Respiratory system</b>	<b>C30-C39</b>	<b>27</b>	<b>126</b>	<b>153</b>
Nasal cavities, Ear, acc. sinuses	C30-C31	3	5	8
Larynx	C32	7	39	46
Trachea, bronchus, lungs	C33-C34	13	76	89
Thymus, heart, mediastinum	C37-C38	4	6	10

<b>Bone</b>	<b>C40-C41</b>	<b>26</b>	<b>56</b>	<b>82</b>
-------------	----------------	-----------	-----------	-----------

<b>Connective tissue</b>	<b>C49</b>	<b>22</b>	<b>39</b>	<b>61</b>
--------------------------	------------	-----------	-----------	-----------

<b>Skin</b>	<b>C44</b>	<b>21</b>	<b>33</b>	<b>54</b>
<b>Breast</b>	<b>C50</b>	<b>608</b>	<b>8</b>	<b>616</b>

<b>Female genital organ</b>	<b>C51-C58</b>	<b>151</b>	<b>0</b>	<b>151</b>
Cervix	C53	54	0	54
Corpus uteri, Uterus & Placenta	C54-C55.9, C58.9	33	0	33
Ovary, uterine adnexa	C56.9-C57.9	56	0	56
Vagina	C52.9	5	0	5
Vulva	C51	3	0	3

<b>Male genital organ</b>	<b>C60-C63</b>	<b>0</b>	<b>95</b>	<b>95</b>
Prostate	C61.9	0	70	70
Testis	C62	0	25	25

<b>Urinary system</b>	<b>C64-C68</b>	<b>25</b>	<b>82</b>	<b>107</b>
Bladder	C67	12	56	68
Kidney, renal pelvis, ureter	C64-C66	13	26	39
Others and unspecified	C68	0	0	0
<b>Eye</b>	<b>C69</b>	<b>5</b>	<b>8</b>	<b>13</b>
<b>*Brain &amp; CNS</b>	<b>C70-C72</b>	<b>24</b>	<b>49</b>	<b>73</b>
Brain	C70-C71	19	49	68
Others	C72	5	0	5
<b>Endocrine glands</b>	<b>C73-C75</b>	<b>27</b>	<b>11</b>	<b>38</b>
Thyroid gland	C73.9	25	8	33
Other endocrine gland and related structures	C74-C75	2	3	5
<b>Hematopoietic and Reticuloendothelial system</b>	<b>C42.0-C42.4</b>	<b>64</b>	<b>137</b>	<b>201</b>
Myeloid leukemia	M984-M993	33	62	95
Lymphoid leukemia	M982-M983	29	72	101
Myelodysplastic syndrome	M998	0	2	2
Others	M9940	2	1	3
<b>Plasma cell tumor</b>	<b>M973-M973</b>	<b>49</b>	<b>14</b>	<b>23</b>
Plasmacytoma	M9731	2	1	3
Multiple myeloma	M9732	7	13	20
<b>Lymphatic system</b>	<b>C77</b>	<b>70</b>	<b>225</b>	<b>295</b>
Hodgkin's disease	M9650-M9622	22	87	109
Non-Hodgkin's lymphoma	M9590,91, 967-972	48	138	186
<b>Unknown Primary site</b>	<b>C80</b>	<b>25</b>	<b>34</b>	<b>59</b>
<b>Others &amp; ill defined sites</b>	<b>C76</b>	<b>5</b>	<b>3</b>	<b>8</b>

Note:

Diseases are listed according to International Classification of disease for Oncology, 3<sup>rd</sup> Edition.

\* Non-malignant primary intracranial and CNS tumors reported in 2004 are also included in the table.