



**Ministry of Health
Sultanate of Oman**

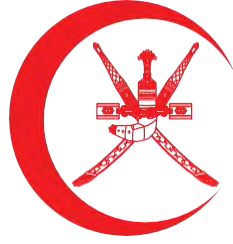
CANCER INCIDENCE IN OMAN 2019



دائرة الأمراض غير المعدية
Department of Non-Communicable Diseases



**Department of Non-Communicable Diseases
Directorate General of Primary Health Care**



**Ministry of Health
Sultanate of Oman**



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Cancer Incidence in Oman 2019

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Directorate General of Primary Health Care**

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**The National Cancer Incidence reports are released annually by the National
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For queries please contact the National Cancer Registry.**

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We are pleased to release the 2019 cancer incidence in Oman. All the estimated incidence rates were based on 2019 estimated mid-year population and obtained from Ministry of Health's annual health report. The total population was 4,17,927 of which 2,655,144 were Omanis and 1,962,783 were Non-Omanis.

The total number of all tumors registered in 2019 was 2,307. Of these, 2,089 (90.55%) were among Omanis, 200 (8.67%) were Non-Omanis and only 18 (0.78%) cases were carcinoma in Situ. Of the total 2,089, males' accounted for 931 cases (44.57%) and females' accounted for 1158 (55.43%) cases. In children aged 14 years and below, 124 cases were reported.

The median age at diagnosis was 54 years. This was higher in males' (median age of 60) than in females' (median age of 50). The crude incidence rates for all cancer among Omanis were 69.6 per 100,000 for males and 87.9 per 100,000 for females. The age-standardized rate, adjusted to the world standard population, was 113.6 per 100,000 for males and 122.4 per 100,000 for females.

Overall, breast cancer, predominantly female, was the most common cancer, with the median age at diagnosis being 48.5 years, followed by thyroid cancer and colorectal cancer.

The total updated registered cases for 2018 were 2,012 cases compared to 1,911 cases at the time of publication, with an increase of 101 cases .

The 2019 Cancer Incidence report is released without the data of patients diagnosed in the UAE, and the data will be updated once the information is available.

Acknowledgement

The release of the National Cancer Incidence reports would not be possible without the support of the countless teams in the hospitals who, through the regular provision of data and information, continue to contribute to the registration of cancer cases in Oman. The National Cancer Registry would like to show its immense gratitude to all healthcare providers and administrators in all hospitals in Oman. We also acknowledge and thank the reviewers of the National Cancer Incidence reports for their invaluable assistance and insights leading to the release of the Cancer Incidence reports every year.

The National Cancer Registry would also like to take this opportunity to express their immense and deepest gratitude to the late Dr Abdulaziz Al Farsi, Senior Consultant Oncology, National Oncology Center, Royal Hospital, who had been a strong supporter of the National Cancer Registry and who had contributed immensely to oncology services in Oman.

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Ministerial Decision No. 222/ 2017 on Registration of Cancer Cases

Based on the Royal Decree No. 36/ 2014 on determining the terms of reference of the Ministry of Health and the approval of its organizational structure, and The Ministerial Decision No.4/2001 on Notification of Cancer Cases, and for the public interest, the following have been decided:

Article (1): The following neoplasms are considered cancerous diseases or carcinoma in-situ numbered as per the 10th revision of the International Statistical Classification of Diseases & Related Health Problems (ICD-10):

- Malignant Neoplasms (C00-C79)
- In Situ Neoplasms (D00-D09)
- Neoplasms of Uncertain or Unknown Behaviour (D37- D48)

Article No. (2): If a person is clinically or surgically or laboratory diagnosed with cancer or suspected of having cancer or carcinoma in-situ, it should be reported to the Oman National Cancer Registry at the Non-communicable Diseases Department in the Directorate General of Primary Health Care on the attached form within (30) days from the date of diagnosis.

Article No. (3): Reporting of cancer cases mentioned in the aforesaid Article shall be the responsibility of the following:-

- a. The doctor who has examined the patient
- b. The technician of the laboratory where the sample was confirmed positive
- c. The Director or Head of the government health institution (Civil or Military) or private health institutions, in which the case was diagnosed.

Article No. (4): Recording of persons with cancer or suspected cases in the Oman National Cancer Registry shall be according to the disease classification and shall include their trinomial name, tribe name, surname, age, sex, nationality and addresses.

Article No. (5): The Oman National Cancer Registry records are confidential, no persons other than the Registry workers are allowed to view or disclose them except on the grounds of the public interest.

Article (6): The Ministerial Decision No. 4/2001 shall be cancelled and all that contravenes with this Decision or contradicts with its provision shall be cancelled.

Article (7): This Decision shall come into effect from the date of its issue, and shall be implemented by the competent each in his respective field of specialization.

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Dr. Ahmed bin Mohammed bin Obaid Al Saidi
Minister of Health

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Background Of The Sultanate Of Oman

Geographical Features

The Sultanate of Oman is located in the southeastern corner of the Arabian Peninsula. It has a coastal line extending almost 1,700 kilometers from the Strait of Hormuz in the north to the borders of the Republic of Yemen, overlooking three seas; the Arabian Gulf, the Sea of Oman and the Arabian Sea. The country borders Saudi Arabia and United Arab Emirates (UAE) in the west, the Republic of Yemen in the south, the Strait of Hormuz in the north and the Arabian Sea in the east. Besides, there are a number of scattered Omani islands in the Arabian Sea; the most important are Masirah and Al-Halaniyat.

The total area of the Sultanate of Oman is approximately 309,500 square kilometers, and it is the third largest country in the Arabian Peninsula. The Sultanate comprises varying topographic areas consisting of plains, wadis (dry river beds) and mountains. The most important area is the plain overlooking the Sea of Oman and the Arabian Sea, with an area of about 3% of the total area. The mountain ranges occupy almost 15% of the total land of Oman and are inhabited by about 5% of the population. The remaining area is mainly sand, wadis and desert (about 82% of the total area).

The climate differs from one area to another; it is hot and humid in the coastal areas in summer and hot and dry in the interior, except for the higher mountains and Dhofar Governorate, which enjoy a moderate climate throughout the year.

The Sultanate of Oman is administratively divided into 11 Governorates with 63 Wilayah. The 11 governorates are Muscat, Dhofar, Musandam, Ad Dakhliyah, Al Buraymi, A'Sharqiyah South and North, Al Batinah, South and North, A'Dhahirah, and Al Wusta.

Population Structure

The estimated mid-year population in 2019 was 4,617,927 of which 2,655,144 were Omanis and 1,962,783 were Non-Omanis (Table 1). The Omani population shows a sex ratio of 985 females per 1000 males. About 15.3 % of the population are under-5 years and 37.9 % are under-15 years. Only 4.2 % of the total Omani population are above the age of 65 years

Table 2 gives the population distribution of Omanis by region and gender, which was used to calculate incidence rates for different regions.

Background

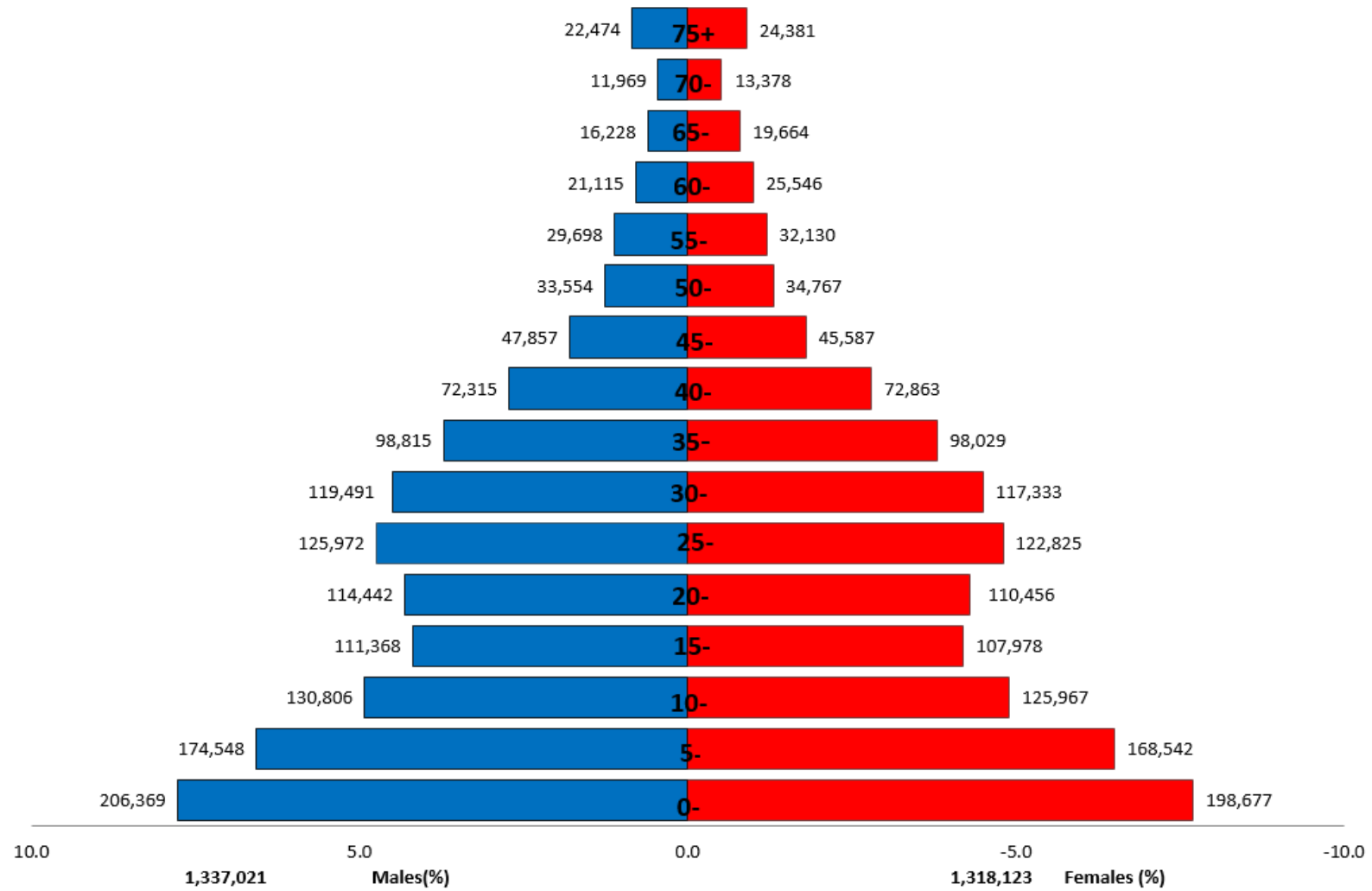
Table 1: Age structure of the Omani Population 2019

Age Group	Male	%	Female	%	Total	%
0-4	206,369	15.4	198,677	15.1	405,046	15.3
5-9	174,548	13.1	168,542	12.8	343,090	12.9
10-14	130,806	9.8	125,967	9.6	256,773	9.7
15-19	111,368	8.3	107,978	8.2	219,346	8.3
20-24	114,442	8.6	110,456	8.4	224,898	8.5
25-29	125,972	9.4	122,825	9.3	248,797	9.4
30-34	119,491	8.9	117,333	8.9	236,824	8.9
35-39	98,815	7.4	98,029	7.4	196,844	7.4
40-44	72,315	5.4	72,863	5.5	145,178	5.5
45-49	47,857	3.6	45,587	3.5	93,444	3.5
50-54	33,554	2.5	34,767	2.6	68,321	2.6
55-59	29,698	2.2	32,130	2.4	61,828	2.3
60-64	21,115	1.6	25,546	1.9	46,661	1.8
65-69	16,228	1.2	19,664	1.5	35,892	1.4
70-74	11,969	0.9	13,378	1.0	25,347	1.0
75+	22,474	1.7	24,381	1.8	46,855	1.8
Total	1,337,021	100	1,318,123	100	2,655,144	100

Table 2: Population Distribution of Omanis by Governorates and Gender, 2019

Region	Males	Females	Total
Muscat	285,719	274,292	560,011
North Al - Batinah	262,504	257,156	519,660
Ad - Dakhliyah	181,180	183,061	364,241
South Al - Batinah	157,727	158,764	316,491
Dhofar	114,133	109,482	223,615
South Ash - Sharqiah	106,620	107,185	213,805
North Ash - Sharqiyah	90,414	93,081	183,495
Adh -Dhahirah	80,150	80,196	160,346
Buraymi	30,133	27,946	58,079
Musanadam	15,587	14,527	30,114
Al - Wusta	12,854	12,433	25,287
Total	1,337,021	1,318,123	2,655,144

Figure 1: Population Pyramid, Oman, 2019



Background

Figure 2: Health Administrative Regions of The Sultanate of Oman



Oman National Cancer Registry

The Oman National Cancer Registry was established in 1985 as a hospital-based registry. Only cases treated in tertiary hospitals were registered. In 1996, with the establishment of the Department of Non-Communicable Diseases Surveillance and Control, the cancer registry was transferred and started functioning under the Directorate General of Health Affairs. New cancer notification forms were developed and distributed to all regional hospitals and sister institutions. In 2000, the registration form was simplified (see annex 2), printed and distributed to all institutions that could potentially report cancer cases. Two trained cancer registrars are responsible for data collection, coding and entry.

Objective of Cancer Registry

1. To compile an accurate database on cancer incidence in The Sultanate of Oman.
2. To monitor cancer trends, which can guide policymakers in setting priorities for the control and management of cancer.
3. To provide researchers and clinicians with population-based information on the number and types of cancer cases and their geographical distribution within the Sultanate of Oman.

Methods

1. Data Collection

a) Active Collection

The active collection involves the registry personnel visiting different sources and abstracting data on Cancer Registry Forms.

Being the largest tertiary centre for diagnosis and treatment of cancer, registrars visit the Royal Hospital twice a week and abstract data on the notification forms. Similarly, other tertiary hospitals like Khoula Hospital and Al-Nahda Hospital are visited monthly. A new National Oncology Centre was established in the Royal Hospital in November 2004, after which data is also collected from chemotherapy and radiotherapy lists. Patients diagnosed abroad are traced through the Oncology Outpatient Register at the Royal Hospital, and subsequently, data are extracted from their case notes. Details of patients treated abroad are obtained from the Department of Treatment Abroad, Ministry of Health.

b) Passive Reporting

Cancer notification was made mandatory in 2001 through a Ministerial Decision (4/2001). When a case of cancer is diagnosed, the attending physician of the relevant specialty or the medical records department at the regional hospital completes the notification forms and sends them to the registry. Other institutions like the Armed Forces Hospital and Sultan Qaboos University Hospital do similar passive reporting. In 2017, the above Ministerial Decision was updated (222/2017) to include all health (Civil or Military) institutions in Oman, including private hospitals. The cancer registrars frequently visit these institutions for data extraction of patients diagnosed in them.

2. Data-Coding, Entry and Validity Checks

Until 2001 all cancer cases were being coded using International Classification of Diseases for Oncology (ICDO-2) codes, 2nd Edition, with topography 'C' and morphology 'M' codes.

Data was entered in CanReg-3 programme, supplied by the International Agency for Research on Cancer(IARC),Lyon,France. Canreg-4 software programme and International Classification of Diseases for Oncology ICDO-3 began to be used in 2003, since it was introduced in October 2002. This programme has a duplicate entry checking facility, which avoids the same case being registered more than once. In 2016, the registry software was upgraded to CanReg5 (version 5.00.40). For this report, we used CanReg5 (version 5.00.42). Validity checks were performed for consistency between site/histology, gender/site, and age/site/histology combinations using the same version.

3. Completeness of Data Reporting

Data are obtained from all hospitals with histopathology/cytology and hematology laboratories (Royal, al-Nahdha, Khoula, Sultan Qaboos and Sohar Hospitals) from copies of reports of patients diagnosed as cancer to the registry. Since mid-2001, the Sultan Qaboos University and Armed Forces Hospitals histopathology laboratories have also started sending reports.

Since the establishment of the new National Oncology Center in November 2004, the chemotherapy and radiotherapy lists are also obtained once a week. Monthly hospital "admission–discharge" lists were sent from the tertiary hospitals. From 2003, similar lists were sent by all the regional hospitals. These lists help

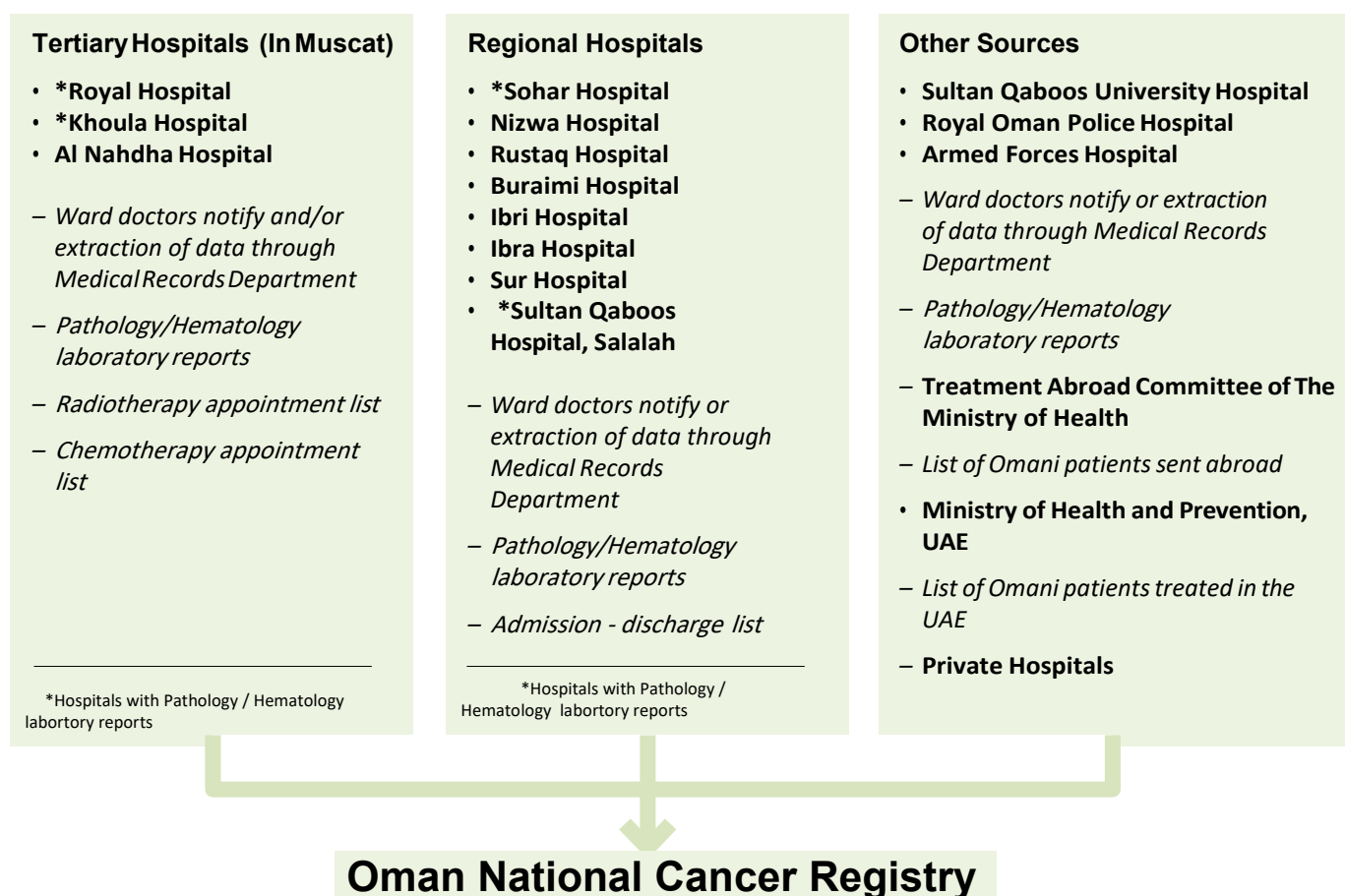
in updating the registry and in updating the status of the patient (deceased or alive).

The list of patients with cancer on chemotherapy is obtained from tertiary hospitals. Details of missing data are sought from all of the above sources so that the . registry can be updated

4. Data Analysis

Data is first checked for consistency and validity using the International Agency for Research on Cancer (IARC), 2008 software (Canreg-5.00.40 build1566). Frequency distribution and incidence tables are generated for Omanis only, using the Canreg-5 programme. Data for individual cancers are then exported in csv form to Stata software (version 14.2, Stata Corporation, TX, USA) to analyse incidence by region, gender and morphological types. The results for childhood cancers are presented for the whole Sultanate according to the diagnostic groups defined in the "International Classification of Childhood Cancers, third edition, 2005" Steliarova Foucher et al., 2005). Bar diagrams and graphs are made using Microsoft Excel version 2013 (Microsoft Corporation).

Figure 3: Data flow into the national cancer registry



The National Center for Statistics and information provides population denominators (by 5- year age group and gender by region), which are used for calculating incidence rates. Since the 2003 report, we have included four comprehensive tables showing the frequency as well as the incidence of cancers by site, from the year 2004 onwards.

5. Definitions

Incidence

The number of new cancer cases in a defined population within a specific period.

Date of Diagnosis

The date documented on the histopathology report. For clinical cases, the date of diagnosis is the date stated in patient's case notes .

Population at Risk

Individuals who are susceptible to specific cancers.

Crude incidence rate

The number of new cancer cases in the population occurring within a Gregorian calendar (1st January to 31st December) divided by the population at risk in the same period expressed per 100,000.

Age-specific rate

Incidence rate in a specific age group.

Age-standardized rate (ASR)

Age standardization is necessary when comparing several populations that differ with respect to age. Hence the World Standard Population of Segi, (Table 3) (Segi M.Cancer mortality for selected sites in 24 countries (1950-57). Sendai: Tohoku University, School of Medicine, 1960) was used to adjust the crude

incidence rates and to remove the confounding effect of age. Therefore, the age-adjusted rates (ASR) could be used for comparison purposes with other rates where the same world standard population was used, especially those issued by the World Health Organization's agency, the International Agency for Research on Cancer (IARC), in its periodic publication, Cancer Incidence in Five Continents.

Multiple primaries

Two or more abnormal growths of tissue occurring simultaneously and may be found in the same or different sites.

Metastasis

It is the distant spread of cancer from its original site to other body organs, including lymph nodes, skeletal and/or visceral organs.

Carcinoma in situ:

A group of abnormal cells that remain in the place where they first formed. They have not spread.

Table 3: Age Structure of the World Standard Population of Segi, used for Age-adjustment

Age Group	Population
00-04	12,000
05-09	10,000
10-14	9,000
15-19	9,000
20-24	8,000
25-29	8,000
30-34	6,000
35-39	6,000
40-44	6,000
45-49	6,000
50-54	5,000
55-59	4,000
60-64	4,000
65-69	3,000
70-74	2,000
75+	2,000
Total	100,000

Table 4: Stability of data overtime

Publ. Year	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
2007	837												
2008	899	881											
2009	900	899	915										
2010	900	901	921	876									
2011	908	920	964	956	1187								
2012	912	935	987	1008	1293	1212							
2013	912	935	987	1009	1302	1242	1242						
2014	912	950	995	1039	1316	1271	1371	1394					
2015	937	958	1013	1050	1337	1295	1410	1507	1615				
2016	938	962	1017	1052	1339	1301	1418	1523	1691	1780			
2017	938	964	1020	1059	1345	1309	1425	1537	1725	1880	1892		
2018	938	965	1023	1061	1348	1309	1430	1541	1737	1891	1938	1911	
2019	939	965	1023	1061	1350	1309	1437	1550	1737	1909	1966	2012	2089
Max	939	965	1023	1061	1350	1309	1437	1550	1737	1909	1966	2012	2089
Min	837	881	915	876	1187	1212	1242	1394	1615	1780	1892	1911	2089
Average	913	936	988	1017	1313	1281	1390	1509	1701	1865	1932	1962	2089
Max-Min	102	84	108	185	163	97	195	156	122	129	74	101	
% Max variatio	%11.20	%8.97	%10.9	%18.19	%12.4	%7.57	%14.00	%10.34	%7.17	%6.92	%3.83	%5.15	

The table shows the total number of registrations annually and the updated numbers for each year following publication

Table 5: Updated cancer cases over years 2007-2019 (Omani)

Years	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Frequency	939	965	1,023	1,061	1,350	1,309	1,437	1,550	1,735	1,909	1,966	2,012	2,089

Figure 4: Trends of cancer cases 1996-2019 (Omani)

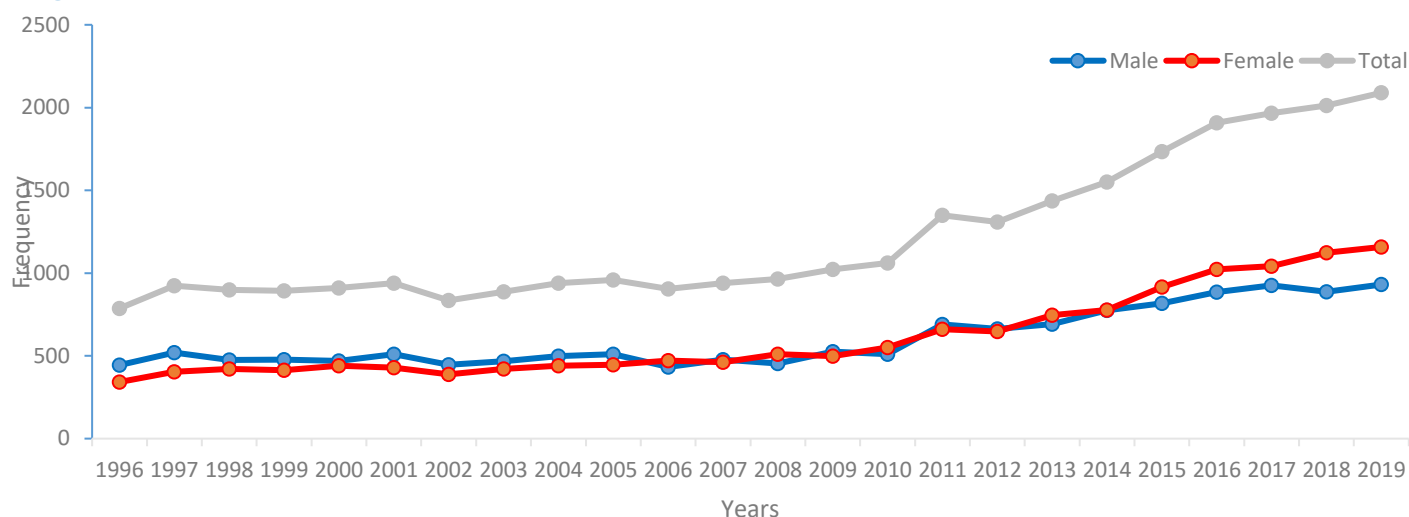
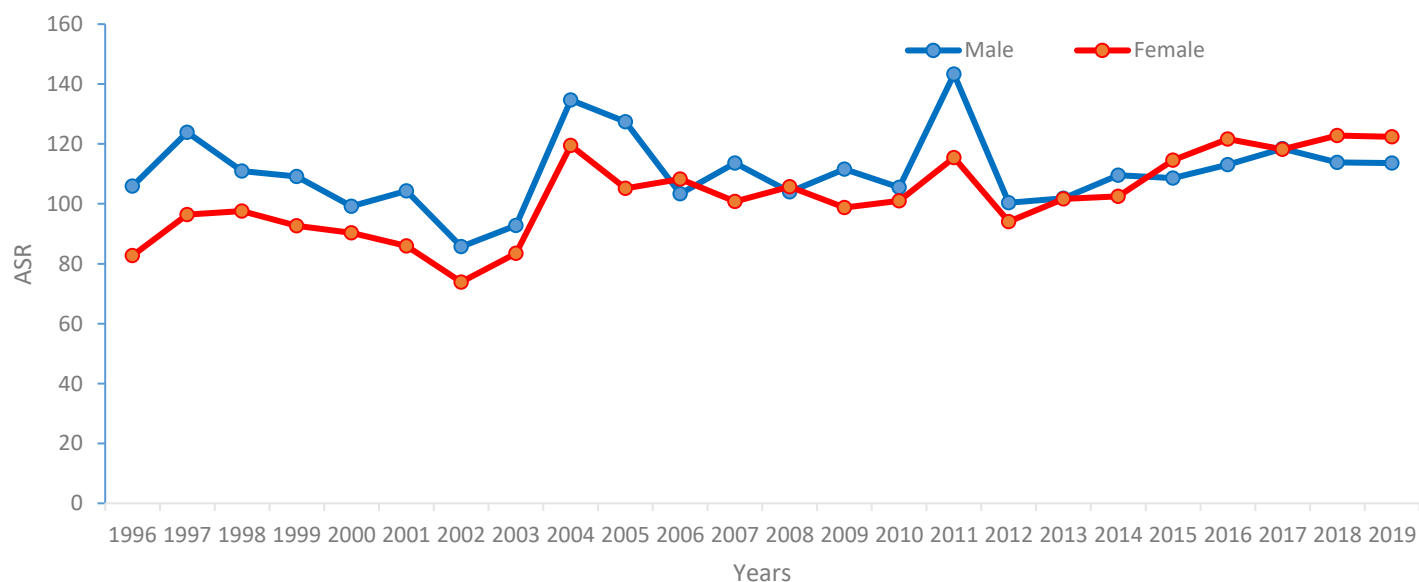


Figure 5: Trends of cancer ASR 1996-2019 (Omani)



Data quality indicators

Validity (accuracy): The proportion of cases in a dataset with a given characteristic which truly have the attribute.

It is estimated by :

1. Re-abstracting and recoding by checking on the accuracy of recording and correcting any obvious deficiencies.
2. Internal consistency – check program (CanReg 5)
3. Morphological verification (%MV) – the percentage of cases with a morphologically verified diagnosis.
4. Death certificate only (%DCO) – the percentage of cases for which the only information came from a death certificate.
5. Missing information – proportion or percentage of cases with missing data
 - Primary site uncertain (% PSU) – C26, C39, C48, C76, C80
 - Age , sex
 - Stage

Table 6: Data quality indicators (Validity Table)

Indicators Percentage (%)	2018	2019
Morphologically verified (MV %)	98.17%	98.61%
Death certificate only (DCO %)	0.0 %	0.0%
Primary site uncertain (PSU %)	2.0%	0.9%
Age unknown (%)	0.0%	0.0%

Table 7: Data Quality indicators exported from Canreg 5

OMAN National Cancer Registry (2019)

Data Quality Indicators

MALE

SITE	Cases	ASR	var	Se	(%)MV	(%)CLIN	(%)DCO	ICD10
Mouth & pharynx	28	3.38	0.48	0.69	100	0	0	C00–14
Oesophagus	12	1.86	0.31	0.56	100	0	0	C15
Stomach	64	8.01	1.13	1.06	100	0	0	C16
Colon, rectum, anus	125	16.65	2.46	1.57	100	0	0	C18–21
Liver	45	6.26	0.97	0.98	55.56	44.44	0	C22
Pancreas	17	2.25	0.33	0.57	100	0	0	C25
Larynx	8	0.94	0.12	0.34	100	0	0	C32
Lung, trachea, bronchus	61	8.65	1.34	1.16	100	0	0	C33–34
Pleura & other thoracic	2	0.11	0.01	0.08	100	0	0	C37–38
Melanoma of skin	4	0.49	0.06	0.25	100	0	0	C43
Breast	12	1.69	0.26	0.51	100	0	0	C50
Prostate	113	16.52	2.62	1.62	100	0	0	C61
Testis	15	1.26	0.13	0.36	100	0	0	C62
Kidney & urinary NOS	36	4.06	0.54	0.73	100	0	0	C64–66,68
Bladder	61	8.13	1.19	1.09	96.72	3.28	0	C67
Brain & nervous system	30	2.96	0.35	0.59	100	0	0	C70–72
Thyroid	50	4.22	0.43	0.66	100	0	0	C73
Ill-defined	15	1.84	0.26	0.51	100	0	0	C76–80
Lymphoma	98	10.81	1.42	1.19	100	0	0	C81–85,90,88,96
Leukaemia	56	4.77	0.51	0.72	100	0	0	C91–95
All sites but C44	899	109.4	15.46	3.93	97.55	2.45	0	ALLbC44

FEMALE

SITE	Cases	ASR	var	Se	(%)MV	(%)CLIN	(%) DCO	ICD10
Mouth & pharynx	13	1.25	0.14	0.37	100	0	0	C00–14
Oesophagus	6	0.84	0.12	0.34	100	0	0	C15
Stomach	52	6.15	0.8	0.89	100	0	0	C16
Colon, rectum, anus	92	11.22	1.46	1.21	100	0	0	C18–21
Liver	23	2.58	0.33	0.58	78.26	21.74	0	C22
Pancreas	19	2.49	0.35	0.59	100	0	0	C25
Larynx	3	0.37	0.05	0.22	100	0	0	C33–34
Lung, trachea, bronchus	21	2.68	0.36	0.6	100	0	0	C37–38
Melanoma of skin	1	0.15	0.02	0.15	100	0	0	C43
Breast	338	35.38	4.18	2.04	100	0	0	C50
Cervix	34	4.03	0.51	0.72	100	0	0	C53
Corpus & Uterus NOS	51	6.43	0.87	0.93	100	0	0	C54–55
Ovary & adnexa	45	5.21	0.67	0.82	97.78	2.22	0	C56
Kidney & urinary NOS	25	2.56	0.3	0.55	100	0	0	C64–66,68
Bladder	15	1.69	0.2	0.45	100	0	0	C67
Brain & nervous system	18	1.78	0.2	0.45	100	0	0	C70–72
Thyroid	185	15.42	1.49	1.22	100	0	0	C73
Ill-defined	8	0.91	0.12	0.34	100	0	0	C76–80
Lymphoma	87	8.9	1.04	1.02	100	0	0	C81–85,90,88,96
Leukaemia	35	3.15	0.33	0.58	100	0	0	C91–95
All sites but C44	1127	118.57	14.15	3.76	99.38	0.62	0	ALLbC44

Cases of unknown age (0M/0F) were excluded from these analyses

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Table 8: Frequency of Cancers among Omani Males, 2007-2019

SITE	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	ICD (10th)
Lip	0	1	0	1	2	1	2	0	0	2	2	1	3	C00
Tongue	6	4	3	4	4	4	12	6	14	5	10	10	1	C01-02
Mouth	5	6	8	3	8	7	5	11	6	7	16	8	12	C03-06
Salivary glands	1	2	1	2	0	2	2	2	5	5	3	2	1	C07-08
Tonsil	2	1	0	1	0	0	1	0	1	0	1	0	0	C09
Other oropharynx	0	1	1	1	2	0	1	1	3	1	0	2	1	C10
Nasopharynx	4	6	6	5	4	3	3	10	13	5	6	7	8	C11
Hypopharynx	0	1	3	0	0	0	0	1	3	3	0	0	1	C12-13
Pharynx unspecified	1	0	1	0	1	0	1	1	1	0	1	1	1	C14
Oesophagus	9	5	8	15	10	10	10	15	10	8	11	18	12	C15
Stomach	36	33	50	33	58	65	55	56	47	57	58	57	64	C16
Small intestine	2	0	2	2	5	3	3	4	11	7	2	3	7	C17
Colon	21	19	24	32	38	45	45	46	54	51	89	79	85	C18
Rectum	11	10	19	11	26	26	27	24	35	32	42	28	39	C19-20
Anus	2	2	1	1	3	4	4	2	1	4	7	4	1	C21
Liver	20	30	18	19	29	34	32	57	51	68	48	54	45	C22
Gallbladder etc	7	3	4	5	7	2	4	3	7	5	9	8	4	C23-24
Pancreas	5	8	10	14	17	16	23	13	18	22	28	18	17	C25
Nose, sinuses etc	3	1	1	1	3	0	0	0	1	1	4	3	1	C30-31
Larynx	6	4	4	12	7	7	8	7	8	17	8	8	8	C32
Trachea, bronchus and lung	40	29	30	25	44	33	42	50	44	58	62	50	61	C33-34
Other thoracic organs	1	1	3	0	5	0	2	3	1	3	1	2	2	C37-38
Bone	5	4	11	13	16	9	8	10	10	13	6	9	4	C40-41
Melanoma of skin	2	2	4	2	3	2	4	2	2	1	1	1	4	C43
Other skin	22	23	25	20	22	25	32	22	23	32	25	36	32	C44
Mesothelioma	1	1	0	0	4	1	1	2	1	2	3	2	4	C45
Kaposi sarcoma	3	2	3	2	7	1	4	0	2	2	2	1	1	C46
Connective and soft tissue	3	8	4	10	7	9	8	12	19	8	10	11	15	C47,C49
Breast	4	1	5	8	6	8	5	10	6	8	6	9	12	C50
Penis	0	1	0	1	0	0	0	1	1	0	0	2	0	C60
Prostate	55	41	48	49	71	84	84	84	92	100	103	92	113	C61
Testis	6	7	6	7	10	6	9	11	13	8	13	18	15	C62
Other male genital organs	0	1	1	0	0	0	0	0	1	1	0	0	0	C63
Kidney	5	7	18	22	14	15	16	26	21	16	18	31	34	C64
Renal pelvis	2	0	0	0	0	0	0	0	1	0	0	1	0	C65
Ureter	0	0	0	0	0	1	0	0	1	0	1	0	2	C66
Bladder	33	25	26	36	35	35	48	54	44	51	61	44	61	C67
Other urinary organs	0	0	0	0	0	0	0	0	0	0	0	1	0	C68
Eye	5	2	1	0	3	1	1	0	2	2	3	1	2	C69
Brain, nervous system	14	14	23	18	20	29	18	30	25	31	30	29	30	C70-72
Thyroid	7	12	13	3	12	17	19	32	31	46	30	46	50	C73
Adrenal gland	1	0	3	6	4	6	4	3	6	4	5	4	4	C74
Other endocrine	1	0	1	0	0	0	1	2	0	2	0	0	3	C75
Hodgkin disease	11	18	17	17	24	27	20	25	30	36	40	27	28	C81
Non-Hodgkin lymphoma	43	45	41	41	57	54	55	63	67	63	69	56	49	C82-85,C96
Immunoproliferative diseases	0	1	0	0	1	0	0	0	1	1	0	4	0	C88
Multiple myeloma	10	9	9	9	7	13	15	10	11	8	12	15	21	C90
Lymphoid leukaemia	12	26	32	25	37	15	20	33	28	37	25	32	25	C91
Myeloid leukaemia	20	17	14	15	27	18	17	20	29	24	27	30	25	C92-94
Leukaemia unspecified	5	2	1	3	2	2	4	1	0	4	4	0	6	C95
Myeloproliferative disorders	3	1	1	2	1	0	0	0	1	1	2	0	1	MPD
Myelodysplastic syndromes	0	0	0	2	0	0	0	1	1	0	0	0	0	MDS
Other and unspecified	23	17	21	13	26	22	17	8	15	24	21	23	16	O&U
All sites	478	454	525	511	689	662	692	774	818	886	925	888	931	ALL
All sites but C44	456	431	500	491	667	637	660	752	795	854	900	852	899	ALLbC44

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Table 9: Frequency of Cancers among Omani Females, 2007-2019

SITE	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	ICD (10th)
Lip	1	2	0	0	0	2	0	0	2	1	2	0	1	C00
Tongue	2	2	2	4	4	3	1	6	6	1	4	4	3	C01-02
Mouth	5	3	5	4	3	3	5	8	3	8	7	2	5	C03-06
Salivary glands	2	2	2	2	3	1	1	2	4	1	4	1	0	C07-08
Tonsil	0	0	0	0	0	0	0	0	0	1	2	0	0	C09
Other oropharynx	1	0	0	0	0	0	1	0	0	0	1	0	1	C10
Nasopharynx	1	4	3	5	3	3	1	2	6	3	4	1	2	C11
Hypopharynx	1	1	0	0	0	0	0	2	0	0	0	1	0	C12-13
Pharynx unspecified	1	1	0	0	1	0	1	0	0	0	0	0	1	C14
Oesophagus	10	6	8	5	4	9	3	3	5	3	3	8	6	C15
Stomach	18	15	24	23	25	29	31	35	23	26	35	31	52	C16
Small intestine	0	2	1	1	2	3	4	0	2	3	5	2	7	C17
Colon	21	21	24	17	23	43	28	48	48	48	63	69	64	C18
Rectum	11	10	12	19	16	17	24	25	24	31	26	36	25	C19-20
Anus	3	1	1	2	3	0	0	2	2	1	4	2	3	C21
Liver	4	5	16	15	11	14	17	33	30	35	22	26	23	C22
Gallbladder etc	4	6	6	2	6	8	4	7	5	11	13	7	7	C23-24
Pancreas	1	7	4	5	8	9	15	11	11	12	15	22	19	C25
Nose, sinuses etc	2	0	4	1	1	0	0	1	2	2	0	3	0	C30-31
Larynx	1	0	3	1	0	1	2	1	3	0	2	0	3	C32
Trachea, bronchus and lung	6	11	15	8	14	20	17	16	19	18	34	25	21	C33-34
Other thoracic organs	2	2	0	1	1	3	0	1	3	1	2	1	0	C37-38
Bone	2	2	1	3	8	9	12	6	1	11	4	11	9	C40-41
Melanoma of skin	3	2	2	2	4	1	1	0	3	1	2	4	1	C43
Other skin	8	16	19	24	20	20	24	20	32	28	30	29	31	C44
Mesothelioma	0	0	0	0	0	0	0	1	1	1	1	1	1	C45
Kaposi sarcoma	1	2	1	1	0	0	1	0	0	1	1	0	0	C46
Connective and soft tissue	5	5	3	4	3	10	8	4	12	14	11	7	11	C47,C49
Breast	108	124	124	139	163	158	184	176	222	276	278	296	338	C50
Vulva	2	0	0	1	0	2	2	0	0	1	2	2	1	C51
Vagina	0	2	0	0	2	4	1	3	1	2	4	0	0	C52
Cervix uteri	25	30	13	36	31	26	26	32	34	34	32	29	35	C53
Corpus uteri	10	13	13	15	24	15	16	19	24	32	27	40	41	C54
Uterus unspecified	3	6	2	3	6	5	5	7	7	7	7	12	10	C55
Ovary	24	20	16	22	23	22	32	38	38	32	23	42	45	C56
Other female genital organs	3	0	0	0	0	0	2	0	1	0	2	1	0	C57
Placenta	1	0	1	0	3	1	0	1	1	3	0	5	0	C58
Kidney	6	17	8	9	21	10	16	15	17	13	19	22	25	C64
Renal pelvis	0	0	0	0	0	0	0	0	0	0	0	0	0	C65
Ureter	0	0	0	1	0	1	0	0	0	0	1	0	0	C66
Bladder	10	10	10	9	8	11	10	15	12	16	16	14	15	C67
Other urinary organs	1	0	0	0	0	1	0	0	0	1	1	0	0	C68
Eye	3	1	1	2	3	2	2	1	0	2	2	3	2	C69
Brain, nervous system	11	14	12	20	14	8	13	18	20	30	25	29	18	C70-72
Thyroid	38	41	52	40	74	75	111	99	144	166	161	158	185	C73
Adrenal gland	0	4	1	1	4	3	3	2	4	6	6	6	11	C74
Other endocrine	0	0	0	0	0	1	0	1	0	0	0	0	0	C75
Hodgkin disease	9	15	11	14	23	10	21	15	17	17	14	21	24	C81
Non-Hodgkin lymphoma	27	30	31	41	41	29	35	33	58	46	46	52	44	C82-85,C96
Immunoproliferative diseases	0	0	0	0	0	1	1	1	2	3	1	3	1	C88
Multiple myeloma	4	3	6	6	5	10	9	6	13	11	6	12	18	C90
Lymphoid leukaemia	11	21	10	15	13	19	19	22	21	18	29	21	14	C91
Myeloid leukaemia	12	14	13	18	16	15	17	19	20	20	17	26	20	C92-94
Leukaemia unspecified	7	3	3	0	3	0	2	5	0	2	3	2	1	C95
Myeloproliferative disorders	1	1	0	0	0	0	0	0	0	0	0	0	0	MPD
Myelodysplastic syndromes	2	3	0	0	0	0	0	0	0	0	0	0	0	MDS
Other and unspecified	27	11	15	9	20	10	17	14	14	23	22	35	14	O&U
All sites	461	511	498	550	661	647	745	776	917	1023	1041	1124	1158	ALL
All sites but C44	453	495	479	526	641	627	721	756	885	995	1011	1095	1127	ALLbC44

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Table 10: Age-adjusted Incidence Rates in Omani Males, 2007-2019

SITE	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	ICD (10th)
Lip	0	0.1	0	0.3	0.4	0.1	0.2	0	0	0.2	0.2	0.1	0.3	C00
Tongue	1.5	1.2	0.7	0.8	0.9	0.7	2.1	0.8	2.1	0.5	1.3	1.1	0.2	C01-02
Mouth	1.1	1.3	1.7	0.7	1.7	1.2	0.6	1.5	0.7	0.9	2.4	1.2	1.6	C03-06
Salivary glands	0.1	0.3	0.2	0.5	0	0.3	0.4	0.2	0.5	0.5	0.3	0.3	0.1	C07-08
Tonsil	0.6	0.2	0	0.2	0	0	0.1	0	0.2	0	0.2	0	0	C09
Other oropharynx	0	0.3	0.2	0.2	0.4	0	0.2	0.2	0.5	0.1	0	0.3	0.2	C10
Nasopharynx	0.9	1.5	1.1	0.8	0.8	0.4	0.3	1.5	1.9	0.6	0.8	1	0.8	C11
Hypopharynx	0	0.3	0.7	0	0	0	0	0.1	0.5	0.4	0	0	0.2	C12-13
Pharynx unspecified	0.3	0	0.2	0	0.2	0	0.1	0.1	0.2	0	0.1	0.2	0.1	C14
Oesophagus	2.6	1.3	2.1	4	2.3	1.8	1.5	2.2	1.5	1.2	1.7	2.7	1.9	C15
Stomach	10.1	8.8	13.1	7.8	13.9	11.5	8.1	9.3	6.2	7.8	8.2	8	8	C16
Small intestine	0.5	0	0.5	0.4	1.1	0.4	0.6	0.7	1.7	1.1	0.2	0.5	0.8	C17
Colon	5.1	4.4	5.4	6.3	7.3	7.3	6.7	6.8	7.5	7.2	12.3	10.4	11.2	C18
Rectum	3	2.4	4.8	2.4	5.5	4.1	4.6	3.1	5.4	4.2	5.5	3.8	5.3	C19-20
Anus	0.5	0.5	0.2	0.3	0.7	0.6	0.6	0.3	0.2	0.7	1.1	0.4	0.2	C21
Liver	4.7	8.1	4.3	4.2	6.4	5.5	5	9	7.7	10.2	7.2	7.9	6.3	C22
Gallbladder etc	1.8	0.9	1	1.3	1.9	0.3	0.6	0.5	1.1	0.9	1.2	1.2	0.6	C23-24
Pancreas	1.2	2.3	2.4	3.4	3.9	2.7	3.8	2.3	2.7	3.4	3.7	2.6	2.2	C25
Nose, sinuses etc	0.9	0.1	0.2	0.2	0.7	0	0	0	0.2	0.2	0.3	0.5	0.2	C30-31
Larynx	1.3	1.1	0.8	2.7	1.6	1.1	1.2	1.2	1.2	2.6	1.3	1.2	0.9	C32
Trachea, bronchus and lung	11.2	7.8	7.8	6.3	11.2	5.3	7.3	8.5	7.2	9	9.5	7.9	8.6	C33-34
Other thoracic organs	0.3	0.1	0.7	0	1.2	0	0.2	0.4	0.1	0.2	0.1	0.1	0.1	C37-38
Bone	0.5	0.3	1	1.4	1.8	0.7	0.7	0.8	0.7	1.1	0.4	0.8	0.3	C40-41
Melanoma of skin	0.3	0.5	0.8	0.6	0.7	0.4	0.7	0.2	0.3	0.1	0.1	0.1	0.5	C43
Other skin	5.9	5.7	6.2	5.2	4.8	3.7	4.5	3.2	3.2	4	2.9	4.6	4.2	C44
Mesothelioma	0.3	0.3	0	0	0.9	0.1	0.2	0.3	0.2	0.3	0.4	0.3	0.7	C45
Kaposi sarcoma	0.5	0.5	0.7	0.3	1.4	0.1	0.6	0	0.1	0.1	0.3	0.2	0.1	C46
Connective and soft tissue	0.4	1.2	0.5	1.4	1.2	0.7	0.9	1.1	2	1	1	1.3	1.2	C47,C49
Breast	0.9	0.1	1.4	2	1.3	1.4	0.8	1.8	1	1	0.7	1.3	1.7	C50
Penis	0	0.3	0	0.3	0	0	0	0.1	0.1	0	0	0.2	0	C60
Prostate	16.5	12.3	13.1	13.1	18.5	13.9	14.2	13.3	14.4	14.6	15.3	13.4	16.5	C61
Testis	0.5	0.7	0.5	0.5	0.7	0.4	0.8	0.9	0.9	0.6	1	1.6	1.3	C62
Other male genital organs	0	0.1	0.1	0	0	0	0	0	0.1	0.2	0	0	0	C63
Kidney	1.4	2	3.9	4.4	2.6	2.2	2.2	3.6	2.8	1.5	2.2	4.1	3.8	C64
Renal pelvis	0.7	0	0	0	0	0	0	0	0.2	0	0	0.2	0	C65
Ureter	0	0	0	0	0	0.2	0	0	0.2	0	0.1	0	0.2	C66
Bladder	8.8	6.9	6.7	9.1	8.7	6	7.8	8.4	6.9	7.7	9.3	6.3	8.1	C67
Other urinary organs	0	0	0	0	0	0	0	0	0	0	0	0.2	0	C68
Eye	1.1	0.3	0.1	0	0.2	0.1	0.2	0	0.2	0.1	0.2	0.1	0.1	C69
Brain, nervous system	2.4	1.8	3.4	2.6	2.8	3.5	2.3	3.5	2.5	3.1	2.7	2.7	3	C70-72
Thyroid	1.4	2	1.7	0.6	2.4	2	2.4	3.3	2.9	4.2	2.9	4.8	4.2	C73
Adrenal gland	0.1	0	0.3	0.7	0.3	0.7	0.3	0.4	0.4	0.3	0.3	0.2	0.2	C74
Other endocrine	0.1	0	0.1	0	0	0	0.1	0.2	0	0.2	0	0	0.2	C75
Hodgkin disease	1.6	3	1.7	1.8	3.7	3	2.1	2.6	2.4	3.4	3.7	2.5	2.4	C81
Non-Hodgkin lymphoma	7.4	9.8	7.5	7.6	11	7.8	7.3	8.7	8.8	7.4	7.3	6.3	5.3	C82-85,C96
Immunoproliferative diseases	0	0.3	0	0	0.3	0	0	0	0.1	0.1	0	0.5	0	C88
Multiple myeloma	2.9	2.5	2.4	1.8	1.8	2.2	2.5	1.5	1.4	1.3	1.9	2.3	3.1	C90
Lymphoid leukaemia	1.7	2.5	3.8	2.8	5.3	1.7	1.9	3.2	2.4	3	2.2	2.8	1.8	C91
Myeloid leukaemia	3.8	3.3	1.9	2.3	4.3	2.4	2	2.5	2.7	2.3	2.8	3.3	2.6	C92-94
Leukaemia unspecified	0.4	0.2	0.3	0.2	0.3	0.2	0.6	0.1	0	0.4	0.3	0	0.4	C95
Myeloproliferative disorders	0.7	0.3	0.3	0.5	0.1	0	0	0	0.1	0.1	0.1	0	0.1	MPD
Myelodysplastic syndromes	0	0	0	0.6	0	0	0	0.1	0.1	0	0	0	0	MDS
Other and unspecified	5.4	4.1	5	3.1	5.9	3.9	2.7	1.1	2.2	3.2	2.8	2.6	1.9	O&U
All sites	113.6	104	111.6	105.5	143.3	100.4	101.9	109.6	108.6	113.1	118.4	113.8	113.6	ALL
All sites but C44	107.7	98.3	105.5	100.3	138.5	96.7	97.5	106.4	105.4	109.1	115.5	109.3	109.4	ALLbC44

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Table 11: Age-adjusted Incidence Rates in Omani Females, 2007-2019

SITE	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	ICD (10th)
Lip	0.4	0.5	0	0	0	0.3	0	0	0.2	0.1	0.3	0	0.1	C00
Tongue	0.5	0.3	0.3	0.8	1	0.5	0.2	1	0.7	0.2	0.5	0.4	0.3	C01-02
Mouth	1.3	0.8	1.5	0.9	0.7	0.5	0.9	1.2	0.4	1	1	0.2	0.5	C03-06
Salivary glands	0.4	0.2	0.3	0.2	0.6	0.1	0.2	0.2	0.4	0.1	0.3	0.1	0	C07-08
Tonsil	0	0	0	0	0	0	0	0	0	0.1	0.2	0	0	C09
Other oropharynx	0.3	0	0	0	0	0	0.1	0	0	0	0.1	0	0.1	C10
Nasopharynx	0.2	1	0.6	0.4	0.6	0.4	0.1	0.3	0.7	0.4	0.4	0.2	0.2	C11
Hypopharynx	0.3	0.3	0	0	0	0	0	0.3	0	0	0	0.2	0	C12-13
Pharynx unspecified	0.1	0.3	0	0	0.2	0	0.1	0	0	0	0	0	0.1	C14
Oesophagus	3.1	1.7	2.4	1.1	1.2	1.6	0.5	0.5	0.6	0.5	0.3	1	0.8	C15
Stomach	5.1	4.1	6	5.5	5.1	4.8	4.5	5.6	3.1	3.4	4.5	3.7	6.2	C16
Small intestine	0	0.6	0.3	0.2	0.5	0.5	0.5	0	0.2	0.5	0.6	0.2	0.7	C17
Colon	4.8	4.3	5.1	2.9	4.6	7.4	4.1	7	6.8	6.7	8.1	8.2	7.8	C18
Rectum	2.5	2.1	2.6	4.1	3.2	2.6	3.7	3.8	3.2	4.5	3.4	4.5	3.1	C19-20
Anus	0.6	0.3	0.3	0.6	0.6	0	0	0.3	0.2	0.1	0.5	0.2	0.3	C21
Liver	1.2	1.7	3.8	3.6	2.3	2.2	2.7	5	4.5	4.8	3.1	3.5	2.6	C22
Gallbladder etc	1.3	1.5	1.4	0.6	1.1	1.3	0.7	1.1	0.7	1.4	1.6	1	1	C23-24
Pancreas	0.3	1.6	1	1.3	1.9	1.5	2.6	1.8	1.7	1.5	2	2.9	2.5	C25
Nose, sinuses etc	0.3	0	1.1	0.3	0.2	0	0	0.1	0.3	0.3	0	0.2	0	C30-31
Larynx	0.3	0	0.8	0.1	0	0.2	0.4	0.2	0.4	0	0.2	0	0.4	C32
Trachea, bronchus and lung	1.6	3	3.7	2	3.6	3.6	2.7	2.5	2.7	2.6	4.6	3.4	2.7	C33-34
Other thoracic organs	0.4	0.5	0	0.1	0.1	0.4	0	0.1	0.2	0.2	0.1	0.1	0	C37-38
Bone	0.1	0.1	0.1	0.3	0.9	0.8	1.3	0.5	0.1	1.2	0.3	0.9	0.6	C40-41
Melanoma of skin	0.5	0.5	0.4	0.4	0.6	0.2	0.2	0	0.4	0.2	0.2	0.4	0.1	C43
Other skin	2.1	5	4.8	5.2	3.9	3.4	3.9	3	4.4	3.6	3.6	3.6	3.8	C44
Mesothelioma	0	0	0	0	0	0	0	0.1	0.2	0.2	0.1	0.1	0.1	C45
Kaposi sarcoma	0.2	0.7	0.4	0.3	0	0	0.2	0	0	0.2	0.1	0	0	C46
Connective and soft tissue	0.7	0.7	0.3	0.3	0.2	1.2	1	0.5	1.2	1.2	0.8	0.6	1.2	C47,C49
Breast	23	25.8	23.8	25	28.2	24.6	25.8	22.7	28.5	32.6	31.6	33.3	35.4	C50
Vulva	0.3	0	0	0.2	0	0.3	0.3	0	0	0.1	0.2	0.2	0.1	C51
Vagina	0	0.8	0	0	0.1	0.7	0.1	0.5	0.2	0.3	0.6	0	0	C52
Cervix uteri	6	7.1	2.8	7.4	6.1	4.2	4	4.8	4.7	4.9	4.4	3.5	4.2	C53
Corpus uteri	2.8	3.2	3.5	3.3	6	2.4	2.7	2.9	3.6	4.2	3.4	4.8	5.1	C54
Uterus unspecified	0.8	1.4	0.4	0.7	1.2	0.7	0.7	1.2	1.1	1	0.8	1.4	1.3	C55
Ovary	5.6	3.4	2.6	3.7	3.7	3	4	4.6	4.8	3.6	2.5	4.6	5.2	C56
Other female genital organs	0.8	0	0	0	0	0	0.3	0	0.2	0	0.2	0.1	0	C57
Placenta	0.1	0	0.2	0	0.4	0.1	0	0.1	0.2	0.4	0	0.3	0	C58
Kidney	1.2	4	1.7	1.5	3.1	1.2	2.4	2	2.3	1.5	1.9	2.2	2.6	C64
Renal pelvis	0	0	0	0	0	0	0	0	0	0	0	0	0	C65
Ureter	0	0	0	0.2	0	0.2	0	0	0	0	0.2	0	0	C66
Bladder	2.7	2.8	2	1.8	2	1.5	1.5	2	1.6	2.2	2	1.6	1.7	C67
Other urinary organs	0.2	0	0	0	0	0.2	0	0	0	0.2	0.1	0	0	C68
Eye	0.4	0.2	0.3	0.4	0.4	0.2	0.2	0.1	0	0.1	0.1	0.3	0.2	C69
Brain, nervous system	1.7	1.9	1.4	3	2.2	1	1.2	2	1.8	2.7	2.6	2.7	1.8	C70-72
Thyroid	5.7	5.2	6.7	5.2	9.2	7.8	12.4	10.7	15.1	16.3	15.5	13.3	15.4	C73
Adrenal gland	0	0.4	0.1	0.1	0.4	0.3	0.2	0.1	0.4	0.5	0.4	0.4	0.8	C74
Other endocrine	0	0	0	0	0	0.1	0	0.1	0	0	0	0	0	C75
Hodgkin disease	1.5	2.6	1.8	1.4	3.3	1	2.2	1.5	1.6	1.9	1.2	1.9	2	C81
Non-Hodgkin lymphoma	6	5.8	5.9	7.9	7.3	4.3	5.4	4	7.3	5.2	5.2	5.8	4.4	C82-85,C96
Immunoproliferative diseases	0	0	0	0	0	0.2	0.2	0.2	0.2	0.5	0.2	0.5	0.2	C88
Multiple myeloma	0.9	0.9	1.6	1.5	1	1.6	1.4	1	1.8	1.6	1	1.6	2.3	C90
Lymphoid leukaemia	1.5	2.4	1.1	1.7	1.5	1.9	1.6	2.1	1.8	1.7	2.3	1.6	1.2	C91
Myeloid leukaemia	1.7	2.1	2.1	2.9	2	1.7	1.7	2.3	2.2	2.2	1.9	2.7	1.8	C92-94
Leukaemia unspecified	1.2	0.5	0.5	0	0.3	0	0.2	0.5	0	0.2	0.2	0.1	0.1	C95
Myeloproliferative disorders	0.4	0.3	0	0	0	0	0	0	0	0	0	0	0	MPD
Myelodysplastic syndromes	0.4	0.5	0	0	0	0	0	0	0	0	0	0	0	MDS
Other and unspecified	7.2	2.6	3	2	3.8	1.5	2.7	2.2	1.8	2.8	2.5	4.2	1.5	O&U
All sites	100.8	105.7	98.8	101	115.4	94.1	101.6	102.5	114.6	121.6	118.2	122.8	122.4	ALL
All sites but C44	98.7	100.7	94	95.8	111.6	90.7	97.8	99.4	110.2	118	114.6	119.2	118.6	ALLbC44

Overall Results

Table 12: Distribution of Cancer Cases in Oman by Nationality

Nationality	Frequency	Percentage (%)
Total malignancies (Omani)	2,089	90.55
Adult Omanis	1,965	94.1
Pediatric Omanis	124	5.9
Total malignancies (Non-Omani)	200	8.67
Adult Non-Omanis	189	94.5
Pediatric Non-Omanis	11	5.5
Carcinoma in Situ (Omani)	16	0.77
Carcinoma in Situ (Non-Omani)	2	0.01
Total	2,307	100

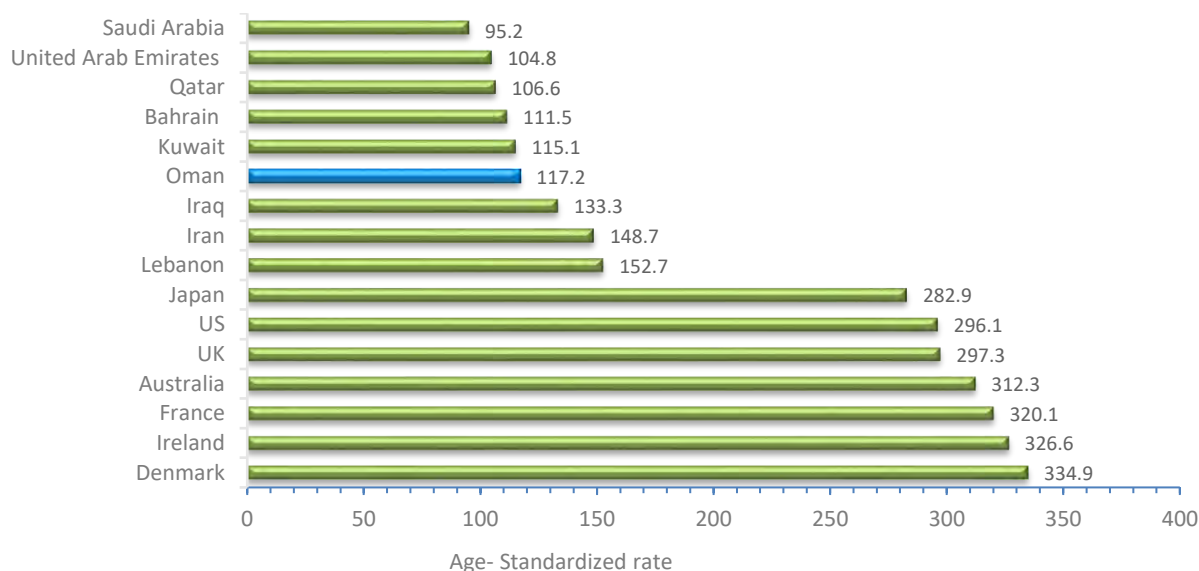
The total number of all tumors registered in 2019 was 2,307 (Table 12). Of these, 2,089 (90.55%) were among Omanis, 200 (8.67%) were Non-Omanis, and only 18 (0.78%) cases were carcinoma in Situ. Of the total 2,089, males' accounted for 931 cases (44.57%) and females' accounted for 1,158 cases (55.43%) cases. The male: female ratio was 1:1.24. In children aged 14 years and below, 124 cases (5.9%) were reported. The median age at diagnosis was 54 years. This was higher in males (median age 60) than in females (median age 50). The most common cancer was breast cancer, and the median age at diagnosis was 48.5 years.

Table 13: Distribution of Cancer Cases Among Omanis by Gender

Gender	Frequency	Percentage (%)	CR	ASR
Male	931	44.57	69.6	113.6
Female	1,158	55.43	87.9	122.4
Total	2,089	100 %	78.7	117.2

In 2019 the crude incidence rate for all cancer among Omanis was 69.6 per 100,000 for males and 87.9 per 100,000 for females. The age-standardized rate, adjusted to the world standard population, was 113.6 per 100,000 for males and 122.4 per 100,000 for females.

Figure 6: Age –Standardized Global Cancer Incidence Rates in Oman and Selected Countries

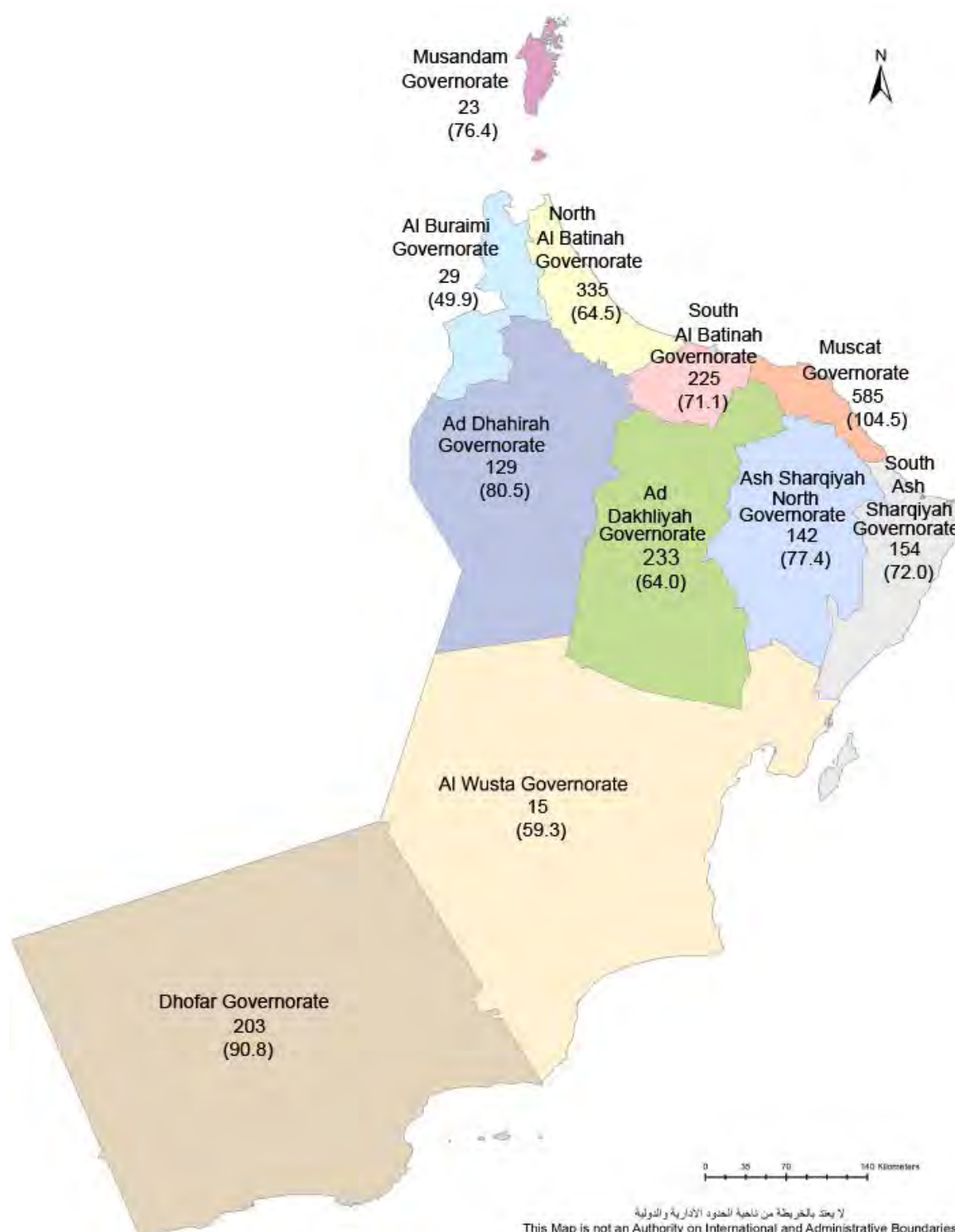


Overall Results

Regional Distribution

The high frequency of cancer reported from Muscat, 585 cases, could be biased since the majority of cancer cases are referred to the National Oncology Center in Muscat, and people sometimes give a local address in Muscat rather than their original place of residence.

Figure 7: Regional Distribution of incident cases (Frquency & Crude Rate)



Unknown 16

Overall Results

Table 14: Frequency of Incident Cases among Omani Males, 2019

SITE	ALL AGES	AGE UNK	-0	-5	-10	-15	-20	-25	-30	-35	-40	-45	-50	-55	-60	-65	-70	+75	(%)	ICD (10th)
Lip	3	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	0.3	C00
Tongue	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0.1	C01-02
Mouth	12	0	0	0	0	0	0	0	0	2	3	0	0	0	3	1	3	0	1.3	C03-06
Salivary glands	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0.1	C07-08
Tonsil	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C09
Other oropharynx	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0.1	C10
Nasopharynx	8	0	0	0	1	0	1	0	1	0	1	1	0	3	0	0	0	0	0.9	C11
Hypopharynx	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0.1	C12-13
Pharynx unspecified	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	C14
Oesophagus	12	0	0	0	0	0	0	0	0	0	0	0	0	1	4	2	2	3	1.3	C15
Stomach	64	0	0	0	0	0	2	1	1	3	4	6	2	4	4	11	7	19	7.1	C16
Small intestine	7	0	0	0	0	0	1	0	0	0	0	1	2	1	0	0	0	2	0.8	C17
Colon	85	0	0	0	0	1	1	1	4	3	8	3	9	14	8	13	8	12	9.5	C18
Rectum	39	0	0	0	0	0	1	2	1	2	2	4	7	4	5	3	6	2	4.3	C19-20
Anus	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0.1	C21
Liver	45	0	2	1	0	0	0	0	1	1	1	1	3	9	10	5	4	7	5	C22
Gallbladder etc	4	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2	0	1	0.4	C23-24
Pancreas	17	0	0	0	0	0	0	1	0	1	0	1	1	3	3	1	2	4	1.9	C25
Nose, sinuses etc	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0.1	C30-31
Larynx	8	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	1	4	0.9	C32
Trachea, bronchus and lung	61	0	0	0	0	0	1	0	1	0	1	2	4	5	6	15	9	17	6.8	C33-34
Other thoracic organs	2	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0.2	C37-38
Bone	4	0	0	0	1	0	0	0	2	0	1	0	0	0	0	0	0	0	0.4	C40-41
Melanoma of skin	4	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	1	0.4	C43
Other skin	32	0	0	0	1	0	1	2	0	1	0	3	1	2	4	4	5	8	3.6	C44
Mesothelioma	4	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	3	0	0.4	C45
Kaposi sarcoma	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0.1	C46
Connective and soft tissue	15	0	3	0	1	1	0	3	2	0	1	0	0	2	0	1	0	1	1.7	C47,C49
Breast	12	0	0	0	0	0	0	0	0	2	0	1	2	1	3	1	1	1	1.3	C50
Penis	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C60
Prostate	113	0	0	0	0	0	0	0	0	0	0	1	6	7	20	26	16	37	12.6	C61
Testis	15	0	1	0	0	1	4	3	1	1	2	0	0	0	0	2	0	0	1.7	C62
Other male genital organs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C63
Kidney	34	0	1	1	0	0	0	2	2	3	5	3	2	3	5	1	2	4	3.8	C64
Renal pelvis	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C65
Ureter	2	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0.2	C66
Bladder	61	0	0	0	0	0	0	1	0	0	4	1	2	6	4	11	11	21	6.8	C67
Other urinary organs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C68
Eye	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	C69
Brain, nervous system	30	0	3	2	3	1	1	2	2	1	2	2	4	3	0	1	2	1	3.3	C70-72
Thyroid	50	0	1	0	1	0	4	7	9	8	8	4	2	3	2	1	0	0	5.6	C73
Adrenal gland	4	0	3	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0.4	C74
Other endocrine	3	0	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0.3	C75
Hodgkin disease	28	0	1	1	4	3	6	3	3	0	1	1	2	0	0	2	1	0	3.1	C81
Non-Hodgkin lymphoma	49	0	2	1	3	1	2	3	3	4	3	1	3	3	6	0	6	8	5.5	C82-85,C96
Immunoproliferative diseases	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C88
Multiple myeloma	21	0	0	0	0	0	0	0	0	0	1	0	3	5	2	5	2	3	2.3	C90
Lymphoid leukaemia	25	0	13	2	2	2	0	1	0	3	0	0	0	0	0	1	1	0	2.8	C91
Myeloid leukaemia	25	0	3	0	2	0	4	0	3	1	1	2	0	3	0	4	2	0	2.8	C92-94
Leukaemia unspecified	6	0	2	2	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0.7	C95
Myeloproliferative disorders	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	MPD
Myelodysplastic syndromes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	MDS
Other and unspecified	16	0	0	1	0	0	0	0	1	2	0	0	1	2	1	2	2	4	1.8	O&U
All sites	931	0	37	12	20	13	29	32	40	40	49	38	57	91	92	118	97	166	103.6	ALL
All sites but C44	899	0	37	12	19	13	28	30	40	39	49	35	56	89	88	114	92	158	100	ALLbC44

Overall Results

Table 15: Frequency of Incident Cases among Omani Females, 2019

SITE	ALL AGES	AGE UNK	-0	-5	-10	-15	-20	-25	-30	-35	-40	-45	-50	-55	-60	-65	-70	+75	(%)	ICD (10th)
Lip	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0.1	C00
Tongue	3	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	1	0	0.3	C01-02
Mouth	5	0	0	0	0	0	0	1	0	0	1	0	2	0	0	0	0	1	0.4	C03-06
Salivary glands	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C07-08
Tonsil	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C09
Other oropharynx	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	C10
Nasopharynx	2	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0.2	C11
Hypopharynx	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C12-13
Pharynx unspecified	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0.1	C14
Oesophagus	6	0	0	0	0	0	0	0	0	0	0	0	2	2	0	1	1	0	0.5	C15
Stomach	52	0	0	0	0	0	0	2	2	2	5	4	2	5	8	5	8	9	4.6	C16
Small intestine	7	0	0	0	0	0	0	0	1	0	0	0	2	0	0	0	0	4	0.6	C17
Colon	64	0	0	1	0	1	0	1	1	2	5	8	11	9	9	5	3	8	5.7	C18
Rectum	25	0	0	0	0	0	0	0	0	2	0	1	2	5	4	3	3	5	2.2	C19-20
Anus	3	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0.3	C21
Liver	23	0	2	0	0	0	0	0	3	0	1	0	2	0	4	2	4	5	2	C22
Gallbladder etc	7	0	0	0	0	0	0	0	0	0	0	0	0	0	3	2	1	1	0.6	C23-24
Pancreas	19	0	0	0	0	1	0	0	1	0	0	1	2	0	5	2	4	3	1.7	C25
Nose, sinuses etc	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C30-31
Larynx	3	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	1	0	0.3	C32
Trachea, bronchus and lung	21	0	0	0	0	0	0	0	0	0	2	1	1	3	4	4	2	4	1.9	C33-34
Other thoracic organs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C37-38
Bone	9	0	0	0	1	1	2	1	1	1	2	0	0	0	0	0	0	0	0.8	C40-41
Melanoma of skin	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0.1	C43
Other skin	31	0	0	1	1	0	0	1	1	0	0	1	1	0	7	6	4	8	2.8	C44
Mesothelioma	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0.1	C45
Kaposi sarcoma	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C46
Connective and soft tissue	11	0	2	0	1	0	0	1	0	1	0	2	1	0	1	1	1	0	1	C47,C49
Breast	338	0	0	0	0	0	2	12	25	56	52	32	39	36	22	23	15	24	30	C50
Vulva	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0.1	C51
Vagina	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0.1	C52
Cervix uteri	34	0	0	0	0	0	0	0	1	3	4	5	5	5	3	1	4	3	3	C53
Corpus uteri	41	0	0	0	0	0	0	2	1	2	3	3	7	5	10	3	2	3	3.6	C54
Uterus unspecified	10	0	0	0	0	0	0	0	1	0	1	1	1	2	4	0	0	0	0.9	C55
Ovary	45	0	1	0	0	1	4	2	3	1	6	5	4	3	11	2	2	0	4	C56
Other female genital organs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C57
Placenta	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C58
Kidney	25	0	2	2	0	0	0	0	2	2	4	0	1	3	5	2	0	2	2.2	C64
Renal pelvis	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C65
Ureter	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C66
Bladder	15	0	0	0	0	0	0	0	0	0	1	0	1	3	0	1	3	6	1.3	C67
Other urinary organs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C68
Eye	2	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0.2	C69
Brain, nervous system	18	0	3	1	2	0	3	0	1	0	0	2	0	2	2	2	0	0	1.6	C70-72
Thyroid	185	0	0	0	2	4	17	27	32	32	25	17	12	7	4	3	2	1	16.4	C73
Adrenal gland	11	0	7	0	0	0	1	0	1	0	0	1	0	0	0	0	0	1	1	C74
Other endocrine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C75
Hodgkin disease	24	0	0	1	1	1	5	1	5	2	3	0	0	0	2	3	0	0	2.1	C81
Non-Hodgkin lymphoma	44	0	4	1	3	1	2	1	3	3	0	6	3	5	4	0	2	6	3.9	C82-85,C96
Immunoproliferative diseases	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0.1	C88
Multiple myeloma	18	0	0	0	0	0	0	0	1	0	2	1	3	3	1	4	2	1	1.6	C90
Lymphoid leukaemia	14	0	4	3	0	2	0	0	0	0	1	0	0	2	2	0	0	0	1.2	C91
Myeloid leukaemia	20	0	3	1	2	0	1	0	3	2	1	0	0	3	1	2	1	0	1.8	C92-94
Leukaemia unspecified	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0.1	C95
Myeloproliferative disorders	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	MPD
Myelodysplastic syndromes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	MDS
Other and unspecified	14	0	2	0	0	0	0	0	1	1	1	0	0	2	3	2	0	2	1.2	O&U
All sites	1158	0	31	11	13	12	38	53	92	113	122	92	104	108	120	82	67	100	102.8	ALL
All sites but C44	1127	0	31	10	12	12	38	52	91	113	122	91	103	108	113	76	63	92	100	ALLbC44

Overall Results

Table 16: Age-specific Incidence Rates among Omani Males, 2019

SITE	ALL AGES	AGE UNK	-0	-5	-10	-15	-20	-25	-30	-35	-40	-45	-50	-55	-60	-65	-70	+75	CRUDE RATE	(%)	CUM -0 64	CUM -0 74	ASR	ICD (10th)
Lip	3	0	0	0	0	0.9	0	0	0	0	0	0	0	0	0	0	0	8.9	0.22	0.3	0	0	0.3	C00
Tongue	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6.2	0	0	0.07	0.1	0	0.03	0.2	C01-02
Mouth	12	0	0	0	0	0	0	0	0	2	4.1	0	0	0	14.2	6.2	25.1	0	0.9	1.3	0.1	0.26	1.6	C03-06
Salivary glands	1	0	0	0	0	0	0	0	0.8	0	0	0	0	0	0	0	0	0	0.07	0.1	0	0	0.1	C07-08
Tonsil	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C09
Other oropharynx	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6.2	0	0	0.07	0.1	0	0.03	0.2	C10
Nasopharynx	8	0	0	0	0.8	0	0.9	0	0.8	0	1.4	2.1	0	10.1	0	0	0	0	0.6	0.9	0.08	0.08	0.8	C11
Hypopharynx	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6.2	0	0	0.07	0.1	0	0.03	0.2	C12-13
Pharynx unspecified	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4.4	0.07	0.1	0	0	0.1	C14
Oesophagus	12	0	0	0	0	0	0	0	0	0	0	0	0	3.4	18.9	12.3	16.7	13.3	0.9	1.3	0.11	0.26	1.9	C15
Stomach	64	0	0	0	0	0	1.7	0.8	0.8	3	5.5	12.5	6	13.5	18.9	67.8	58.5	84.5	4.79	7.1	0.31	0.95	8	C16
Small intestine	7	0	0	0	0	0	0.9	0	0	0	0	2.1	6	3.4	0	0	0	8.9	0.52	0.8	0.06	0.06	0.8	C17
Colon	85	0	0	0	0	0.9	0.9	0.8	3.3	3	11.1	6.3	26.8	47.1	37.9	80.1	66.8	53.4	6.36	9.5	0.69	1.43	11.2	C18
Rectum	39	0	0	0	0	0	0.9	1.6	0.8	2	2.8	8.4	20.9	13.5	23.7	18.5	50.1	8.9	2.92	4.3	0.37	0.72	5.3	C19-20
Anus	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8.4	0	0.07	0.1	0	0.04	0.2	C21
Liver	45	0	1	0.6	0	0	0	0	0.8	1	1.4	2.1	8.9	30.3	47.4	30.8	33.4	31.1	3.37	5	0.47	0.79	6.3	C22
Gallbladder etc	4	0	0	0	0	0	0	0	0	0	0	0	0	3.4	0	12.3	0	4.4	0.3	0.4	0.02	0.08	0.6	C23-24
Pancreas	17	0	0	0	0	0	0	0.8	0	1	0	2.1	3	10.1	14.2	6.2	16.7	17.8	1.27	1.9	0.16	0.27	2.2	C25
Nose, sinuses etc	1	0	0	0	0	0	0	0	0	0	0	0	0	0	4.7	0	0	0	0.07	0.1	0.02	0.02	0.2	C30-31
Larynx	8	0	0	0	0	0	0	0	0	0	0	0	3	6.7	0	0	8.4	17.8	0.6	0.9	0.05	0.09	0.9	C32
Trachea, bronchus and lung	61	0	0	0	0	0	0.9	0	0.8	0	1.4	4.2	11.9	16.8	28.4	92.4	75.2	75.6	4.56	6.8	0.32	1.16	8.6	C33-34
Other thoracic organs	2	0	0	0	0	0	0	0	0.8	1	0	0	0	0	0	0	0	0	0.15	0.2	0.01	0.01	0.1	C37-38
Bone	4	0	0	0	0.8	0	0	0	1.7	0	1.4	0	0	0	0	0	0	0	0.3	0.4	0.02	0.02	0.3	C40-41
Melanoma of skin	4	0	0	0	0	0	0	0	0	0	0	0	0	10.1	0	0	0	4.4	0.3	0.4	0.05	0.05	0.5	C43
Other skin	32	0	0	0	0.8	0	0.9	1.6	0	1	0	6.3	3	6.7	18.9	24.6	41.8	35.6	2.39	3.6	0.2	0.53	4.2	C44
Mesothelioma	4	0	0	0	0	0	0	0	0	0	0	0	0	0	4.7	0	25.1	0	0.3	0.4	0.02	0.15	0.7	C45
Kaposi sarcoma	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0.07	0.1	0.01	0.01	0.1	C46
Connective and soft tissue	15	0	1.5	0	0.8	0.9	0	2.4	1.7	0	1.4	0	0	6.7	0	6.2	0	4.4	1.12	1.7	0.08	0.11	1.2	C47,C49
Breast	12	0	0	0	0	0	0	0	0	2	0	2.1	6	3.4	14.2	6.2	8.4	4.4	0.9	1.3	0.14	0.21	1.7	C50
Penis	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C60
Prostate	113	0	0	0	0	0	0	0	0	0	0	2.1	17.9	23.6	94.7	160.2	133.7	164.6	8.45	12.6	0.69	2.16	16.5	C61
Testis	15	0	0.5	0	0	0.9	3.5	2.4	0.8	1	2.8	0	0	0	0	12.3	0	0	1.12	1.7	0.06	0.12	1.3	C62
Other male genital organs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C63
Kidney	34	0	0.5	0.6	0	0	0	1.6	1.7	3	6.9	6.3	6	10.1	23.7	6.2	16.7	17.8	2.54	3.8	0.3	0.42	3.8	C64
Renal pelvis	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C65
Ureter	2	0	0	0	0	0	0	0	0	0	0	0	0	3.4	0	0	0	4.4	0.15	0.2	0.02	0.02	0.2	C66
Bladder	61	0	0	0	0	0	0	0.8	0	0	5.5	2.1	6	20.2	18.9	67.8	91.9	93.4	4.56	6.8	0.27	1.07	8.1	C67
Other urinary organs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C68
Eye	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.15	0.2	0	0	0.1	C69
Brain, nervous system	30	0	1.5	1.1	2.3	0.9	0.9	1.6	1.7	1	2.8	4.2	11.9	10.1	0	6.2	16.7	4.4	2.24	3.3	0.2	0.31	3	C70-72
Thyroid	50	0	0.5	0	0.8	0	3.5	5.6	7.5	8.1	11.1	8.4	6	10.1	9.5	6.2	0	0	3.74	5.6	0.35	0.39	4.2	C73
Adrenal gland	4	0	1.5	0	0	0	0	0	0.8	0	0	0	0	0	0	0	0	0	0.3	0.4	0.01	0.01	0.2	C74
Other endocrine	3	0	0	0.6	0	1.8	0	0	0	0	0	0	0	0	0	0	0	0	0.22	0.3	0.01	0.01	0.2	C75
Hodgkin disease	28	0	0.5	0.6	3.1	2.7	5.2	2.4	2.5	0	1.4	2.1	6	0	0	12.3	8.4	0	2.09	3.1	0.13	0.24	2.4	C81
Non-Hodgkin lymphoma	49	0	1	0.6	2.3	0.9	1.7	2.4	2.5	4	4.1	2.1	8.9	10.1	28.4	0	50.1	35.6	3.66	5.5	0.35	0.6	5.3	C82
Immunoproliferative diseases	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C88
Multiple myeloma	21	0	0	0	0	0	0	0	0	0	1.4	0	8.9	16.8	9.5	30.8	16.7	13.3	1.57	2.3	0.18	0.42	3.1	C90
Lymphoid leukaemia	25	0	6.3	1.1	1.5	1.8	0	0.8	0	3	0	0	0	0	0	6.2	8.4	0	1.87	2.8	0.07	0.15	1.8	C91
Myeloid leukaemia	25	0	1.5	0	1.5	0	3.5	0	2.5	1	1.4	4.2	0	10.1	0	24.6	16.7	0	1.87	2.8	0.13	0.34	2.6	C92-94
Leukaemia unspecified	6	0	1	1.1	0.8	0	0	0	0	0	0	0	0	0	0	0	0	4.4	0.45	0.7	0.01	0.01	0.4	C95
Myeloproliferative disorders	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4.4	0.07	0.1	0	0	0.1	MPD
Myelodysplastic syndromes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	MDS
Other and unspecified	16	0	0	0.6	0	0	0	0	0.8	2	0	0	3	6.7	4.7	12.3	16.7	17.8	1.2	1.8	0.09	0.23	1.9	O&U
All sites	931	0	17.9	6.9	15.3	11.7	25.3	25.4	33.5	40.5	67.8	79.4	169.9	306.4	435.7	727.1	810.4	738.6	69.63	103.6	6.18	13.87	113.6	ALL
All sites but C44	899	0	17.9	6.9	14.5	11.7	24.5	23.8	33.5	39.5	67.8	73.1	166.9	299.7	416.8	702.5	768.7	703	67.24	100	5.98	13.34	109.4	ALLbc44

Overall Results

Table 17: Age-specific Incidence Rates among Omani Females, 2019

SITE	ALL AGES	AGE UNK	-0	-5	-10	-15	-20	-25	-30	-35	-40	-45	-50	-55	-60	-65	-70	+75	CRUDE RATE	(%)	CUM -0 64	CUM -0 74	ASR	ICD (10th)
Lip	1	0	0	0	0	0	0	0	0	0	1.4	0	0	0	0	0	0	0	0.08	0.1	0.01	0.01	0.1	C00
Tongue	3	0	0	0	0	0	0.9	0	0.9	0	0	0	0	0	0	0	7.5	0	0.23	0.3	0.01	0.05	0.3	C01-02
Mouth	5	0	0	0	0	0	0	0.8	0	0	1.4	0	5.8	0	0	0	0	4.1	0.38	0.4	0.04	0.04	0.5	C03-06
Salivary glands	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C07-08
Tonsil	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C09
Other oropharynx	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4.1	0.08	0.1	0	0	0.1	C10
Nasopharynx	2	0	0	0	0	0	0	0	0	1	0	0	0	0	0	5.1	0	0	0.15	0.2	0.01	0.03	0.2	C11
Hypopharynx	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C12-13
Pharynx unspecified	1	0	0	0	0	0	0	0	0	0	1.4	0	0	0	0	0	0	0	0.08	0.1	0.01	0.01	0.1	C14
Oesophagus	6	0	0	0	0	0	0	0	0	0	0	0	5.8	6.2	0	5.1	7.5	0	0.46	0.5	0.06	0.12	0.8	C15
Stomach	52	0	0	0	0	0	0	1.6	1.7	2	6.9	8.8	5.8	15.6	31.3	25.4	59.8	36.9	3.95	4.6	0.37	0.79	6.2	C16
Small intestine	7	0	0	0	0	0	0	0	0.9	0	0	0	5.8	0	0	0	0	16.4	0.53	0.6	0.03	0.03	0.7	C17
Colon	64	0	0	0.6	0	0.9	0	0.8	0.9	2	6.9	17.5	31.6	28	35.2	25.4	22.4	32.8	4.86	5.7	0.62	0.86	7.8	C18
Rectum	25	0	0	0	0	0	0	0	0	2	0	2.2	5.8	15.6	15.7	15.3	22.4	20.5	1.9	2.2	0.21	0.39	3.1	C19-20
Anus	3	0	0	0	0	0	0	0	0	0	0	0	0	3.1	0	0	0	8.2	0.23	0.3	0.02	0.02	0.3	C21
Liver	23	0	1	0	0	0	0	0	2.6	0	1.4	0	5.8	0	15.7	10.2	29.9	20.5	1.74	2	0.13	0.33	2.6	C22
Gallbladder etc	7	0	0	0	0	0	0	0	0	0	0	0	0	0	11.7	10.2	7.5	4.1	0.53	0.6	0.06	0.15	1	C23-24
Pancreas	19	0	0	0	0	0.9	0	0	0.9	0	0	2.2	5.8	0	19.6	10.2	29.9	12.3	1.44	1.7	0.15	0.35	2.5	C25
Nose, sinuses etc	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C30-31
Larynx	3	0	0	0	0	0	0	0.8	0	0	0	0	0	0	0	5.1	7.5	0	0.23	0.3	0	0.07	0.4	C32
Trachea, bronchus and lung	21	0	0	0	0	0	0	0	0	0	2.7	2.2	2.9	9.3	15.7	20.3	14.9	16.4	1.59	1.9	0.16	0.34	2.7	C33-34
Other thoracic organs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C37-38
Bone	9	0	0	0	0.8	0.9	1.8	0.8	0.9	1	2.7	0	0	0	0	0	0	0	0.68	0.8	0.04	0.04	0.6	C40-41
Melanoma of skin	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7.5	0	0.08	0.1	0	0.04	0.1	C43
Other skin	31	0	0	0.6	0.8	0	0	0.8	0.9	0	0	2.2	2.9	0	27.4	30.5	29.9	32.8	2.35	2.8	0.18	0.48	3.8	C44
Mesothelioma	1	0	0	0	0	0	0	0	0.9	0	0	0	0	0	0	0	0	0	0.08	0.1	0	0	0.1	C45
Kaposi sarcoma	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C46
Connective and soft tissue	11	0	1	0	0.8	0	0	0.8	0	1	0	4.4	2.9	0	3.9	5.1	7.5	0	0.83	1	0.07	0.14	1.2	C47,C49
Breast	338	0	0	0	0	0	1.8	9.8	21.3	57.1	71.4	70.2	112.2	112	86.1	117	112.1	98.4	25.64	30	2.71	3.86	35.4	C50
Vulva	1	0	0	0	0	0	0	0	0	0	0	2.2	0	0	0	0	0	0	0.08	0.1	0.01	0.01	0.1	C51
Vagina	1	0	0	0	0	0	0	0	0	0	0	0	0	0	3.9	0	0	0	0.08	0.1	0.02	0.02	0.2	C52
Cervix uteri	34	0	0	0	0	0	0	0	0.9	3.1	5.5	11	14.4	15.6	11.7	5.1	29.9	12.3	2.58	3	0.31	0.49	4	C53
Corpus uteri	41	0	0	0	0	0	0	1.6	0.9	2	4.1	6.6	20.1	15.6	39.1	15.3	14.9	12.3	3.11	3.6	0.45	0.6	5.1	C54
Uterus unspecified	10	0	0	0	0	0	0	0	0.9	0	1.4	2.2	2.9	6.2	15.7	0	0	0	0.76	0.9	0.15	0.15	1.3	C55
Ovary	45	0	0.5	0	0	0.9	3.6	1.6	2.6	1	8.2	11	11.5	9.3	43.1	10.2	14.9	0	3.41	4	0.47	0.59	5.2	C56
Other female genital organs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C57
Placenta	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C58
Kidney	25	0	1	1.2	0	0	0	0	1.7	2	5.5	0	2.9	9.3	19.6	10.2	0	8.2	1.9	2.2	0.22	0.27	2.6	C64
Renal pelvis	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C65
Ureter	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C66
Bladder	15	0	0	0	0	0	0	0	0	0	1.4	0	2.9	9.3	0	5.1	22.4	24.6	1.14	1.3	0.07	0.21	1.7	C67
Other urinary organs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C68
Eye	2	0	0.5	0	0	0	0	0	0	0	0	0	0	3.1	0	0	0	0	0.15	0.2	0.02	0.02	0.2	C69
Brain, nervous system	18	0	1.5	0.6	1.6	0	2.7	0	0.9	0	0	4.4	0	6.2	7.8	10.2	0	0	1.37	1.6	0.13	0.18	1.8	C70-72
Thyroid	185	0	0	0	1.6	3.7	15.4	22	27.3	32.6	34.3	37.3	34.5	21.8	15.7	15.3	14.9	4.1	14.04	16.4	1.23	1.38	15.4	C73
Adrenal gland	11	0	3.5	0	0	0	0.9	0	0.9	0	0	2.2	0	0	0	0	0	4.1	0.83	1	0.04	0.04	0.8	C74
Other endocrine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C75
Hodgkin disease	24	0	0	0.6	0.8	0.9	4.5	0.8	4.3	2	4.1	0	0	0	7.8	15.3	0	0	1.82	2.1	0.13	0.21	2	C81
Non-Hodgkin lymphoma	44	0	2	0.6	2.4	0.9	1.8	0.8	2.6	3.1	0	13.2	8.6	15.6	15.7	0	14.9	24.6	3.34	3.9	0.34	0.41	4.4	C82-C96,85
Immunoproliferative diseases	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5.1	0	0	0.08	0.1	0	0.03	0.2	C88
Multiple myeloma	18	0	0	0	0	0	0	0	0.9	0	2.7	2.2	8.6	9.3	3.9	20.3	14.9	4.1	1.37	1.6	0.14	0.31	2.3	C90
Lymphoid leukaemia	14	0	2	1.8	0	1.9	0	0	0	0	1.4	0	0	6.2	7.8	0	0	0	1.06	1.2	0.11	0.11	1.2	C91
Myeloid leukaemia	20	0	1.5	0.6	1.6	0	0.9	0	2.6	2	1.4	0	0	9.3	3.9	10.2	7.5	0	1.52	1.8	0.12	0.21	1.8	C92-94
Leukaemia unspecified	1	0	0	0	0	0	0	0	0	0	0	0	0	3.1	0	0	0	0	0.08	0.1	0.02	0.02	0.1	C95
Myeloproliferative disorders	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	MPD
Myelodysplastic syndromes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	MDS
Other and unspecified	14	0	1	0	0	0	0	0	0.9	1	1.4	0	0	6.2	11.7	10.2	0	8.2	1.06	1.2	0.11	0.16	1.5	O&U
All sites	1158	0	15.6	6.5	10.3	11.1	34.4	43.2	78.4	115.3	167.4	201.8	5.5	336.1	469.7	417	500.8	410.2	87.85	102.8	8.95	13.53	122.4	ALL
All sites but C44	1127	0	15.6	5.9	9.5	11.1	34.4	42.3	77.6	115.3	167.4	199.6	296.3	336.1	442.3	386.5	470.9	377.3	85.5	100	8.77	13.05		

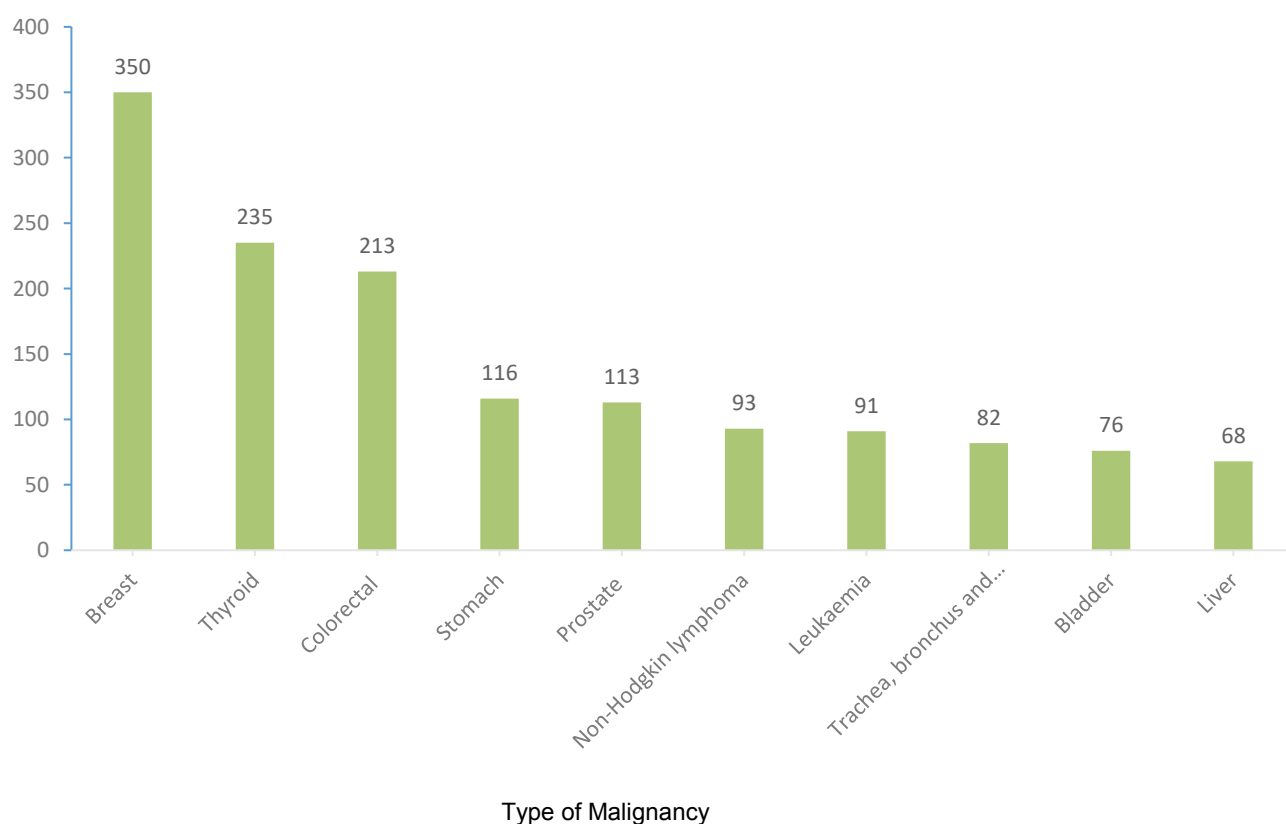
Overall Results

Common Cancers in Omanis

Table 18: Ten Most Common Cancers among Omanis (Males & Females) 2018 & 2019

2018		2019	
Topography	Frequency	Topography	Frequency
Breast	301	Breast	350
Colorectal	203	Thyroid	235
Thyroid	173	Colorectal	213
Non-Hodgkin lymphoma	103	Stomach	116
Leukaemia	91	Prostate	113
Prostate	88	Non-Hodgkin lymphoma	93
Stomach	87	Leukaemia	91
Liver	75	Trachea, bronchus and lung	82
Skin and Melanoma	71	Bladder	76
Trachea, bronchus and lung	71	Liver	68

Figure 8: Frequency distribution of the common cancers among Omani males and females, 2019



Overall Results

Age specific incidence rate of five common cancer

Figure 9: Age-Specific incidence rates of breast cancer by gender, 2019

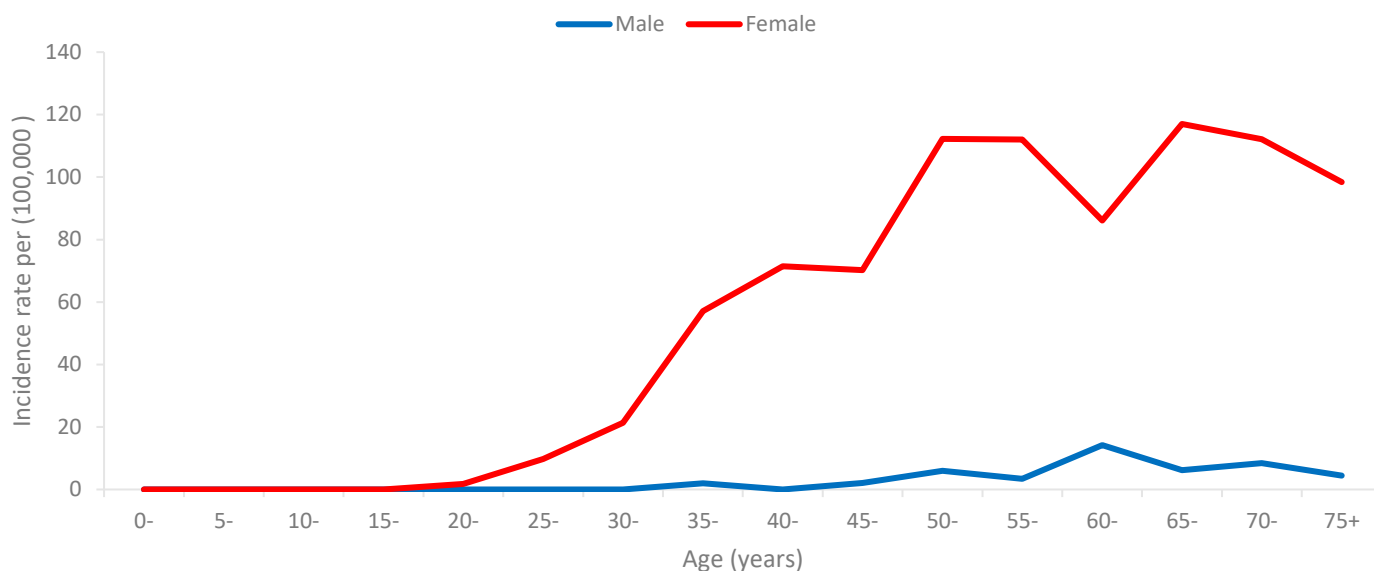
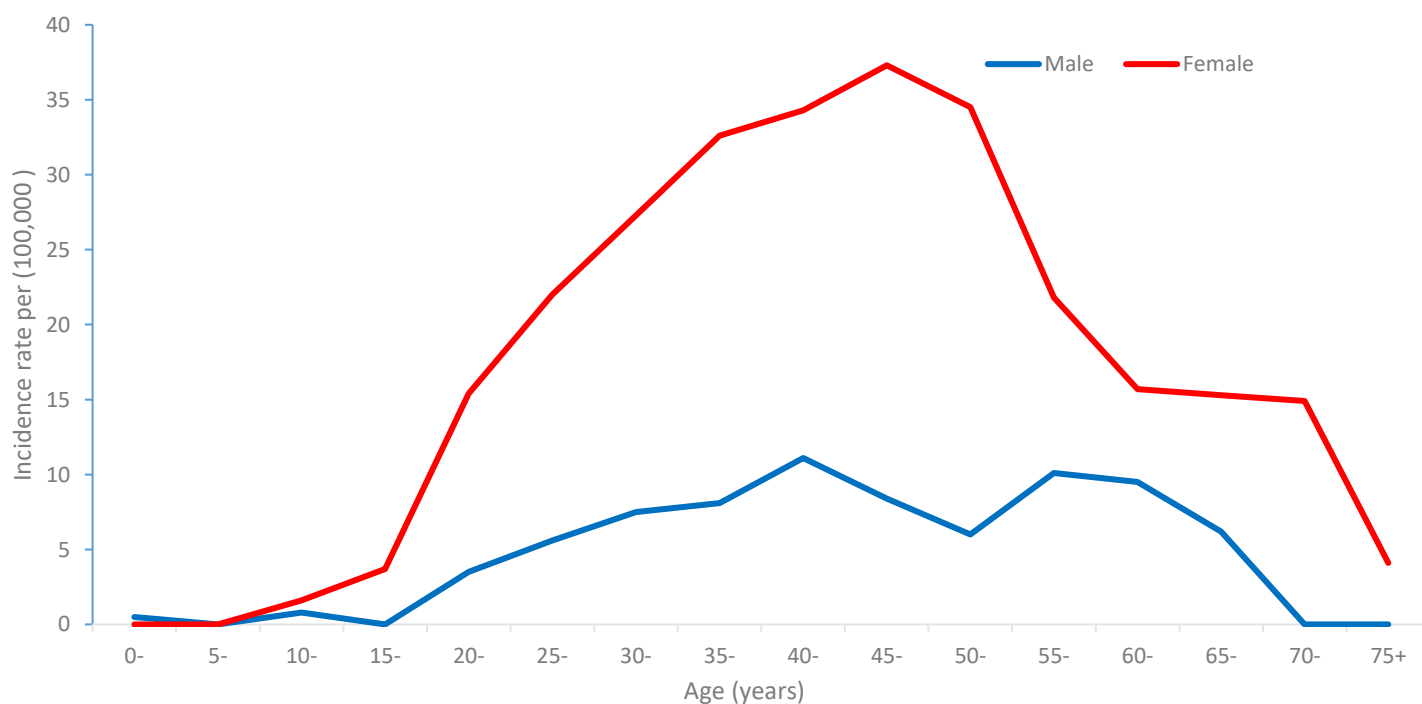


Figure 10: Age-Specific incidence rates of thyroid cancer by gender , 2019



Overall Results

Figure 11: Age-Specific incidence rates of colorectal cancer by gender, 2019

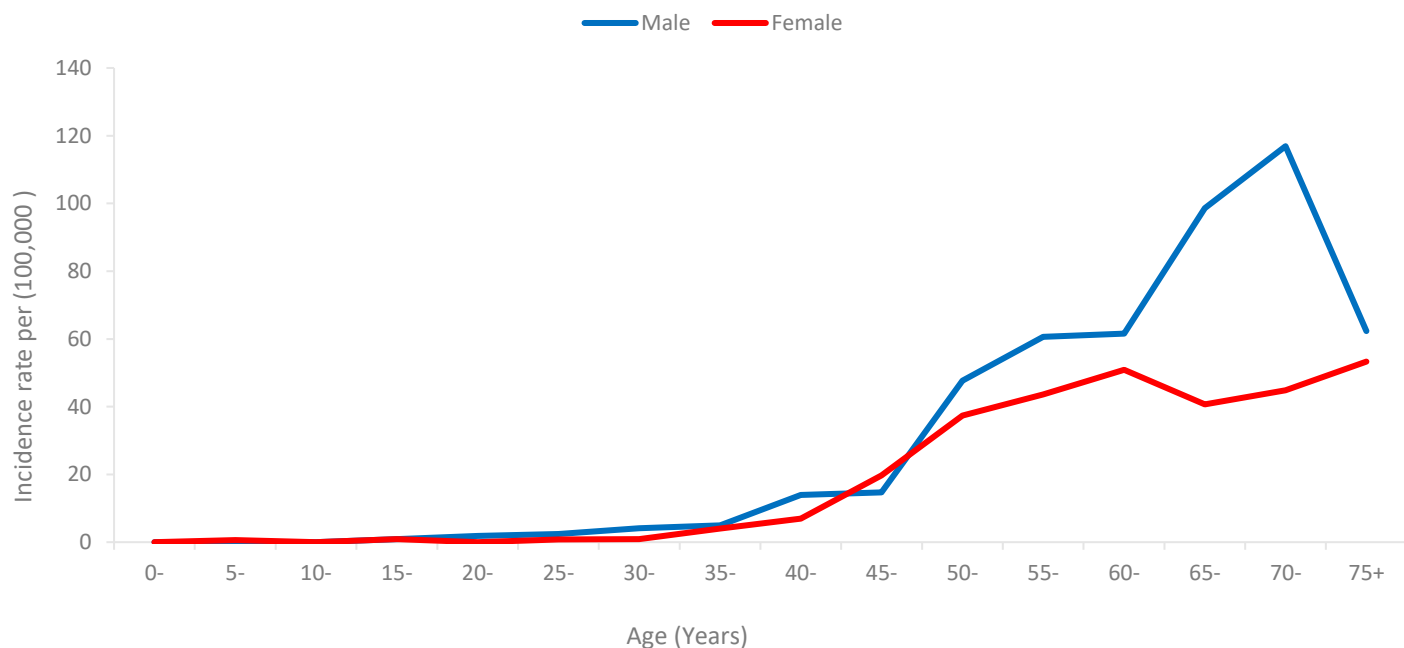
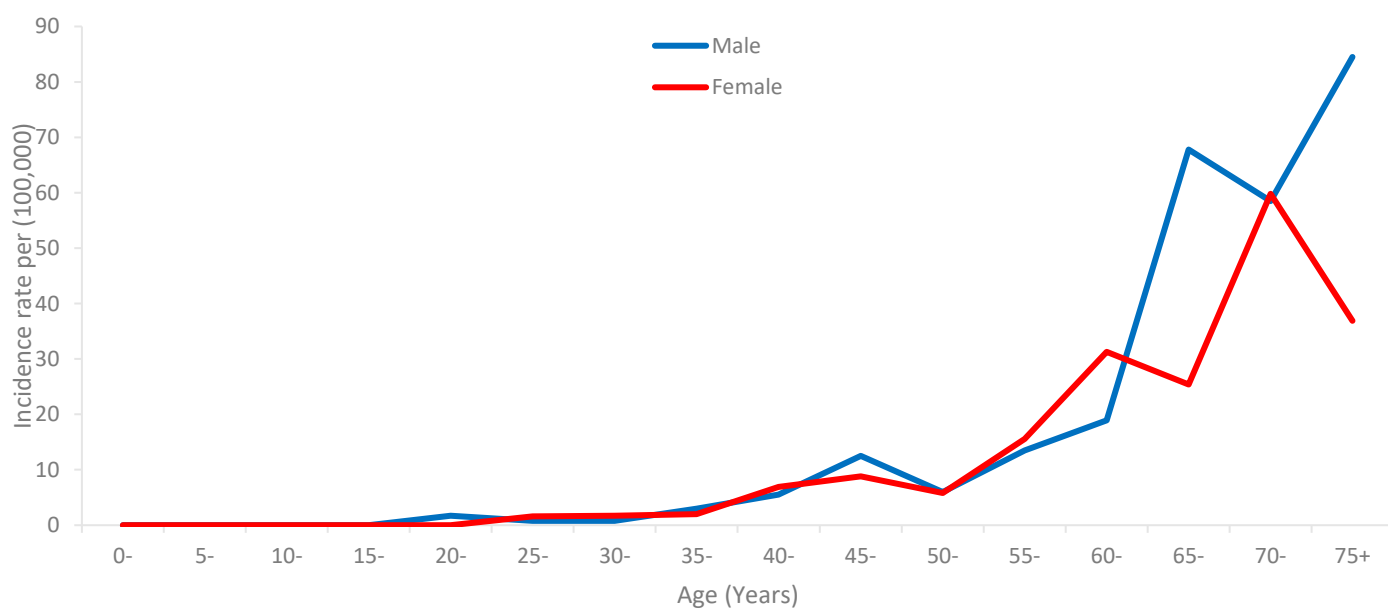
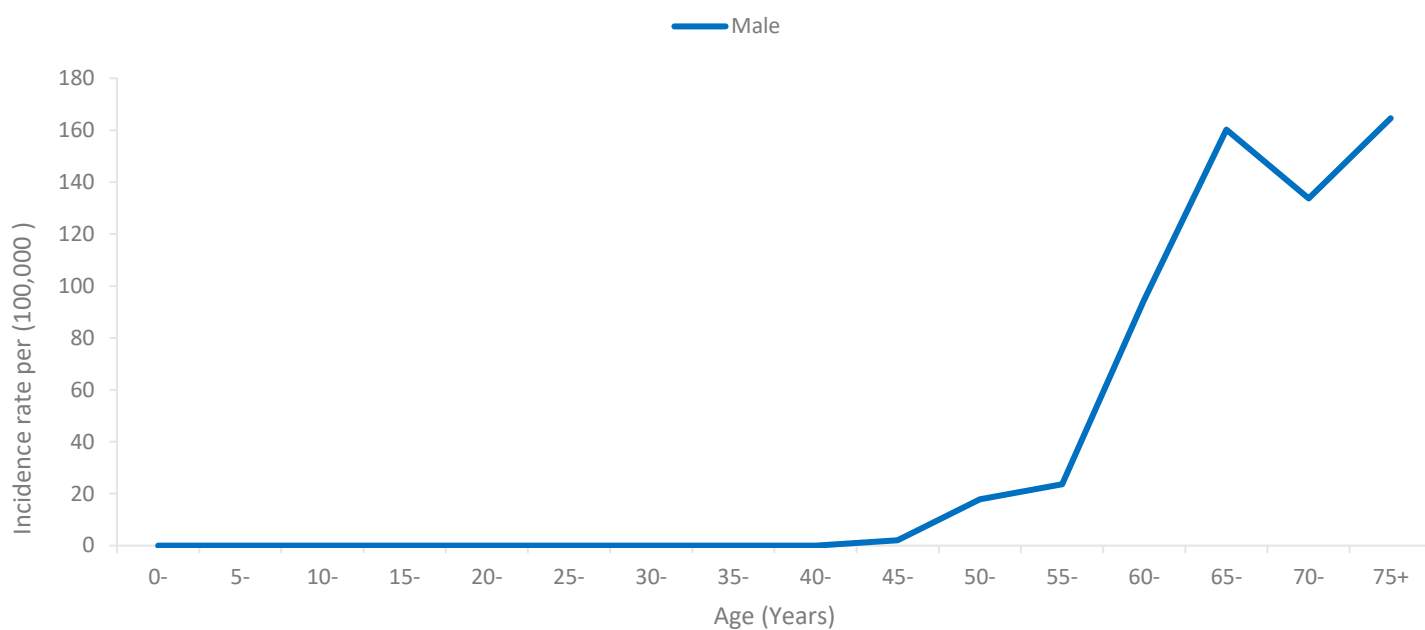


Figure 12: Age-Specific incidence rates of stomach cancer by gender, 2019



Overall Results

Figure 13: Age-Specific incidence rates of prostate cancer, 2019



Overall Results

Table 19: Ten Most Common Cancers among Omanis

Male			Female		
Topography	Frequency	Percentage	Topography	Frequency	Percentage
Colorectal	124	13.32	Breast	338	29.19
Prostate	113	12.14	Thyroid	185	15.98
Stomach	64	6.87	Colorectal	89	7.69
Trachea, bronchus and lung	61	6.55	Stomach	52	4.49
Bladder	61	6.55	Uterus	51	4.40
Leukaemia	56	6.02	Ovary	45	3.89
Thyroid	50	5.37	Non-Hodgkin lymphoma	44	3.80
Non-Hodgkin lymphoma	49	5.26	Cervix uteri	35	3.02
Liver	45	4.83	Leukaemia	35	3.02
Skin and melanoma	36	3.87	Skin and melanoma	32	2.76

Figure 14: Most Common Cancers in Oman 2019

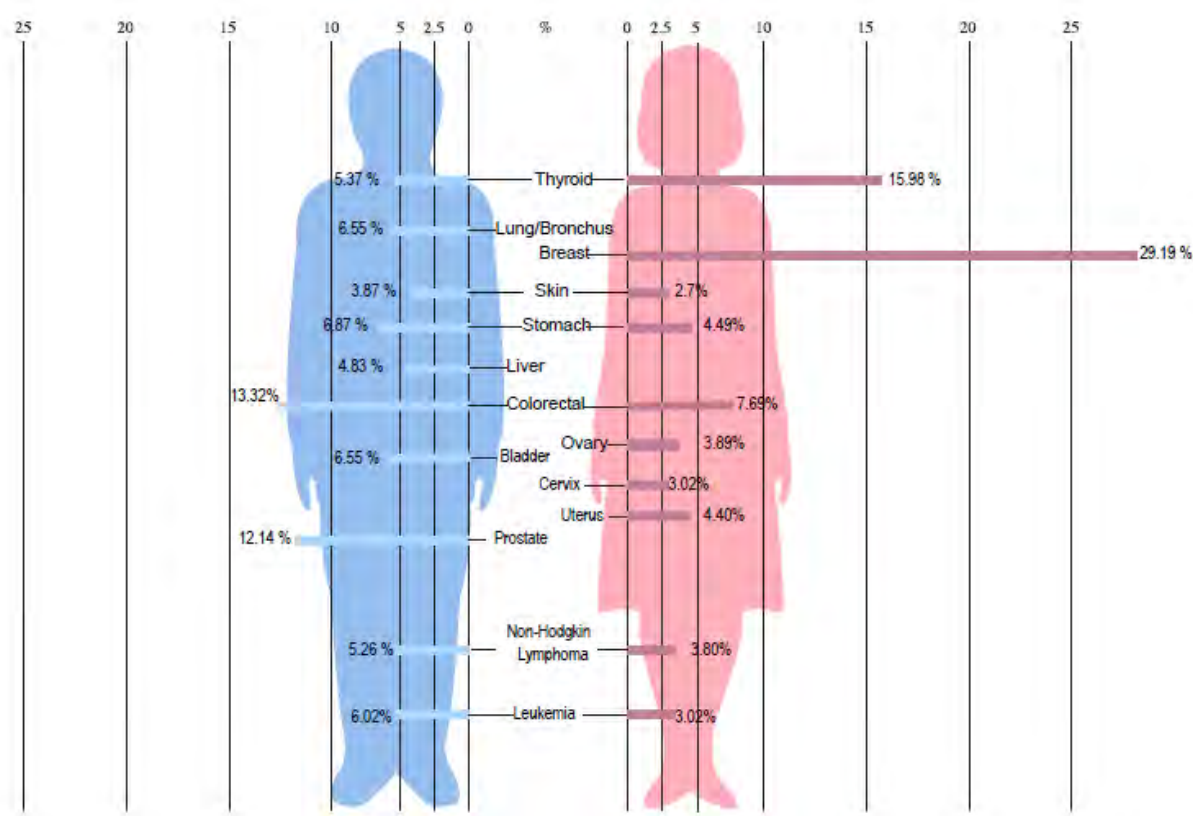
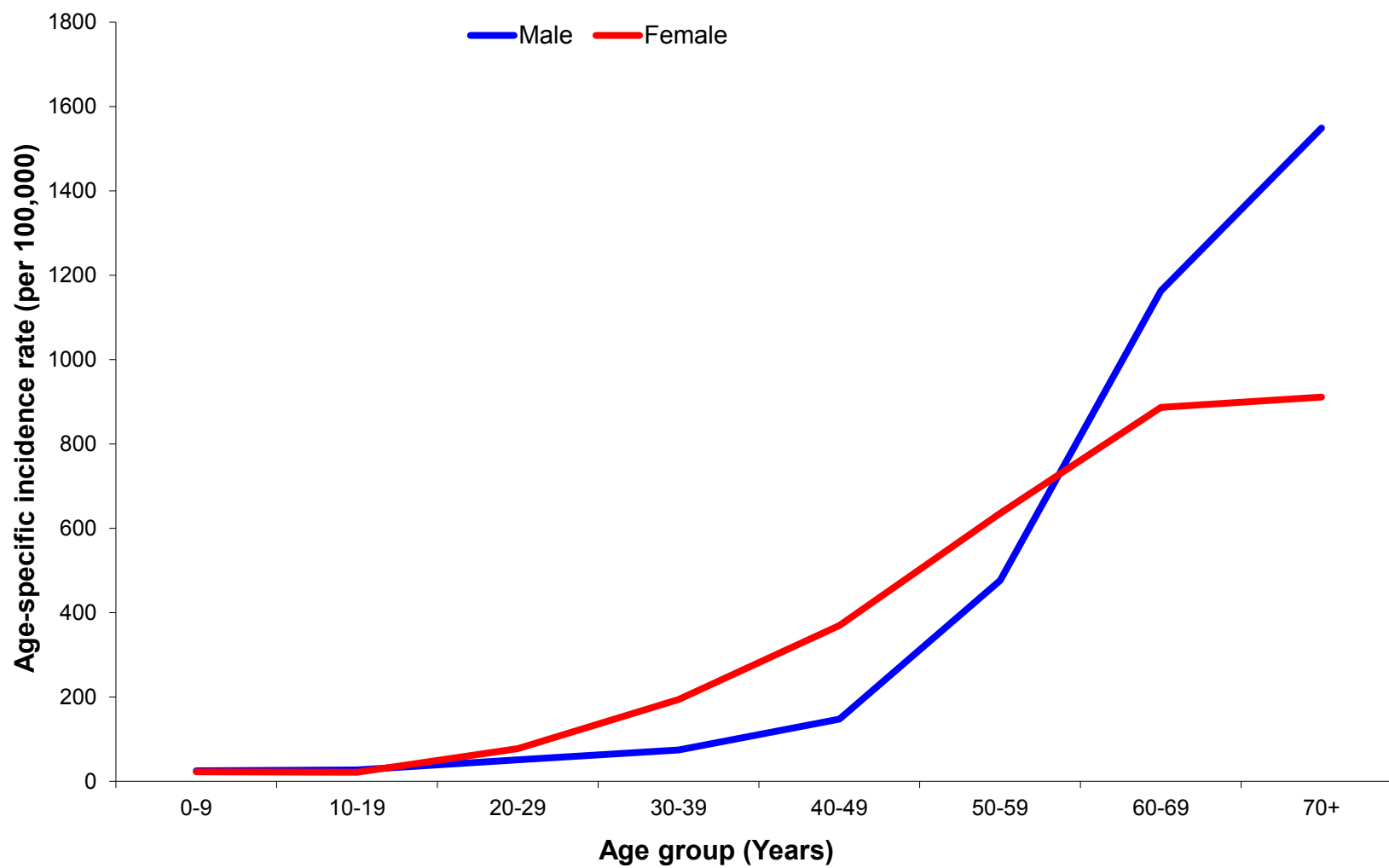


Figure 15: Age-specific incidence rates by gender, 2019



Overall Results

Table 20: Incident cases by most valid basis of diagnosis among Omanis, 2019

Site	*A	*B	*C	*D	Total
Lip	0	0	4	0	4
Tongue	0	0	4	0	4
Mouth	0	0	17	0	17
Salivary Glands	0	0	1	0	1
Oropharynx	0	0	2	0	2
Nasopharynx	0	0	10	0	10
Oesophagus	0	0	18	0	18
Stomach	0	0	116	0	116
Colorectum	0	0	213	0	213
Small Intestine	0	0	14	0	14
Liver	0	25	43	0	68
Gall Bladder	0	1	10	0	11
Pancreas	0	0	36	0	36
Nose, Sinuses	0	0	1	0	1
Larynx	0	0	11	0	11
Trachea, Bronchus, Lung	0	0	82	0	82
Bone	0	0	13	0	13
Connective Tissue	0	0	26	0	26
Melanoma	0	0	5	0	5
Skin	0	0	63	0	63
Kaposi's Sarcoma	0	0	1	0	1
Breast	0	0	350	0	350
Cervix uteri	0	0	35	0	35
Uterus	0	0	51	0	51
Ovary	0	1	44	0	45
Vagina	0	0	0	0	0
Prostate	0	0	113	0	113
Testis	0	0	15	0	15
Kidney	0	0	59	0	59
Bladder	0	2	74	0	76
Eye	0	0	4	0	4
Brain, Nervous System	0	0	48	0	48
Thyroid	0	0	235	0	235
Hodgkin's Disease	0	0	52	0	52
Non Hodgkin's Disease	0	0	93	0	93
Plasmacytoma	0	0	39	0	39
Leukemia	0	0	91	0	91
Other and Unspecified	0	0	67	0	67
Total	0	29	2,060	0	2,089
Percentage of total	0	1.39	98.61	0	100

Key to basis of diagnosis*

A = Death certificate only

B = Non-microscopic: clinical, clinical investigation, and specific tumour markers, exploratory surgery without histology

C = Microscopic: cytology, histology of primary, and histology of metastasis

D = Unknown

Overall Results

Figure 16: The most frequent types of cancer by gender (0-14)

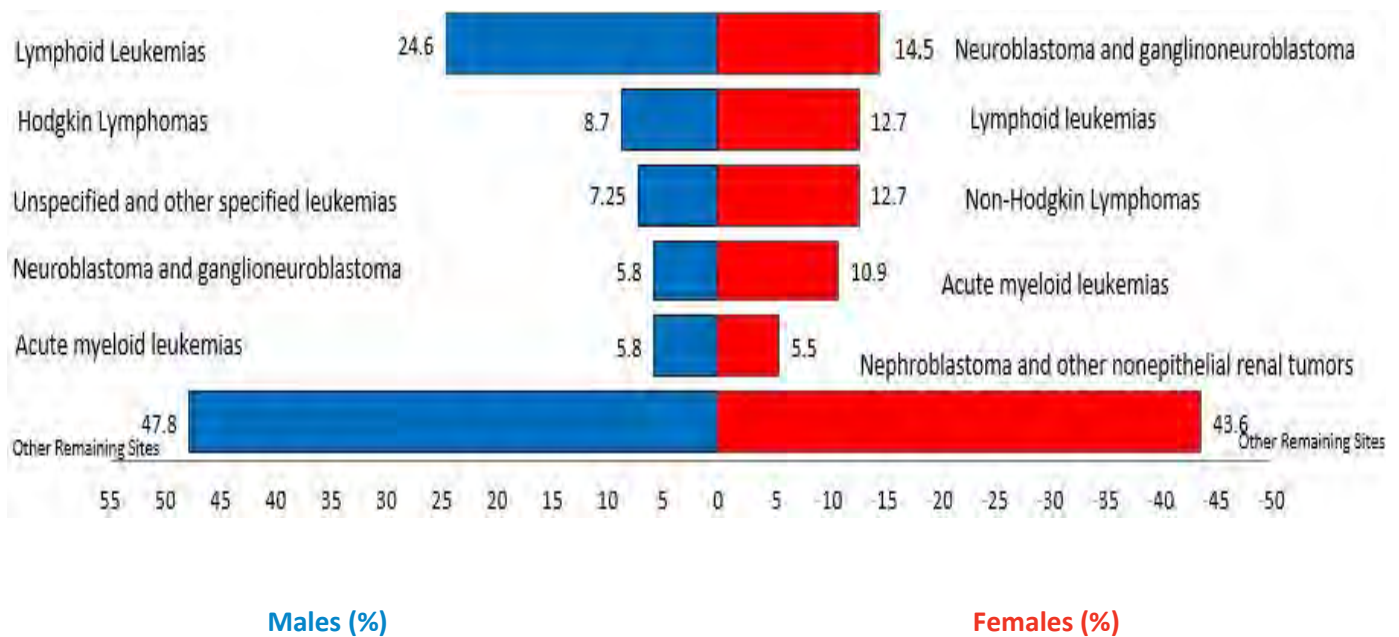
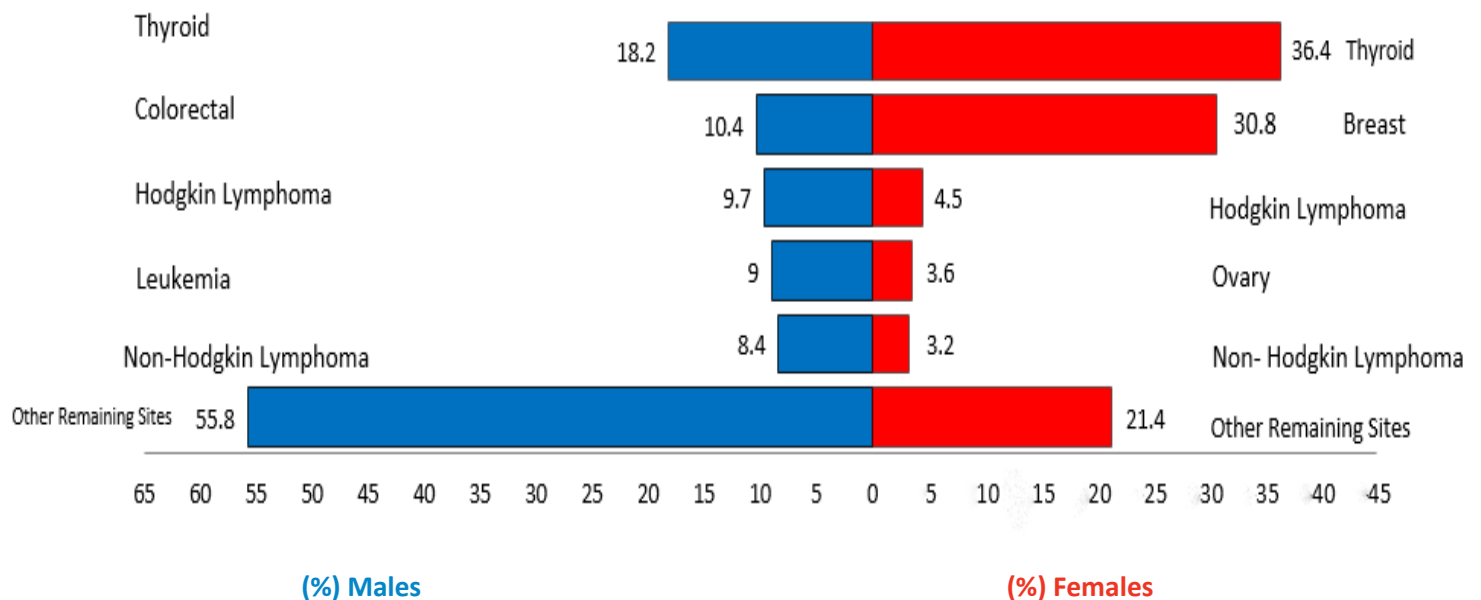


Figure 17: The most frequent types of cancer by gender (15-39)



Overall Results

Figure 18: The most frequent types of cancer by gender (40-64)

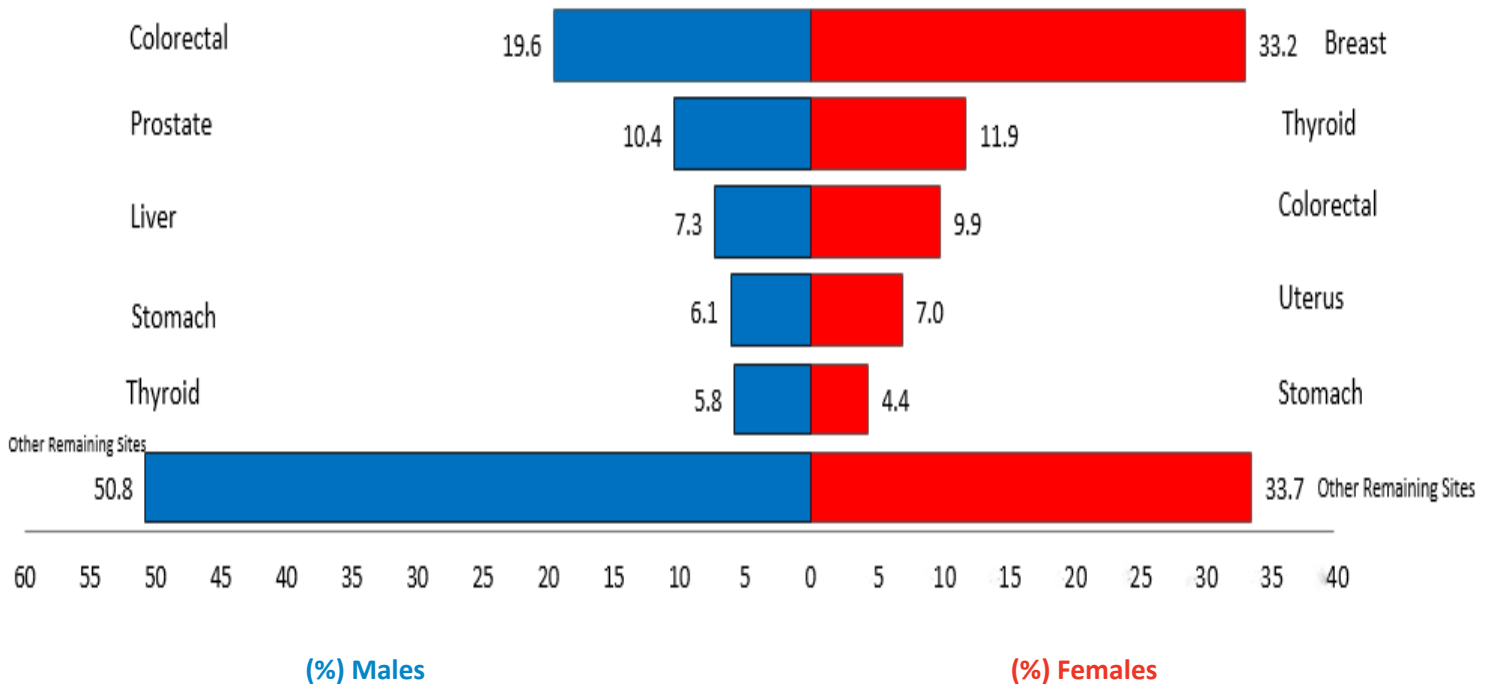
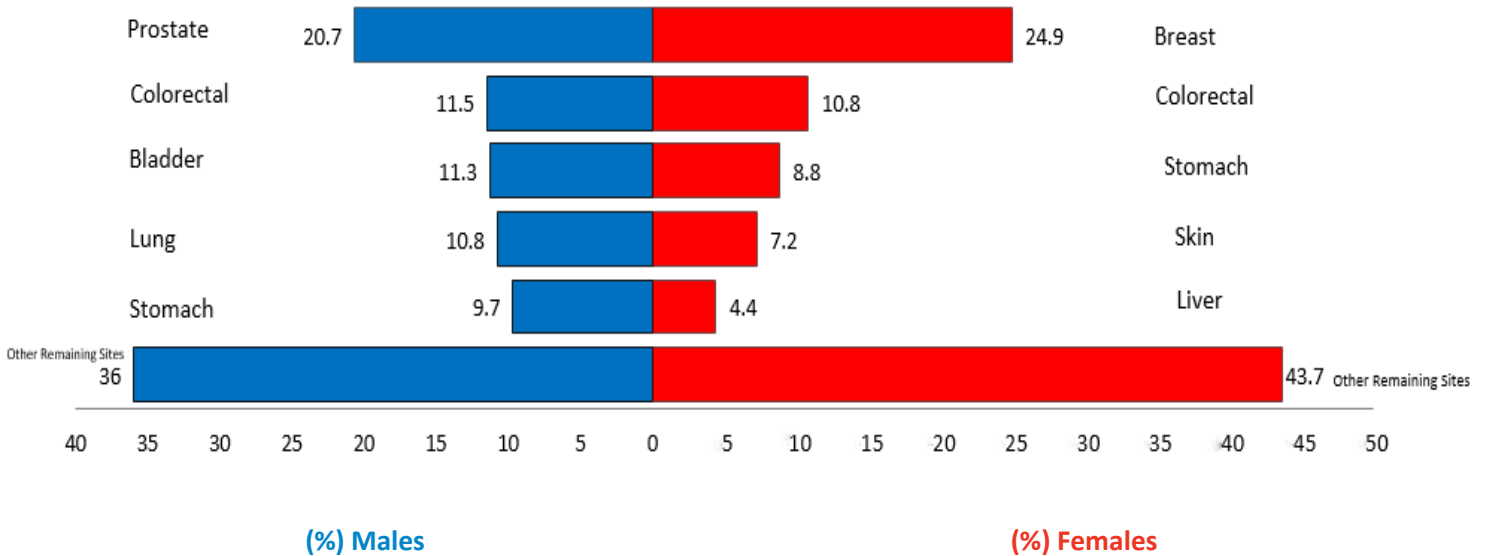


Figure 19: The most frequent types of cancer by gender (65+)



Overall Results

Table 21: Top five cancers by Governorate 2018

Muscat	Breast	Colorectal	Thyroid	Prostate	Non-Hodgkin lymphoma
	122	46	41	32	29
North Al - Batinah	Colorectal	Breast	Thyroid	Non-Hodgkin lymphoma	Luekemia
	41	32	24	18	15
Ad - Dakhliyah	Breast	Colorectal	Thyroid	Skin	Prostate
	31	16	14	14	13
South Al - Batinah	Breast	Thyroid	Colorectal	Lung	Non-Hodgkin lymphoma
	25	17	16	11	8
Dhofar	Colorectal	Breast	Non-Hodgkin lymphoma	Lung	Thyroid
	26	20	16	13	10
South Ash - Sharqiah	Breast	Colorectal	Thyroid	Stomach	Liver
	17	13	12	9	8
North Ash - Sharqiyah	Colorectal	Breast	Thyroid	Stomach	Luekemia
	22	20	8	8	8
Adh -Dhahirah	Thyroid	Breast	Colorectal	Prostate	Non-Hodgkin lymphoma
	26	16	8	7	7
Buraymi	Thyroid	Non-Hodgkin lymphoma	Breast	Liver	Colorectal
	4	3	2	2	2
Musanadam	Breast	Colorectal	Stomach	Non-Hodgkin lymphoma	Pancreas
	3	2	2	2	2
Al - Wusta	Liver	Thyroid	Bladder	Luekemia	Non-Hodgkin lymphoma
	2	1	1	1	1

Table 22: Top five cancers by Governorate 2019

Muscat	Breast	Colorectal	Thyroid	Stomach	Prostate
	120	62	57	31	28
North Al - Batinah	Thyroid	Breast	Colorectal	Stomach	Luekemia
	42	36	34	23	18
Ad - Dakhliyah	Breast	Thyroid	Colorectal	Prostate	Luekemia
	49	28	15	15	13
South Al - Batinah	Breast	Thyroid	Stomach	Colorectal	Prostate
	30	27	23	21	14
Dhofar	Breast	Colorectal	Thyroid	Prostate	Non-Hodgkin lymphoma
	30	23	19	13	12
South Ash - Sharqiah	Colorectal	Breast	Thyroid	Stomach	Liver
	24	22	20	10	8
North Ash - Sharqiyah	Breast	Colorectal	Thyroid	Skin	Prostate
	22	16	14	9	9
Adh -Dhahirah	Breast	Thyroid	Colorectal	Prostate	Luekemia
	28	19	13	12	9
Buraymi	Breast	Thyroid	Colorectal	Prostate	Luekemia
	28	19	13	12	9
Musanadam	Breast	Stomach	Thyroid	Non-Hodgkin lymphoma	Skin
	4	3	2	2	2
Al - Wusta	Liver	Thyroid	Non-Hodgkin lymphoma	Breast	Colorectal
	2	2	2	1	1

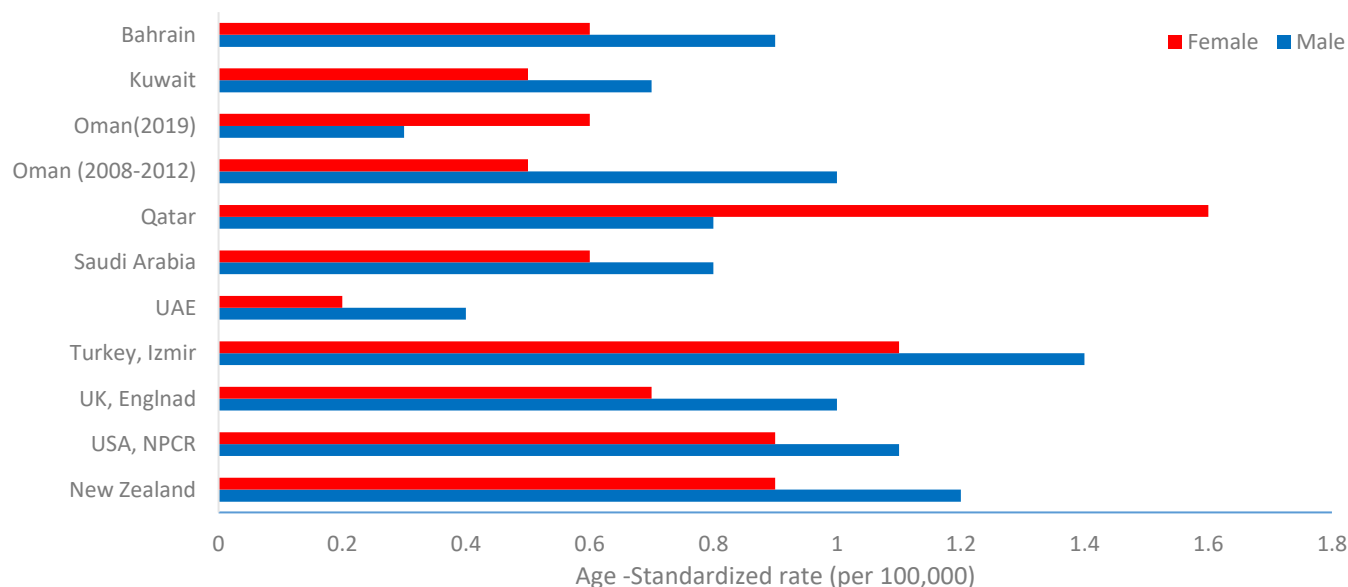
Cancers by Sites



Table 23: Gender Distribution of Bone Malignancies

Gender	Frequency	Crude Incidence rate	Age standardized incidence rate
Male	4	0.3	0.3
Female	9	0.7	0.6
Total	13		

Figure 20: Age-standardized incidence rates of cancer of bone in Oman and some selected countries



Note: Data of GCC countries are from 2008-2012; data of New Zealand, UK (England), Turkey (Izmir) are from 2003-2007, For USA –NPCR (National Program of Cancer Registries) from 2003-2007 was used.

Figure 21: Morphology of Bone Cancer

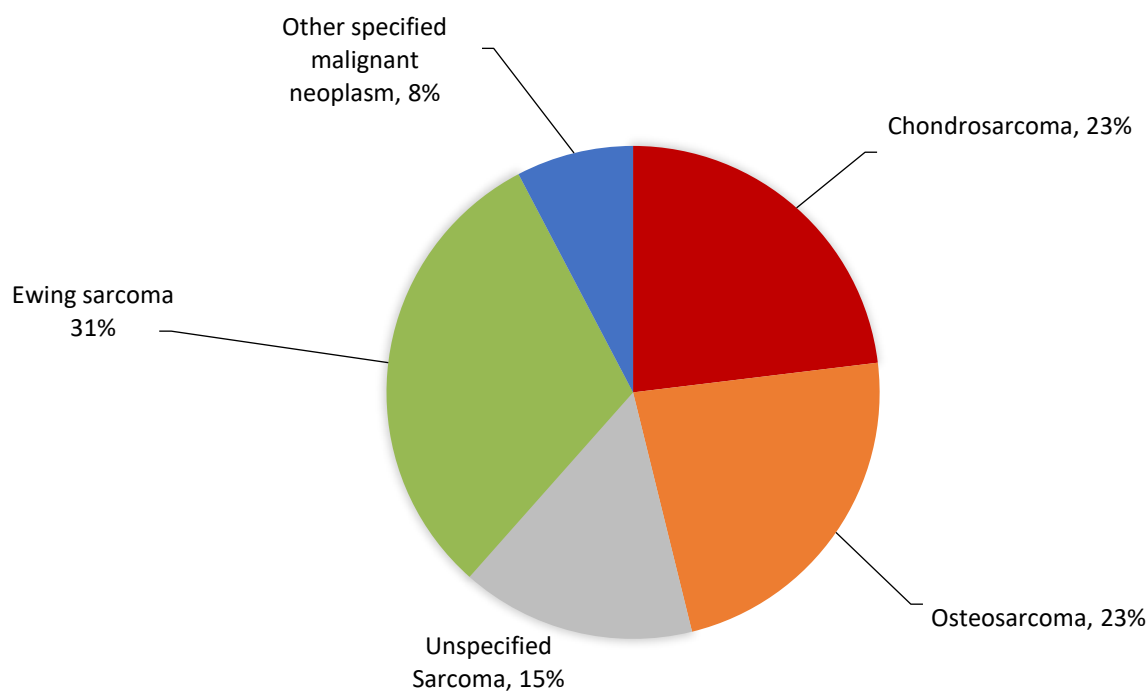
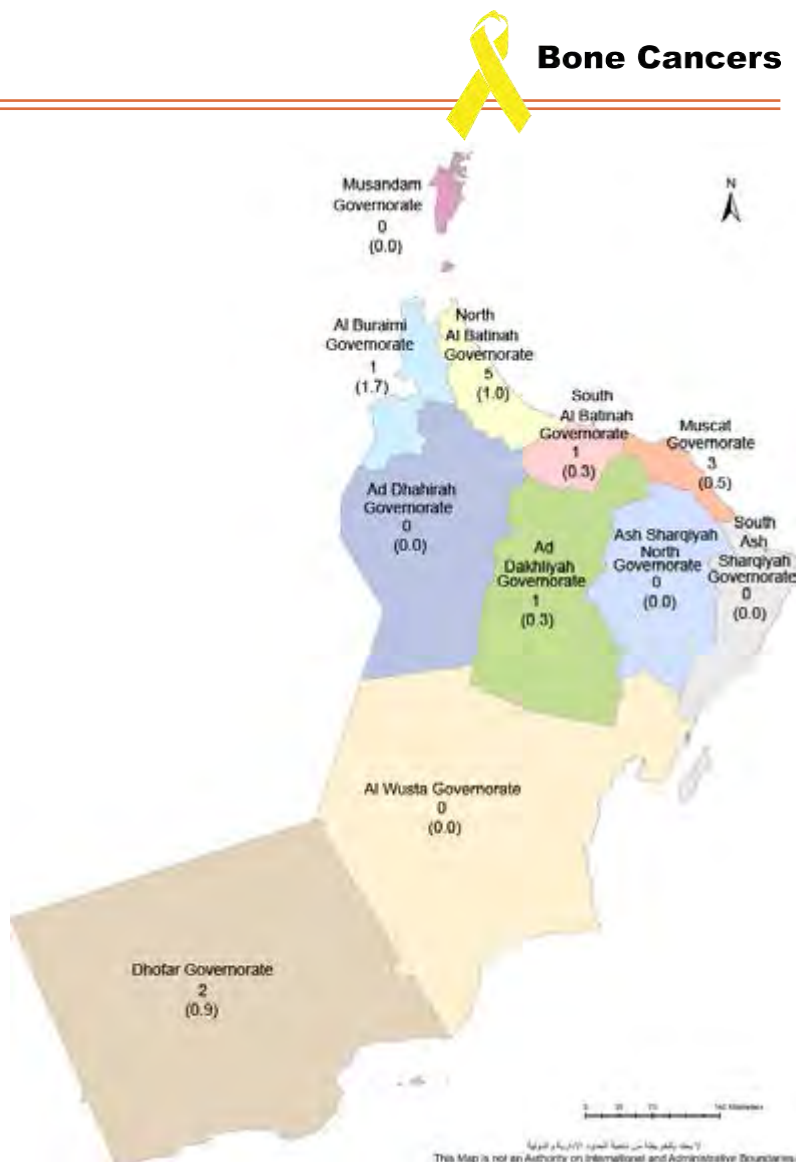


Figure 22: Incidence of Bone Cancer by Governorates

(Incidence rates are per 100,000 population)

Governorates	Frequency	Incidence
Muscat	3	0.5
North Al - Batinah	5	1.0
Ad - Dakhliyah	1	0.3
South Al - Batinah	1	0.3
Dhofar	2	0.9
South Ash - Sharqiah	0	0.0
North Ash - Sharqiyah	0	0.0
Adh -Dhahirah	0	0.0
Buraymi	1	1.7
Musandam	0	0.0
Al - Wusta	0	0.0
Unknown	0	
Total	13	0.5

Unknown 0



Trend of Bone Cancer 1996-2019

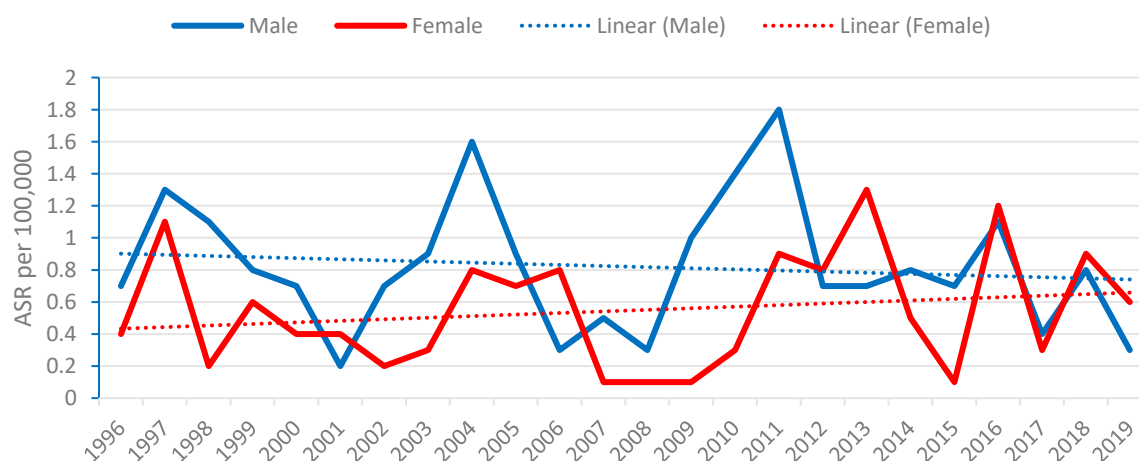
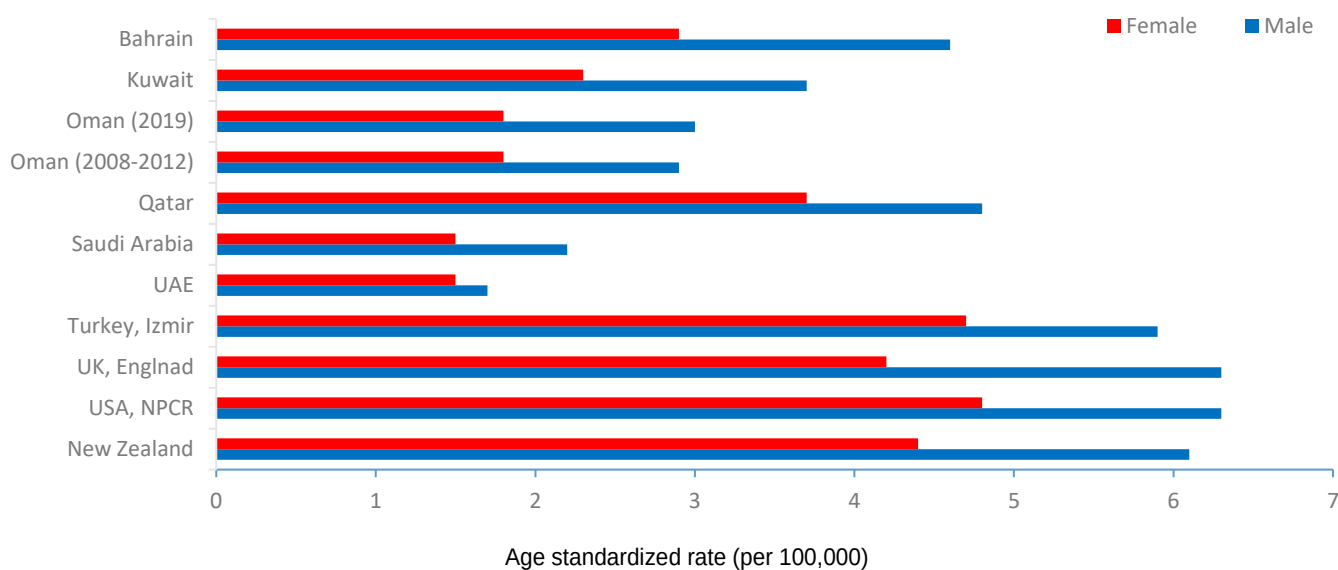




Table 24: Gender Distribution of Cancer of the Brain & Nervous System

Gender	Frequency	Crude Incidence rate	Age standardized incidence rate
Male	30	2.2	3.0
Female	18	1.4	1.8
Total	48		
Malignant lymphoma	2		

Figure 23: Age-standardized incidence rates of cancer of the Brain and Nervous System in Oman and some selected countries



Note: Data of GCC countries are from 2008-2012; data of New Zealand, UK (England), Turkey (Izmir) are from 2003-2007, For USA –NPCR (National Program of Cancer Registries) from 2003-2007 was used.

Figure 24: Morphology of Brain and Nervous System Cancer

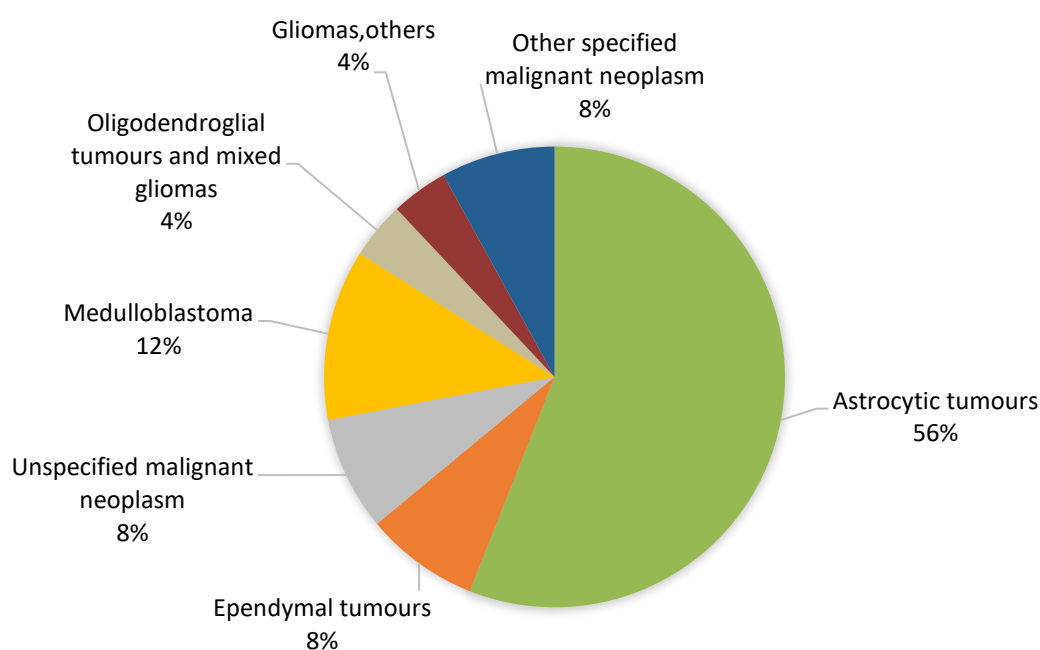
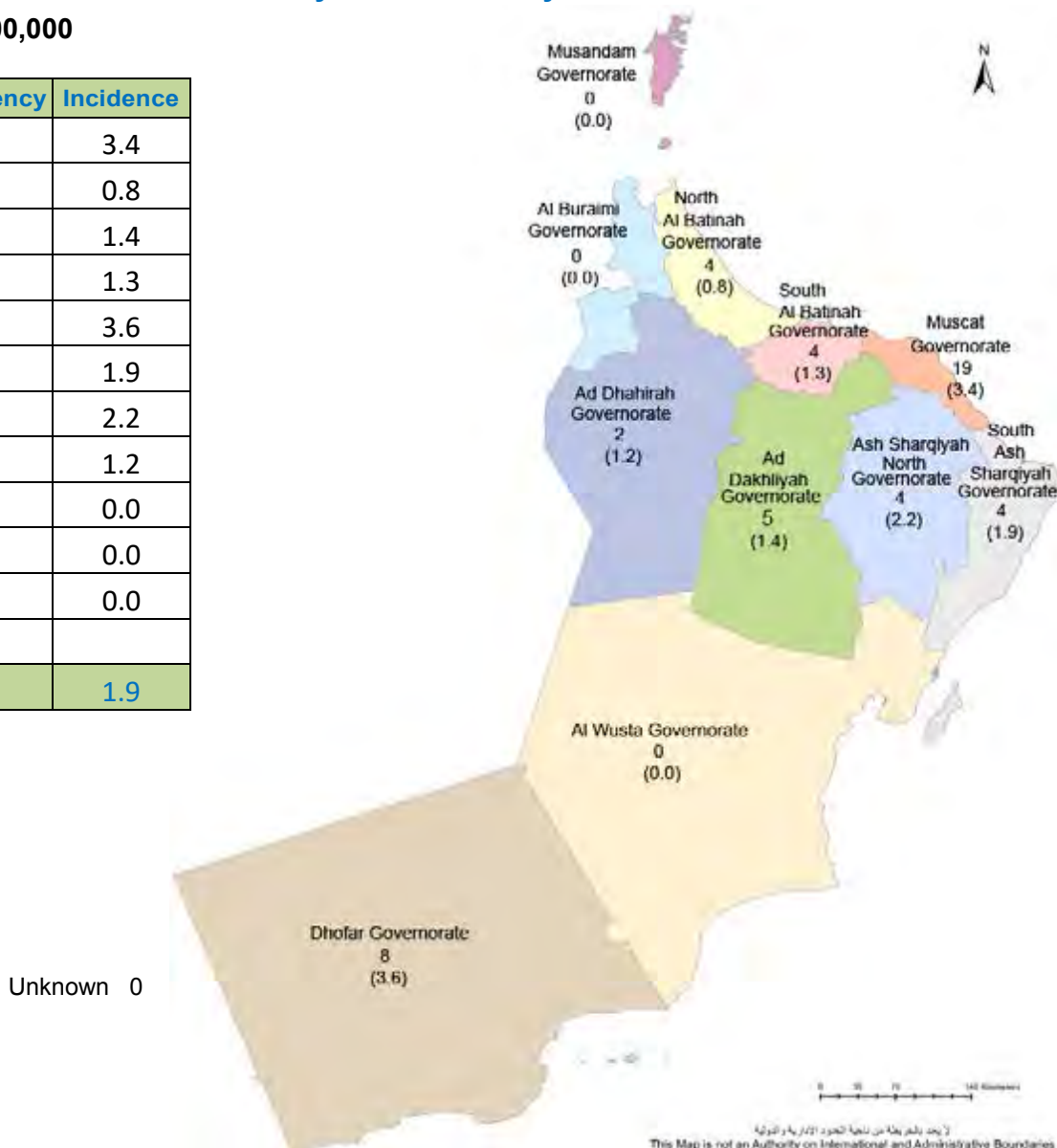




Figure 25: Incidence of Brain and Nervous System Cancer by Governorates

(Incidence rates are per 100,000 population)

Governorates	Frequency	Incidence
Muscat	19	3.4
North Al - Batinah	4	0.8
Ad - Dakhliyah	5	1.4
South Al - Batinah	4	1.3
Dhofar	8	3.6
South Ash - Sharqiah	4	1.9
North Ash - Sharqiah	4	2.2
Adh -Dhahirah	2	1.2
Buraymi	0	0.0
Musandam	0	0.0
Al - Wusta	0	0.0
Unknown	0	
Total	50	1.9



Trend of Brain Cancer 1996-2019

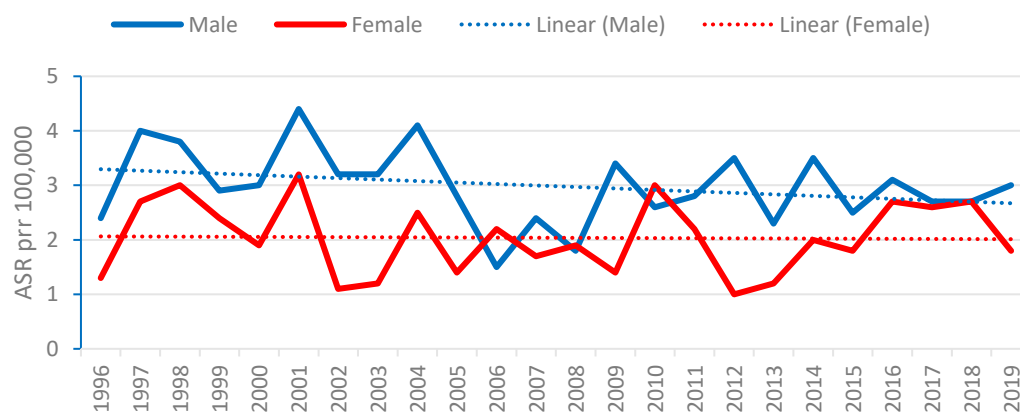
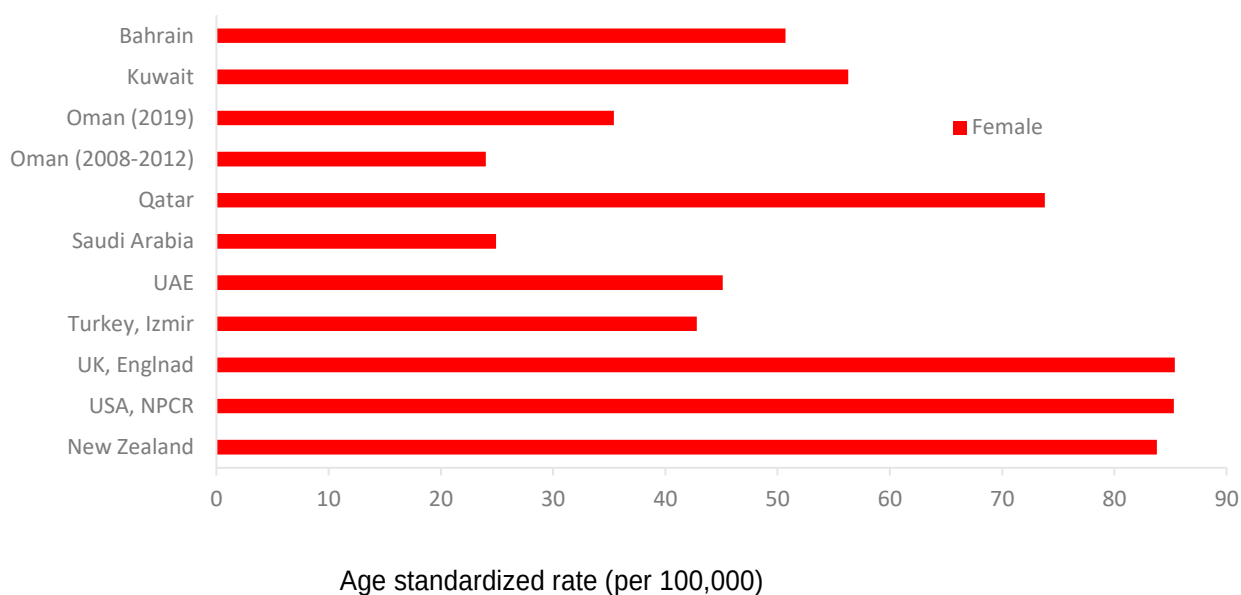




Table 25: Gender Distribution of Breast Cancer

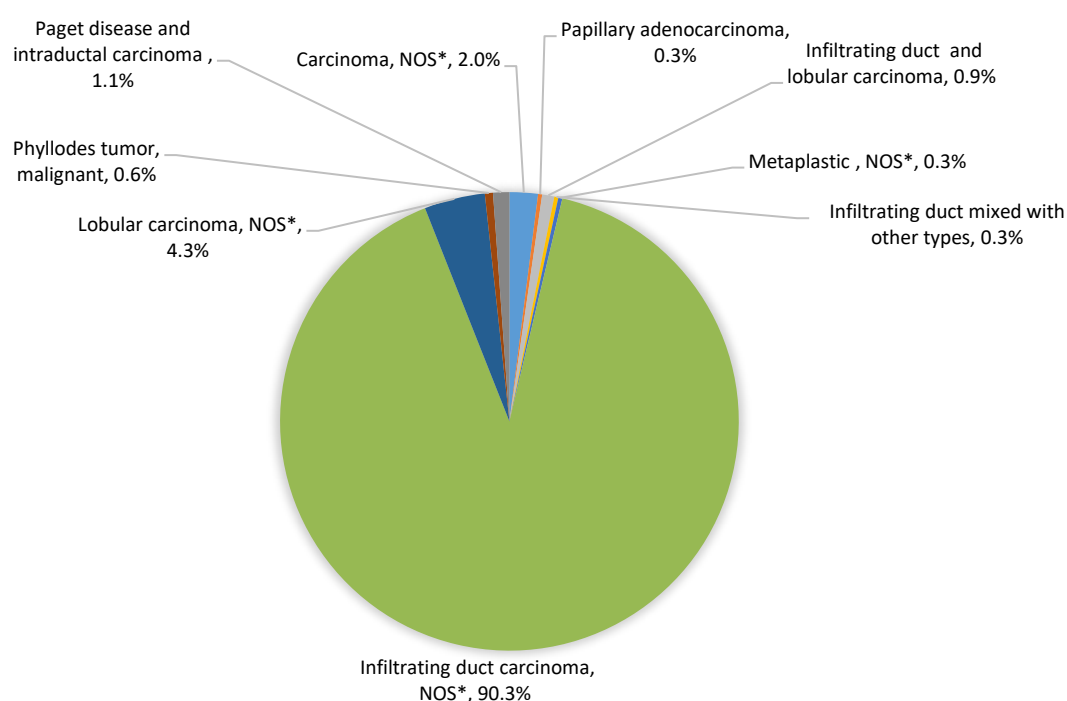
Gender	Frequency	Crude Incidence rate	Age standardized incidence rate
Male	12	0.9	1.7
Female	338	25.6	35.4
Total	350		
Carcinoma in situ	12		

Figure 26: Age-standardized incidence rates of Female Breast Cancer in Oman and some selected countries



Note: Data of GCC countries are from 2008-2012; data of New Zealand, UK (England), Turkey (Izmir) are from 2003-2007, For USA –NPCR (National Program of Cancer Registries) from 2003-2007 was used.

Figure 27: Morphology of Breast Cancer



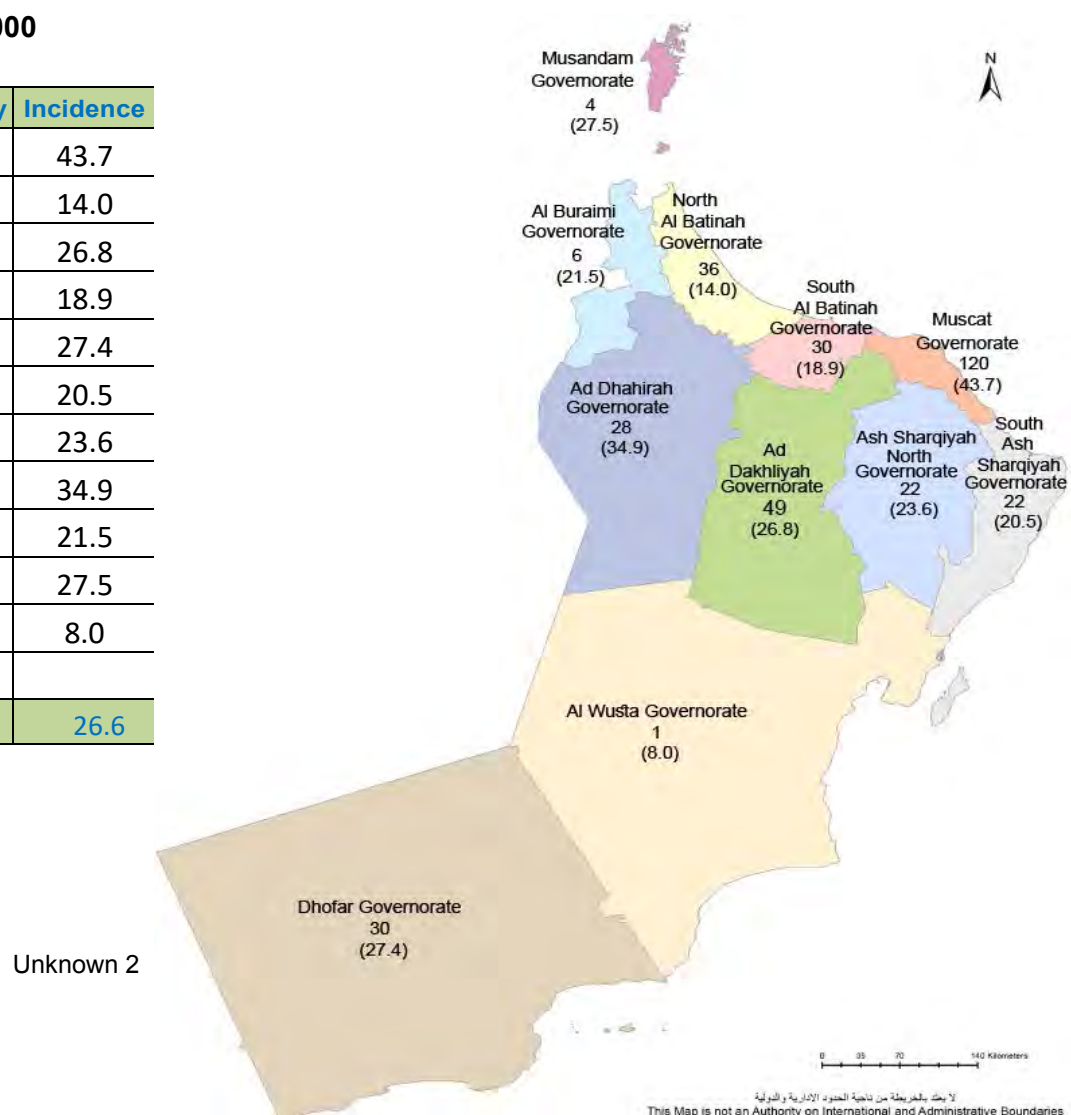
*Not otherwise specified



Figure 28: Incidence of Breast Cancer by Governorates

Incidence rates are (per 100,000 population)

Governorates	Frequency	Incidence
Muscat	120	43.7
North Al - Batinah	36	14.0
Ad - Dakhliyah	49	26.8
South Al - Batinah	30	18.9
Dhofar	30	27.4
South Ash - Sharqiah	22	20.5
North Ash - Sharqiah	22	23.6
Adh -Dhahirah	28	34.9
Buraymi	6	21.5
Musandam	4	27.5
Al - Wusta	1	8.0
Unknown	2	
Total	350	26.6



Trend of Breast Cancer 1996-2019

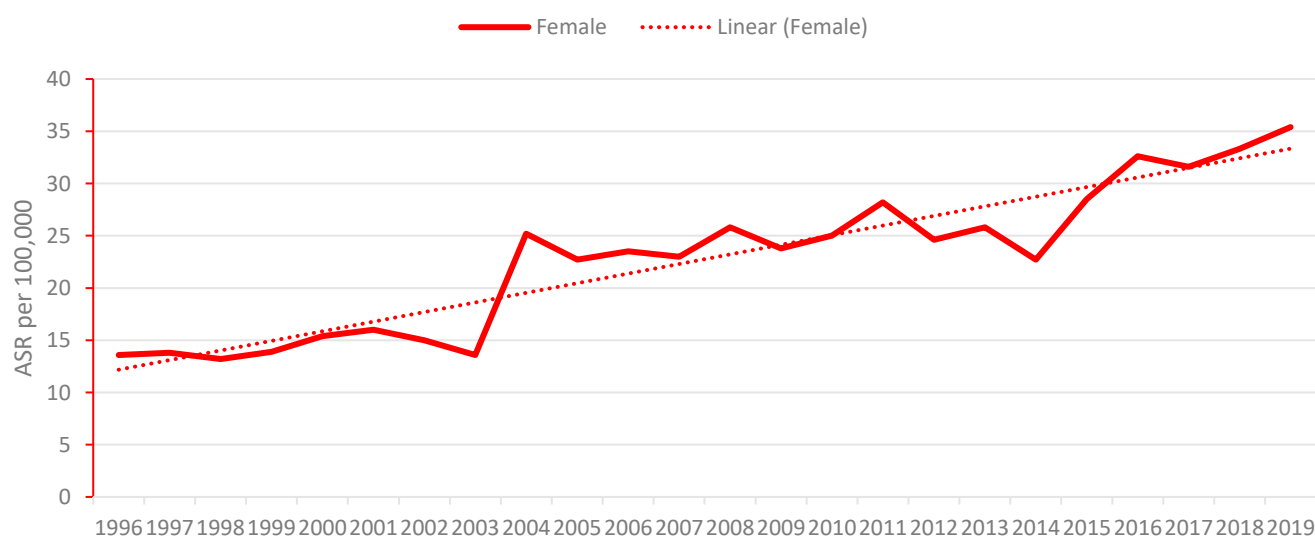




Figure 29: Stages of Breast Cancer 2018

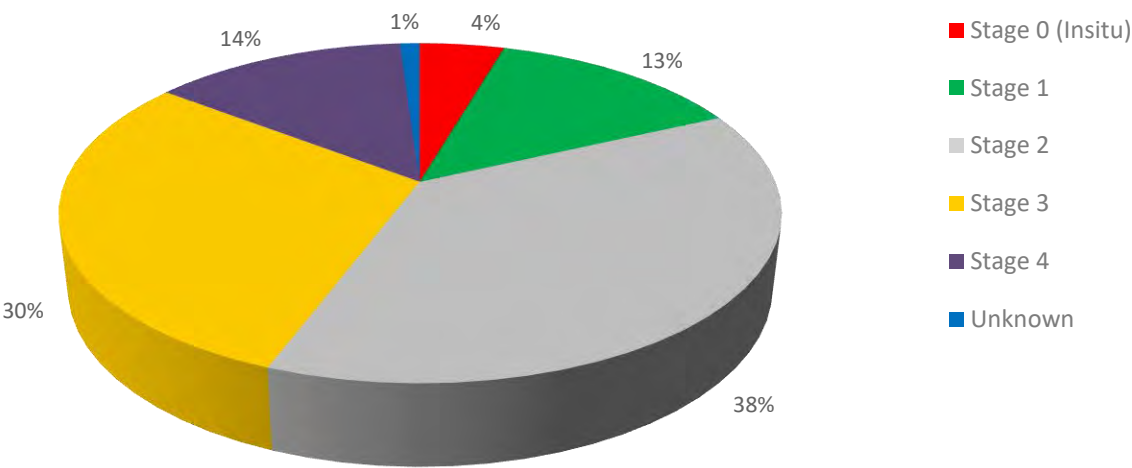
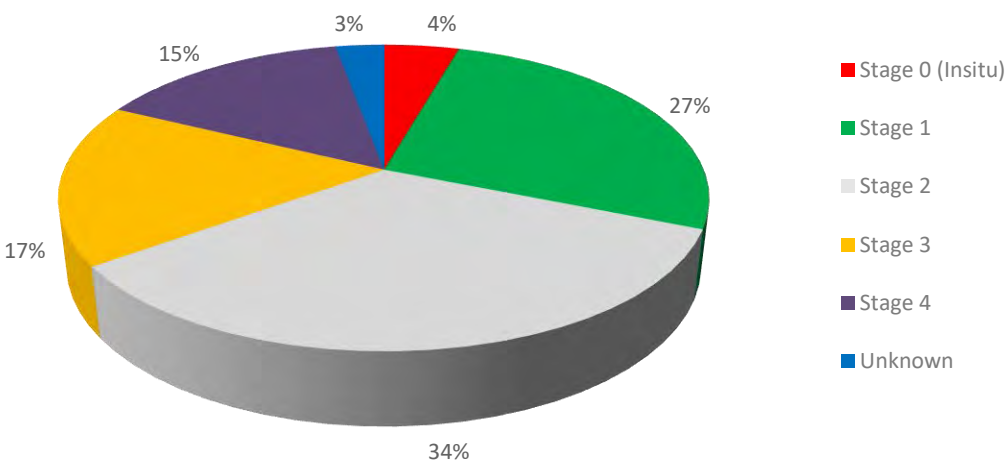


Figure 30: Stages of Breast Cancer 2019



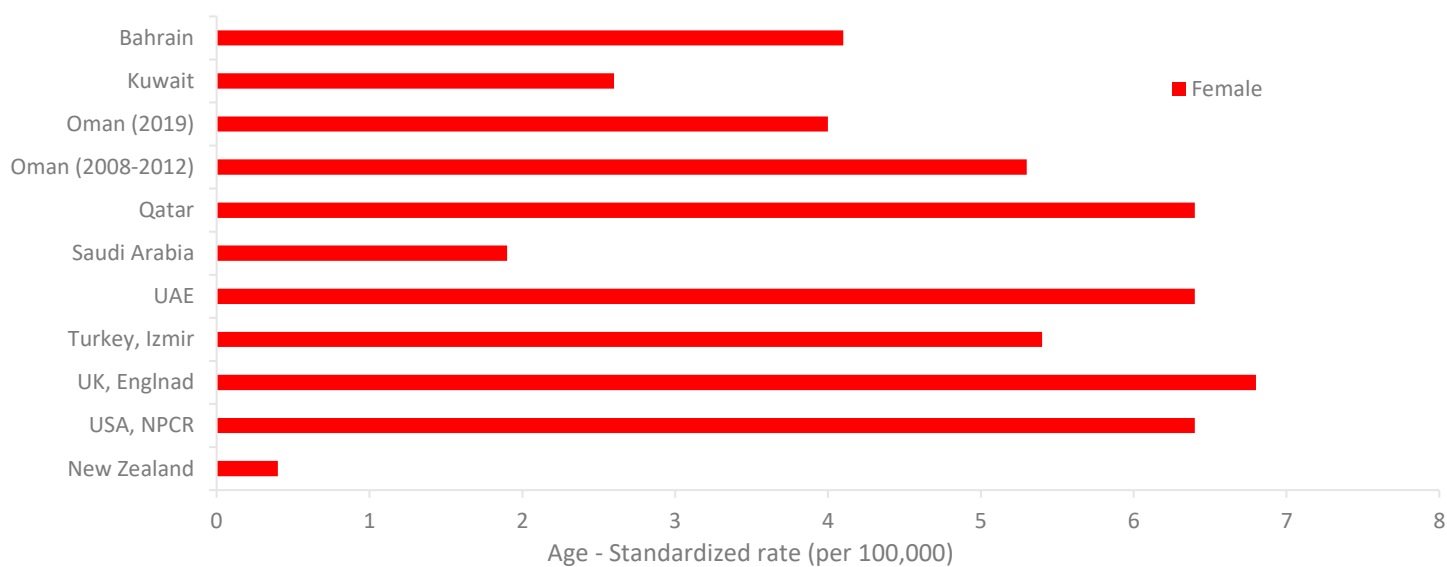
Stage is based on American Joint Committee on Cancer 8th edition



Table 26: Distribution of Cervical Cancer

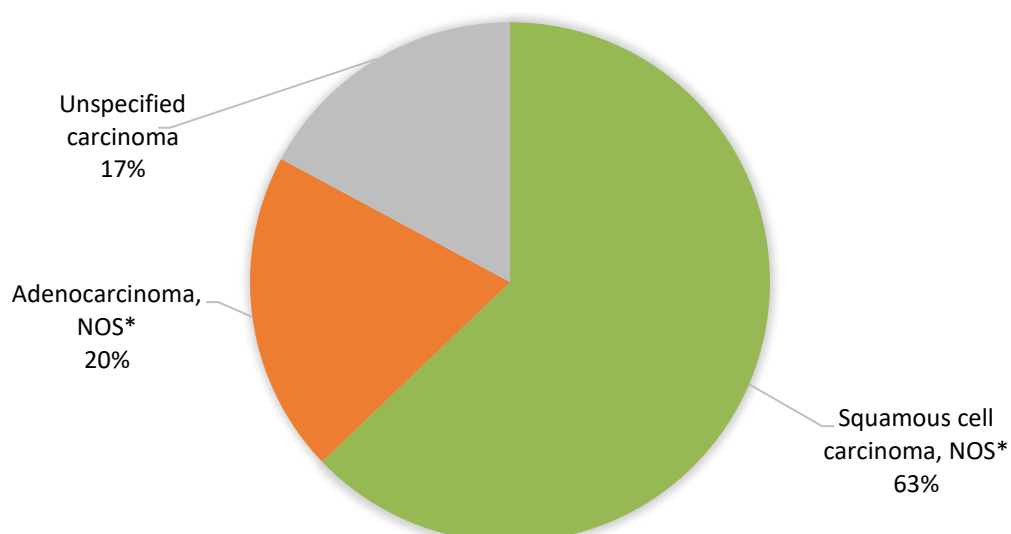
Gender	Frequency	Crude Incidence rate	Age standardized incidence rate
Female	34	2.6	4
Total	34		
Malignant lymphoma	1		

Figure 31: Age-standardized incidence rates of Cervical Cancer in Oman and some selected countries



Note: Data of GCC countries are from 2008-2012; data of New Zealand, UK (England), Turkey (Izmir) are from 2003-2007, For USA –NPCR (National Program of Cancer Registries) from 2003-2007 was used.

Figure 32: Morphology of Cervical Cancer



*Not otherwise specified


Figure 33: Incidence of Cervical Cancer by Governorates

(Incidence rates are per 100,000 population)

Governorates	Frequency	Incidence
Muscat	12	4.4
North Al - Batinah	4	1.6
Ad - Dakhliyah	2	1.1
South Al - Batinah	5	3.1
Dhofar	2	1.8
South Ash - Sharqiah	2	1.9
North Ash - Sharqiyah	6	6.4
Adh -Dhahirah	2	2.5
Buraymi	0	0.0
Musandam	0	0.0
Al - Wusta	0	0.0
Unknown	0	
Total	35	2.7

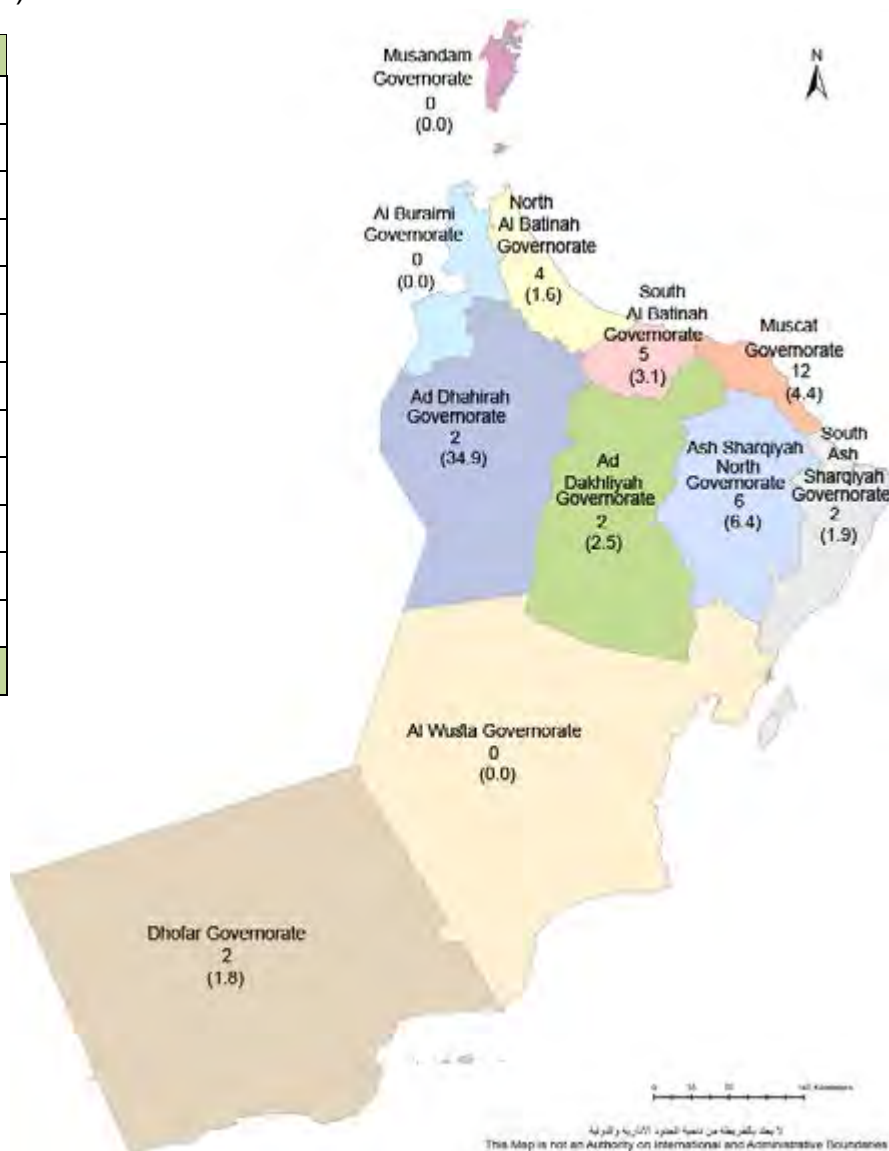
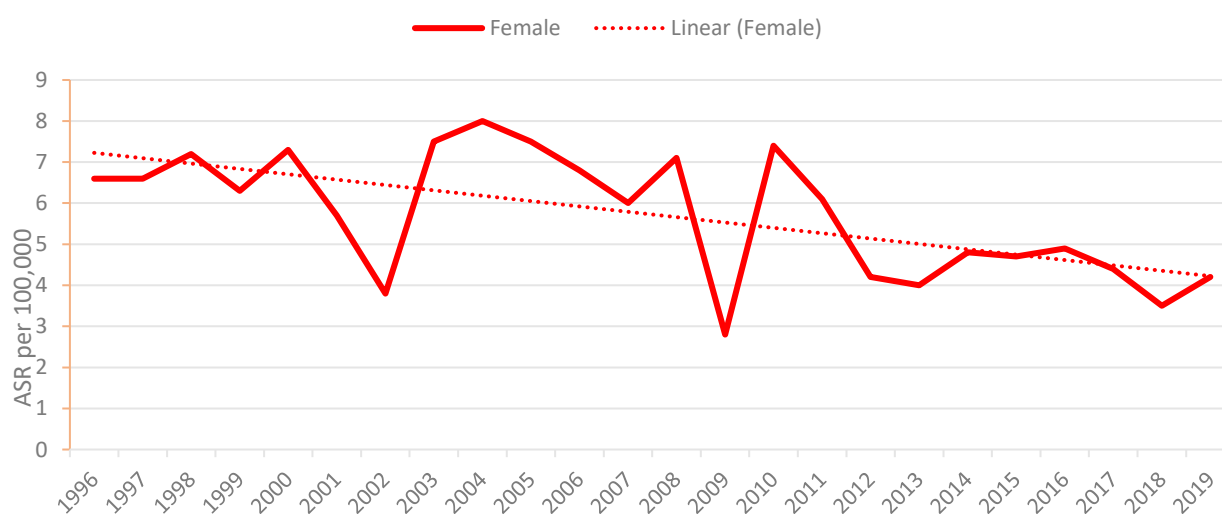
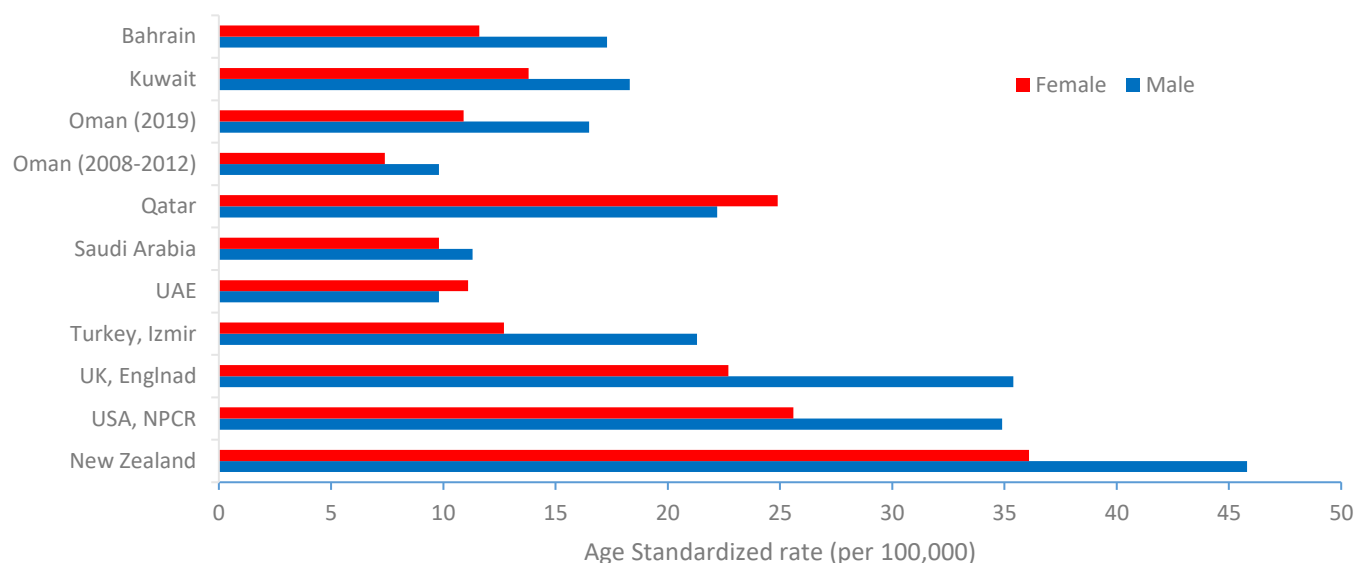

Trend of Cervical Cancer 1996-2019




Table 27: Gender Distribution of Colorectal Cancer

Gender	Frequency	Crude Incidence rate	Age standardized incidence rate
Male	124	9.3	16.5
Female	89	6.8	10.9
Total	213		
Malignant lymphoma	1		

Figure 34: Age-standardized incidence rates of of Colorectal Cancer in Oman and some selected countries



Note: Data of GCC countries are from 2008-2012; data of New Zealand, UK (England), Turkey (Izmir) are from 2003-2007, For USA –NPCR (National Program of Cancer Registries) from 2003-2007 was used.

Figure 35: Morphology of Colorectal Cancer

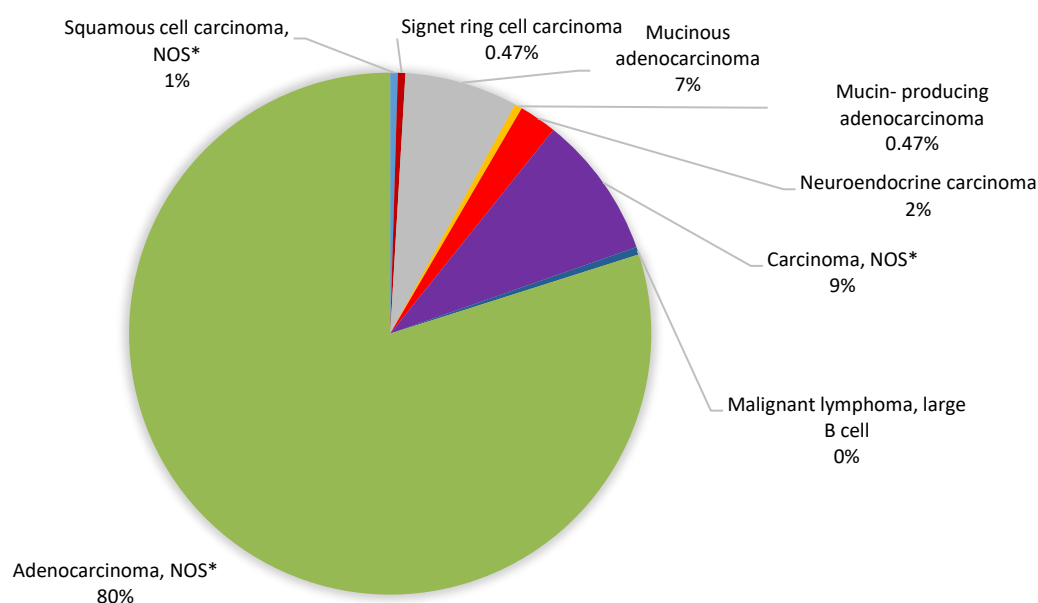
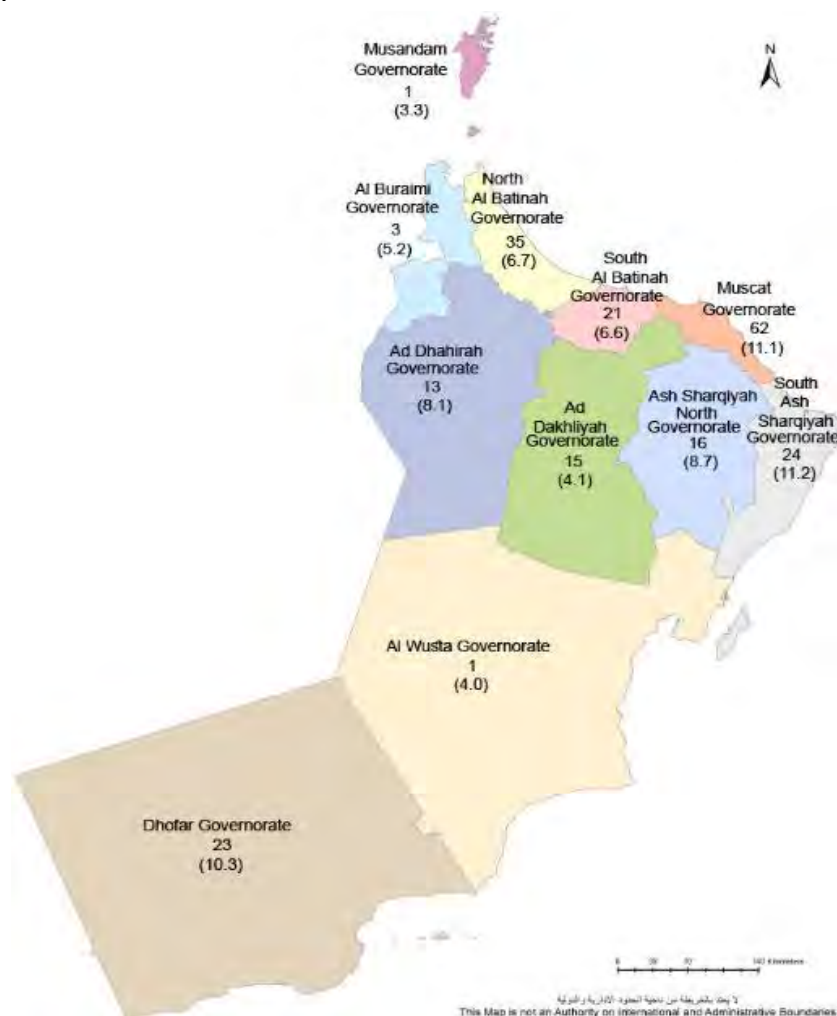


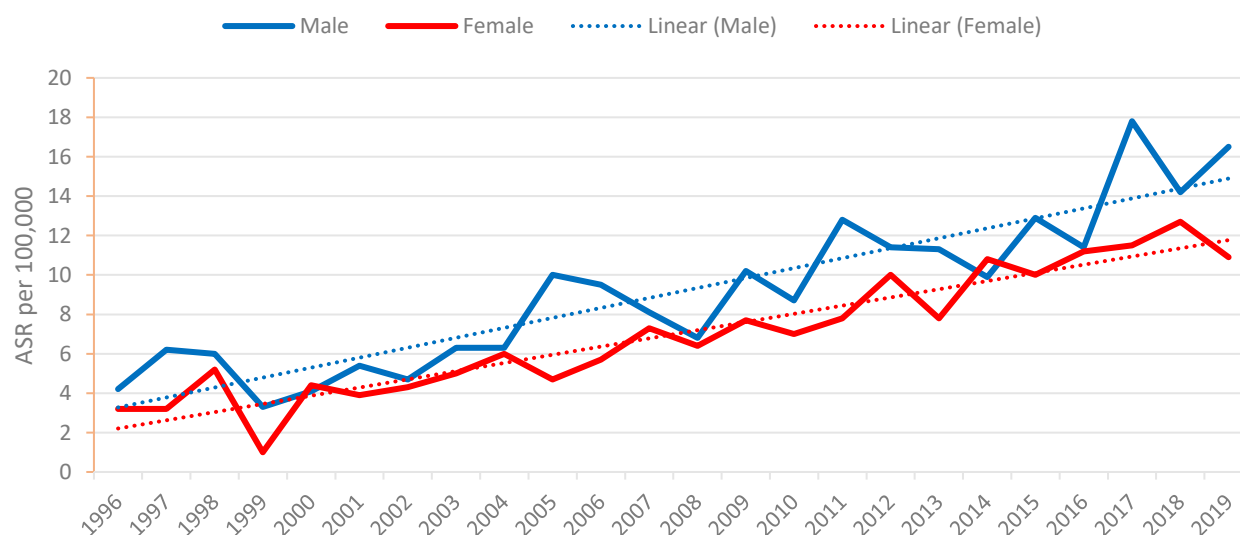


Figure 36: Incidence of Colorectal Cancer by Governorates
(Incidence rates are per 100,000 population)

Governorates	Frequency	Incidence
Muscat	62	11.1
North Al - Batinah	35	6.7
Ad - Dakhliyah	15	4.1
South Al - Batinah	21	6.6
Dhofar	23	10.3
South Ash - Sharqiah	24	11.2
North Ash - Sharqiah	16	8.7
Adh -Dhahirah	13	8.1
Buraymi	3	5.2
Musandam	1	3.3
Al - Wusta	1	4.0
Unknown	0	
Total	214	8.1



Trend of Colorectal Cancer 1996-2019



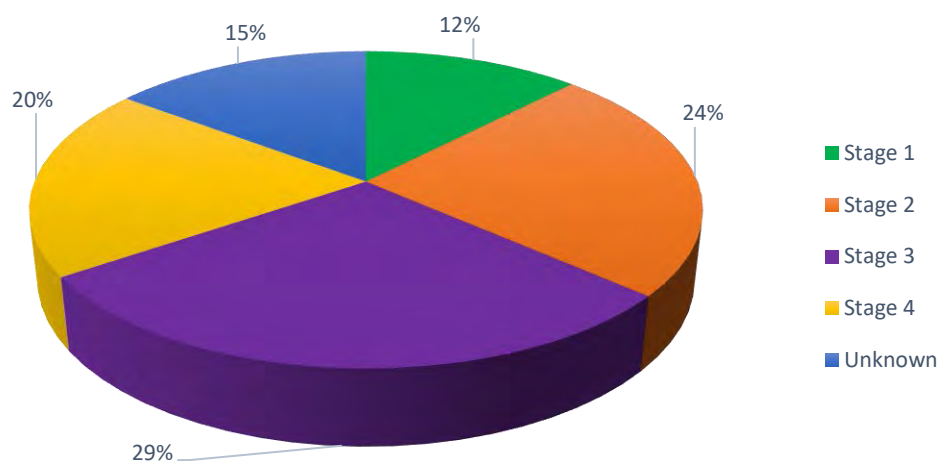
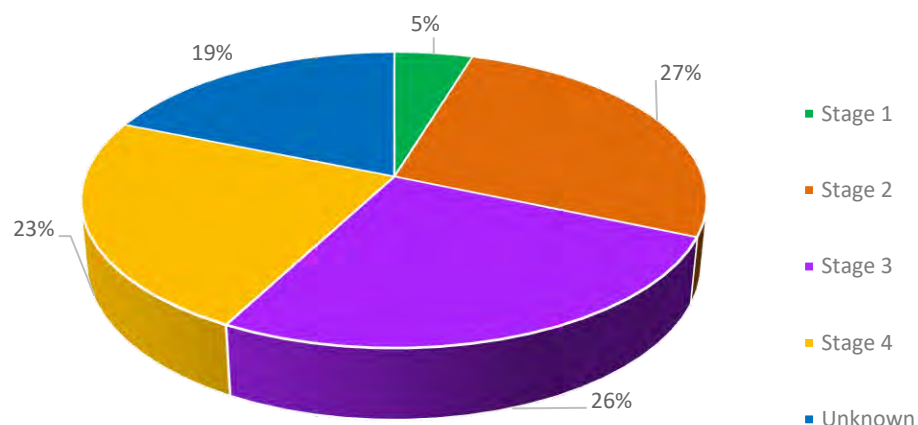
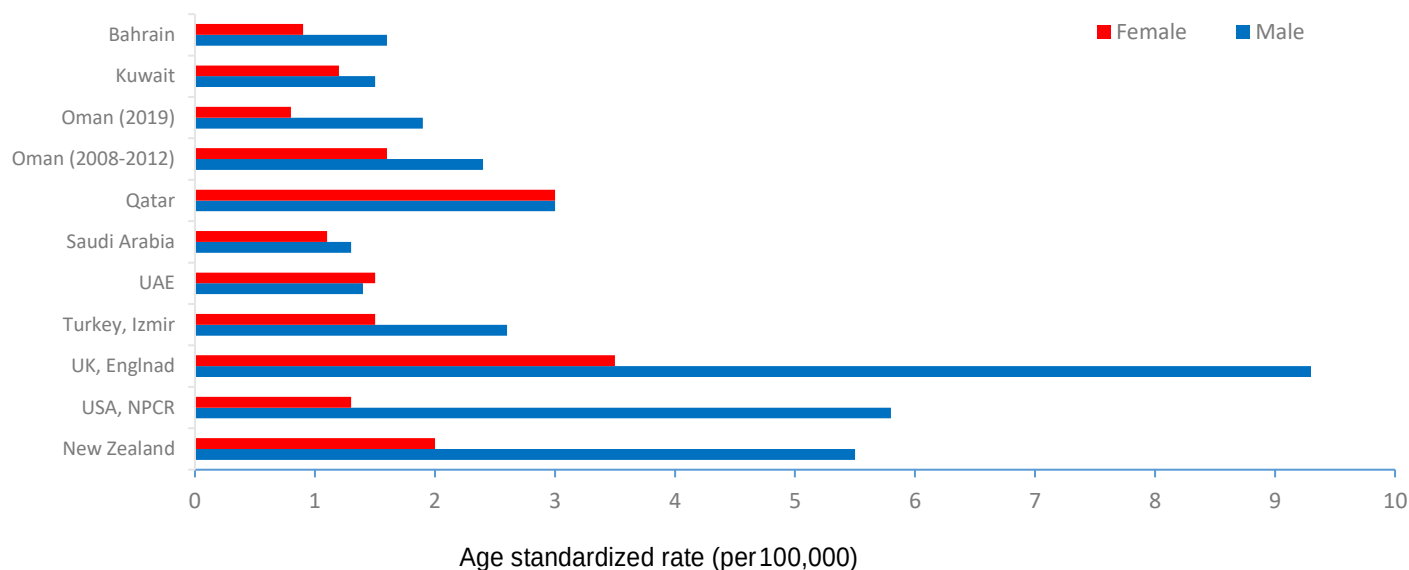
**Figure 37: Stages of Colorectal Cancer 2018****Figure 38: Stages of Colorectal Cancer 2019**



Table 28: Gender Distribution of Esophageal Cancer

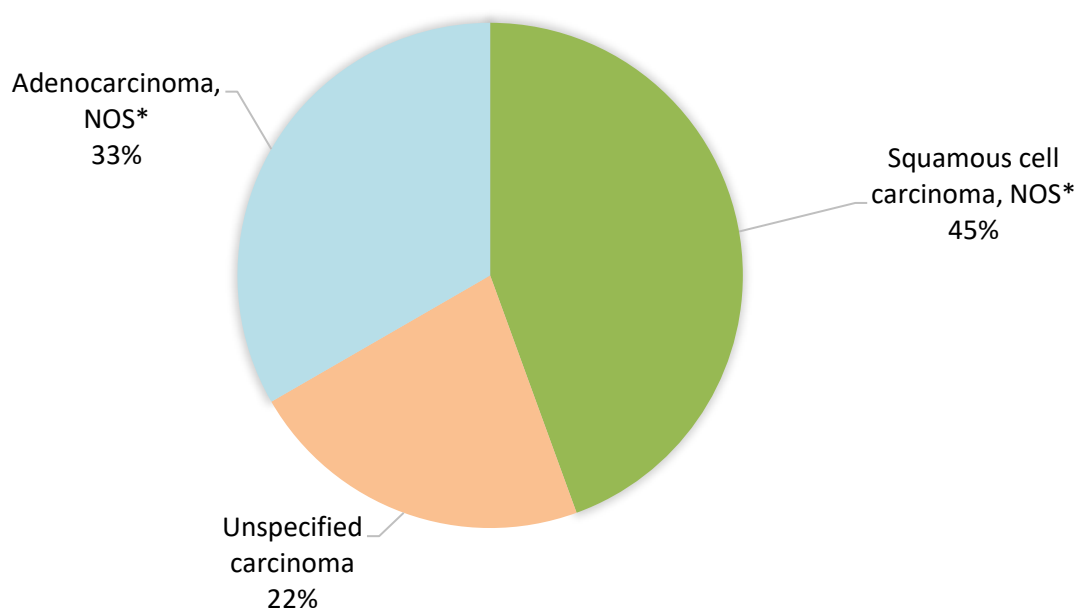
Gender	Frequency	Crude Incidence rate	Age standardized incidence rate
Male	12	0.9	1.9
Female	6	0.5	0.8
Total	18		

Figure 39: Age-standardized incidence rates of Esophageal Cancer in Oman and some selected countries



Note: Data of GCC countries are from 2008-2012; data of New Zealand, UK (England), Turkey (Izmir) are from 2003-2007, For USA –NPCR (National Program of Cancer Registries) from 2003-2007 was used.

Figure 40: Morphology of Esophageal Cancer



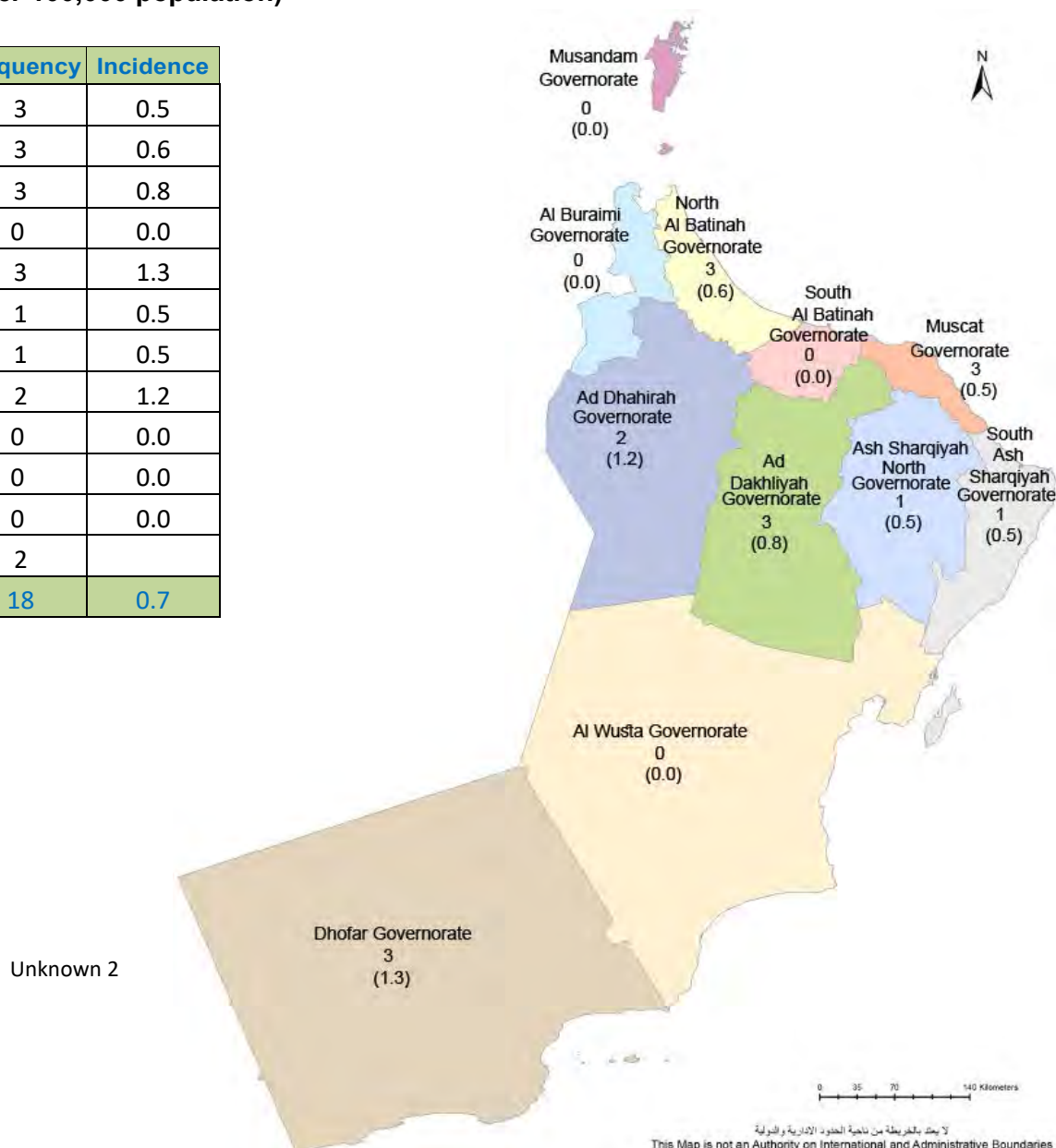
*Not otherwise specified



Figure 41: Incidence of Esophageal Cancer by Governorates

(Incidence rates are per 100,000 population)

Governorates	Frequency	Incidence
Muscat	3	0.5
North Al - Batinah	3	0.6
Ad - Dakhliyah	3	0.8
South Al - Batinah	0	0.0
Dhofar	3	1.3
South Ash - Sharqiah	1	0.5
North Ash - Sharqiyah	1	0.5
Adh -Dhahirah	2	1.2
Buraymi	0	0.0
Musandam	0	0.0
Al - Wusta	0	0.0
Unknown	2	
Total	18	0.7



Trend of Esophageal Cancer 1996-2019

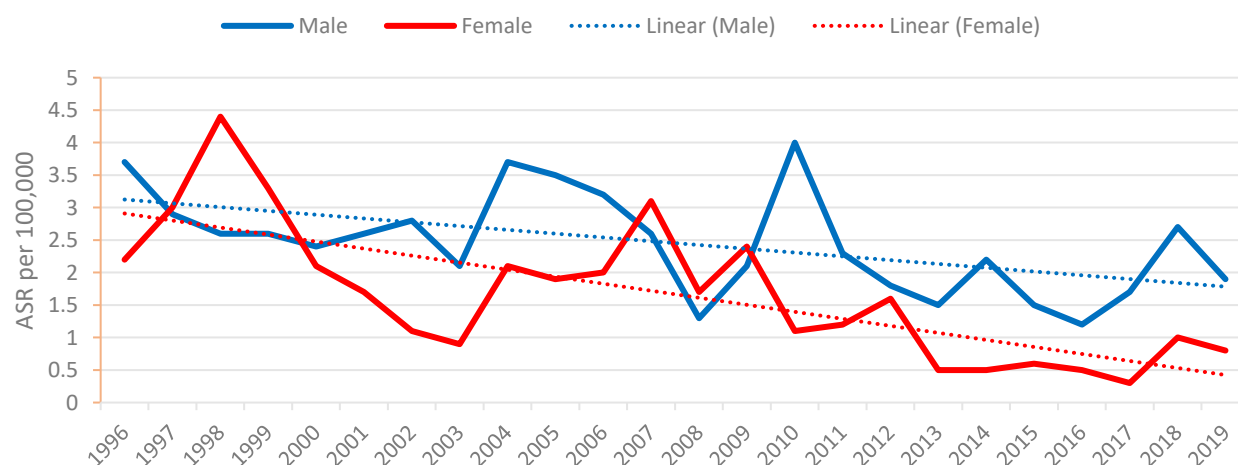
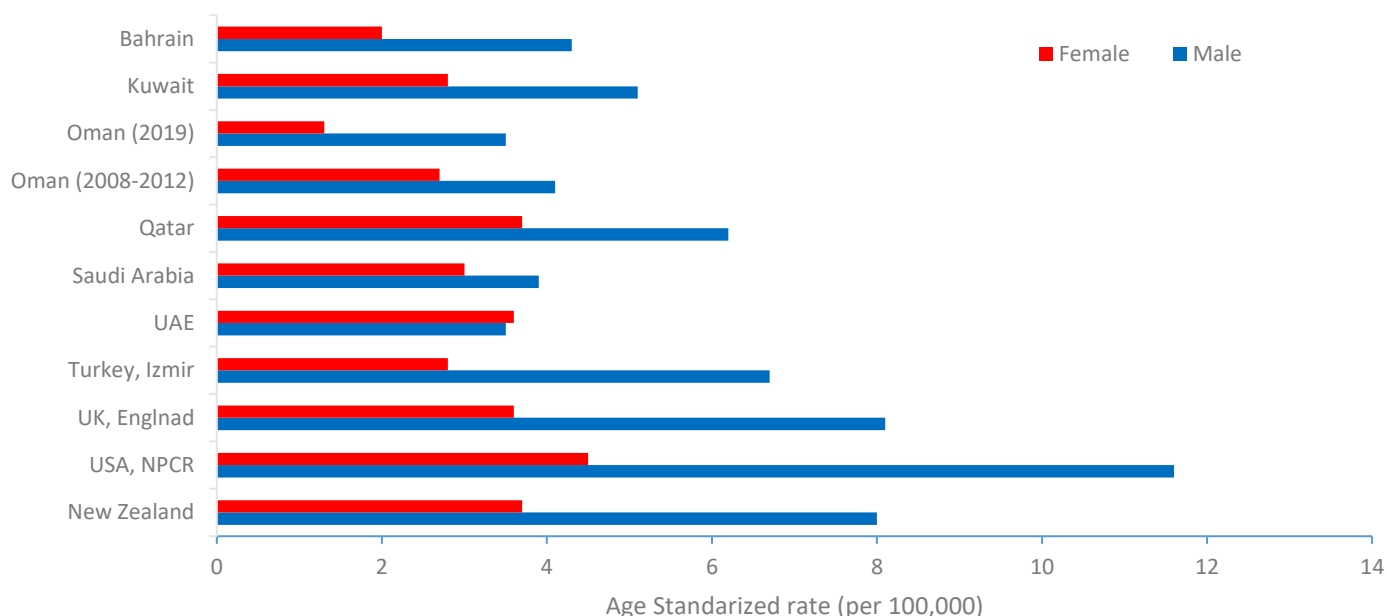




Table 29: Gender Distribution of Head and Neck Cancer

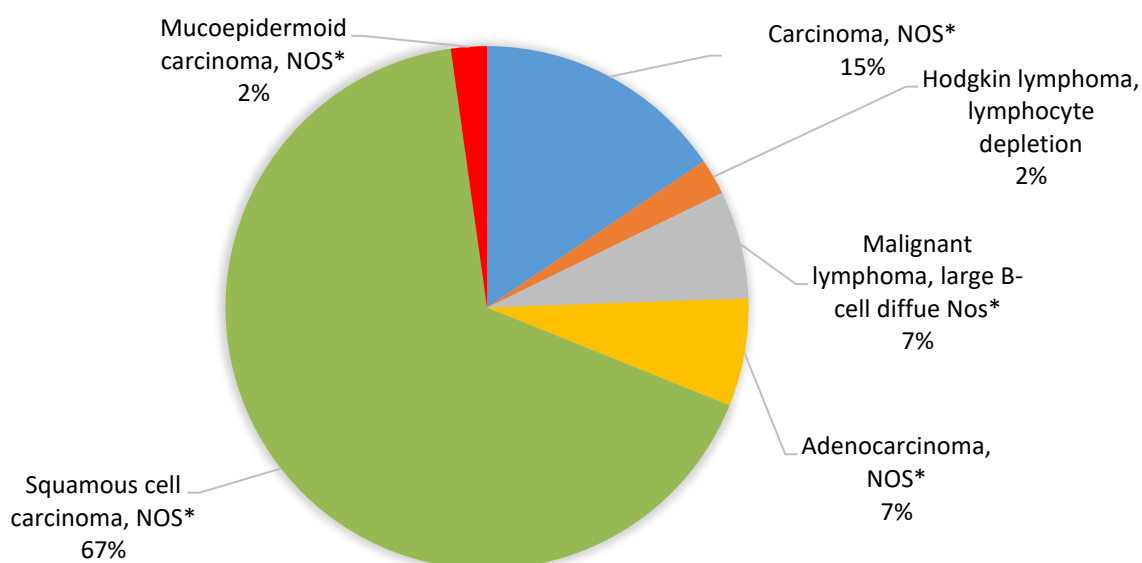
Gender	Frequency	Crude Incidence rate	Age standardized incidence rate
Male	28	2.2	3.5
Female	13	1.1	1.3
Total	41		
Malignant lymphoma	4		

Figure 42: Age-standardized incidence rates of Head and Neck Cancer in Oman and some selected countries



Note: Data of GCC countries are from 2008-2012; data of New Zealand, UK (England), Turkey (Izmir) are from 2003-2007, For USA –NPCR (National Program of Cancer Registries) from 2003-2007 was used.

Figure 43: Morphology of Head and Neck Cancer



*Not otherwise specified



Figure 44: Incidence of Head and Neck Cancer by Governorates
(Incidence rates are per 100,000 population)

Governorates	Frequency	Incidence
Muscat	16	2.9
North Al - Batinah	5	1.0
Ad - Dakhliyah	4	1.1
South Al - Batinah	4	1.3
Dhofar	12	5.4
South Ash - Sharqiah	1	0.5
North Ash - Sharqiah	2	1.1
Adh -Dhahirah	1	0.6
Buraymi	0	0.0
Musandam	0	0.0
Al - Wusta	0	0.0
Unknown	0	0.0
Total	45	1.7

Unknown 0



Trend of Head and Neck Cancer 1996-2019

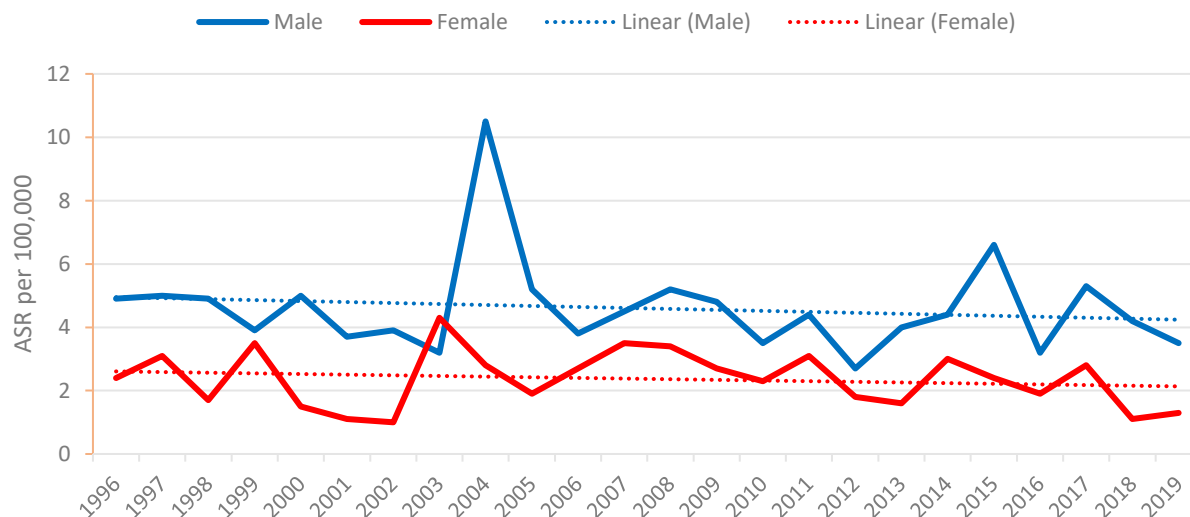
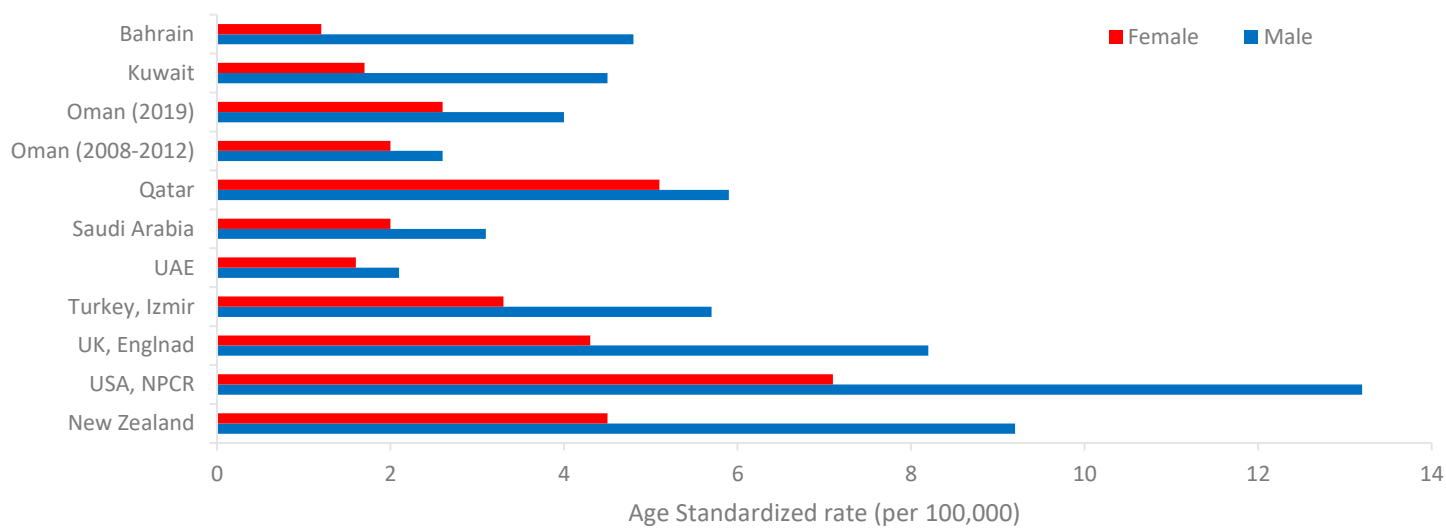




Table 30: Gender Distribution of Kidney and Ureter Cancer

Gender	Frequency	Crude Incidence rate	Age standardized incidence rate
Male	36	2.6	4.0
Female	25	1.9	2.6
Total	61		

Figure 45: Age-standardized incidence rates of Kidney and Ureter Cancer in Oman and some selected countries



Note: Data of GCC countries are from 2008-2012; data of New Zealand, UK (England), Turkey (Izmir) are from 2003-2007, For USA –NPCR (National Program of Cancer Registries) from 2003-2007 was used.

Figure 46: Morphology of Kidney Cancer

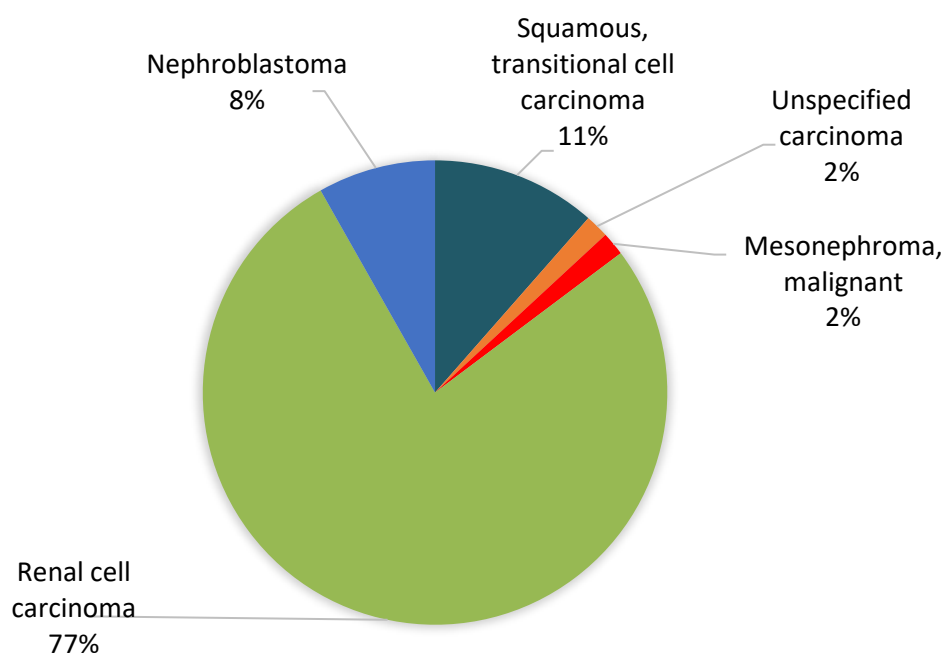
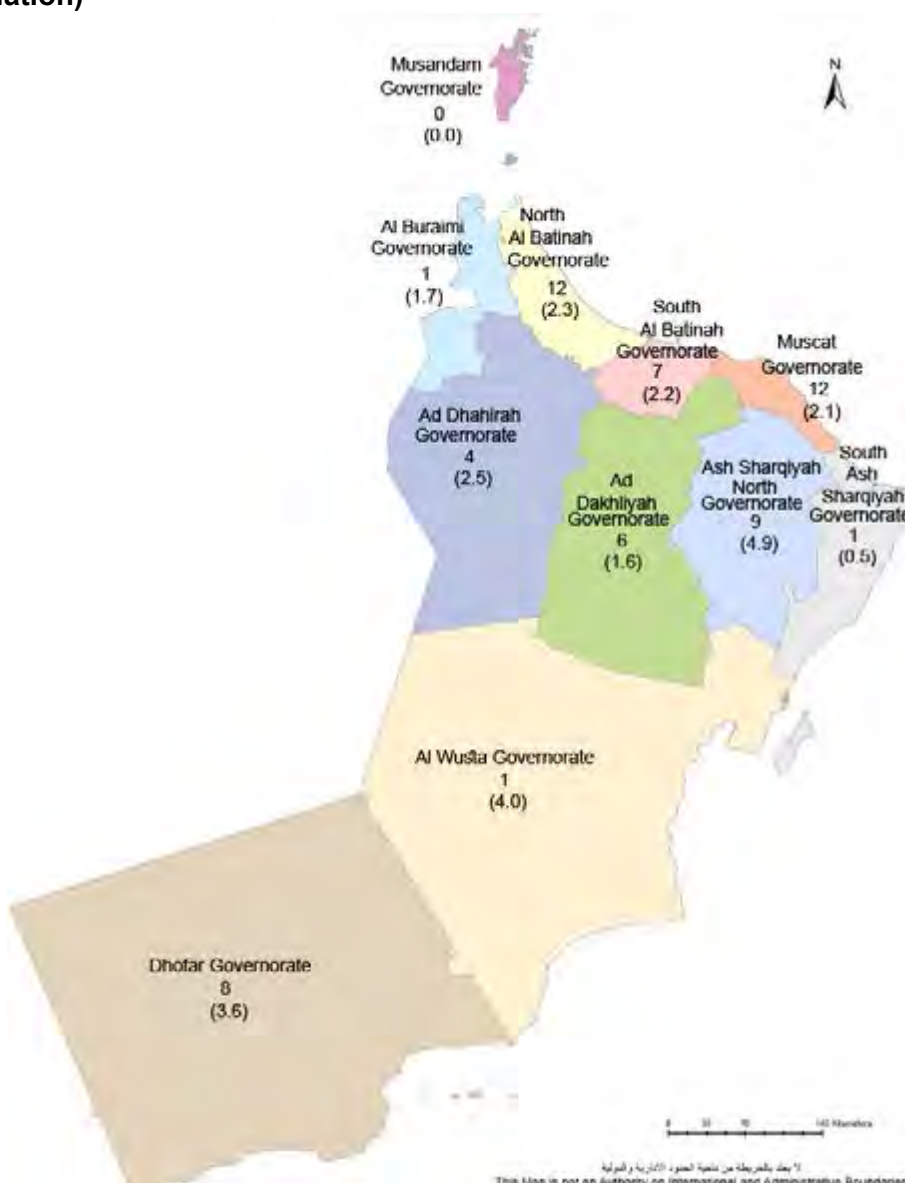




Figure 47: Incidence of Kidney and Ureter Cancer by Governorates

(Incidence rates are per 100,000 population)

Governorates	Frequency	Incidence
Muscat	12	2.1
North Al - Batinah	12	2.3
Ad - Dakhliyah	6	1.6
South Al - Batinah	7	2.2
Dhofar	8	3.6
South Ash - Sharqiah	1	0.5
North Ash - Sharqiah	9	4.9
Adh -Dhahirah	4	2.5
Buraymi	1	1.7
Musandam	0	0.0
Al - Wusta	1	4.0
Unknown	0	
Total	61	2.3



Trend of Kidney Cancer 1996-2019

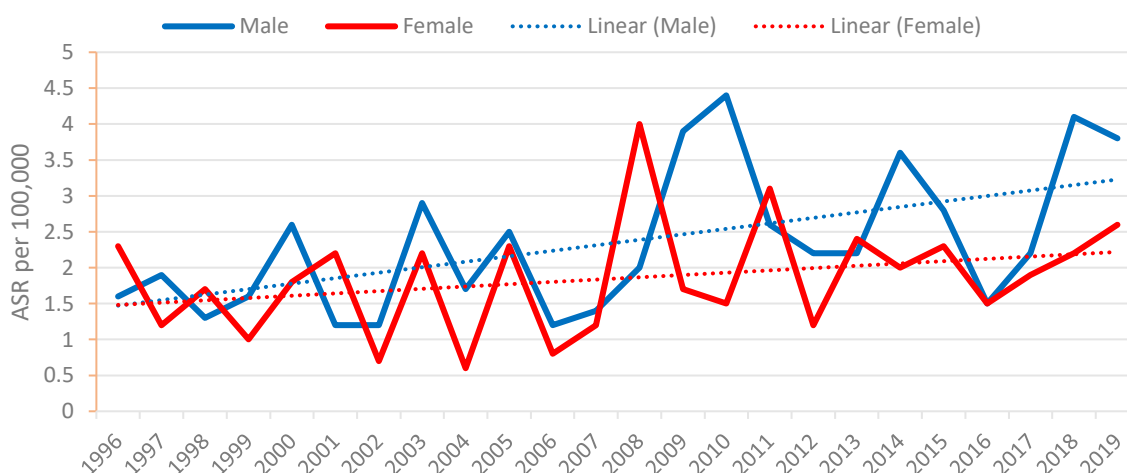
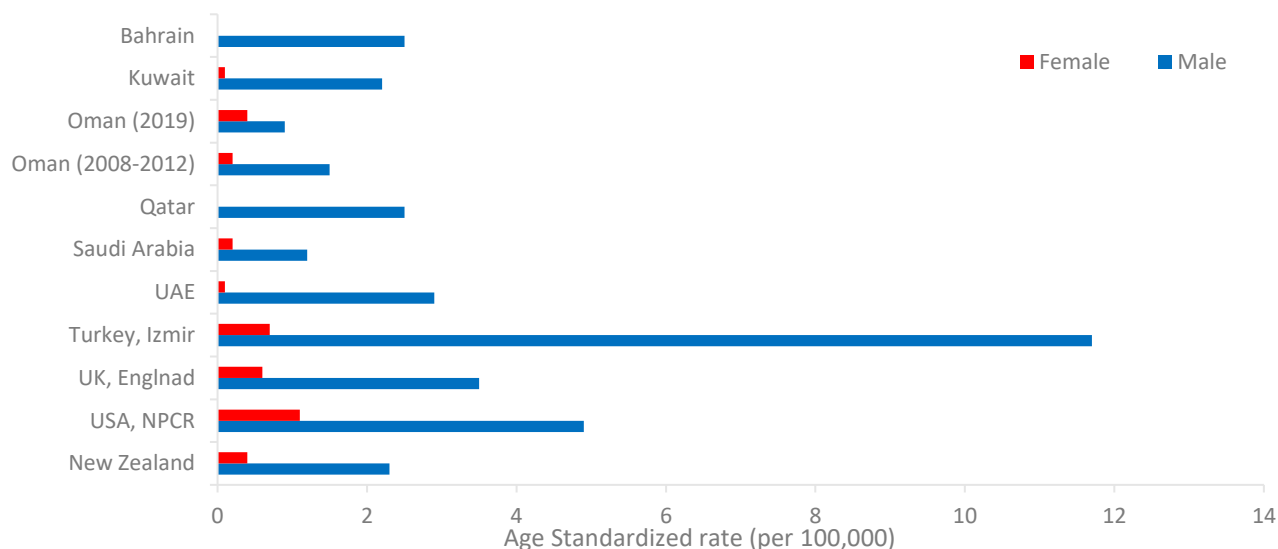




Table 31: Gender Distribution of Laryngeal Cancer

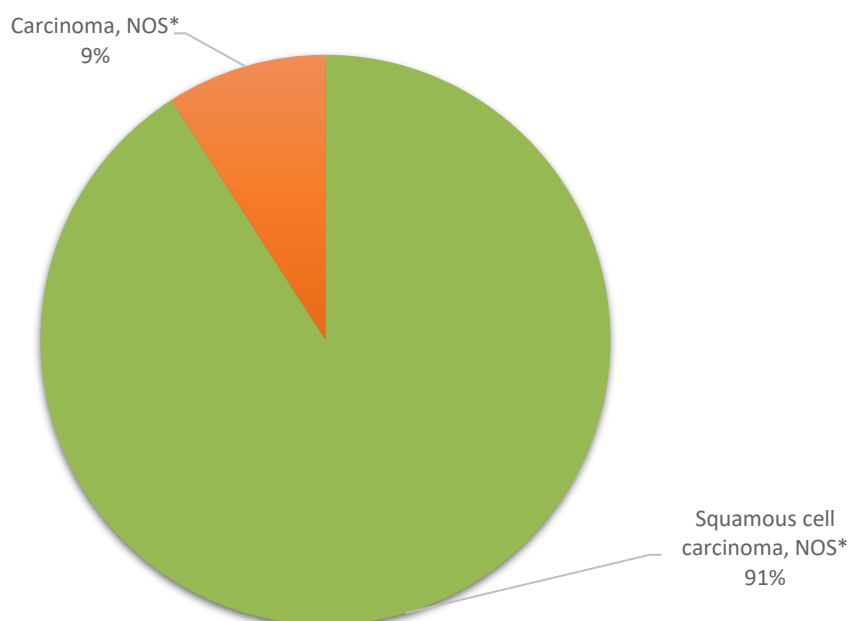
Gender	Frequency	Crude Incidence rate	Age standardized incidence rate
Male	8	0.6	0.9
Female	3	0.2	0.4
Total	11		

Figure 48 :Age-standardized incidence rates of Laryngeal Cancer in Oman and some selected countries



Note: Data of GCC countries are from 2008-2012; data of New Zealand, UK (England), Turkey (Izmir) are from 2003-2007, For USA –NPCR (National Program of Cancer Registries) from 2003-2007 was used.

Figure 49: Morphology of Laryngeal Cancer



*Not otherwise specified



Figure 50: Incidence of Laryngeal Cancer by Governorates

(Incidence rates are per 100,000 population)

Governorates	Frequency	Incidence
Muscat	3	0.5
North Al - Batinah	0	0.0
Ad - Dakhliyah	1	0.3
South Al - Batinah	0	0.0
Dhofar	2	0.9
South Ash - Sharqiah	1	0.5
North Ash - Sharqiah	1	0.5
Adh -Dhahirah	2	1.2
Buraymi	0	0.0
Musandam	0	0.0
Al - Wusta	1	4.0
Unknown	0	
Total	11	0.4



Trend of Laryngeal Cancer 1996-2019

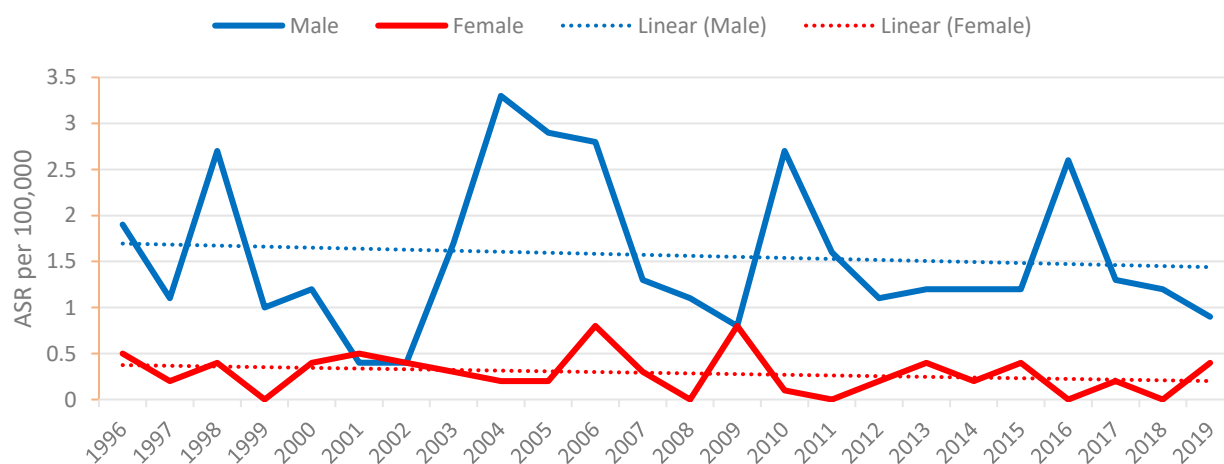
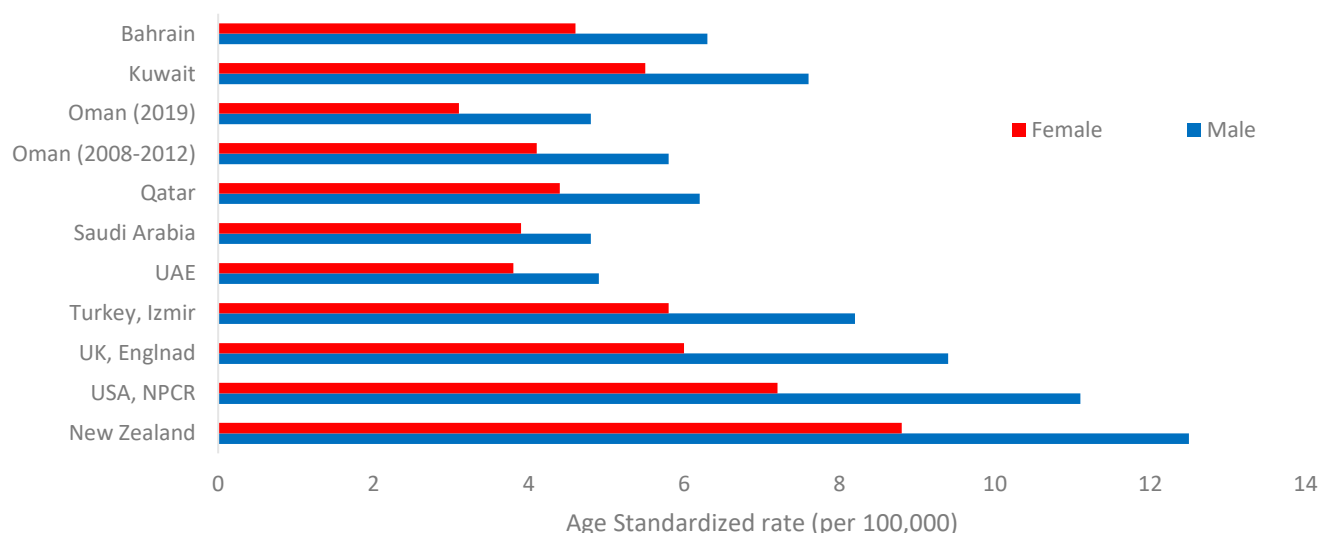




Table 32: Gender Distribution of Leukemia

Gender	Frequency	Crude Incidence rate	Age- Standardized incidence rate
Male	56	4.2	4.8
Female	35	2.7	3.1
Total	91		

Figure 51: Age-standardized incidence rates of Leukemia in Oman and some selected countries



Note: Data of GCC countries are from 2008-2012; data of New Zealand, UK (England), Turkey (Izmir) are from 2003-2007. For USA –NPCR (National Program of Cancer Registries) from 2003-2007 was used.

Figure 52: Morphology of Leukemia

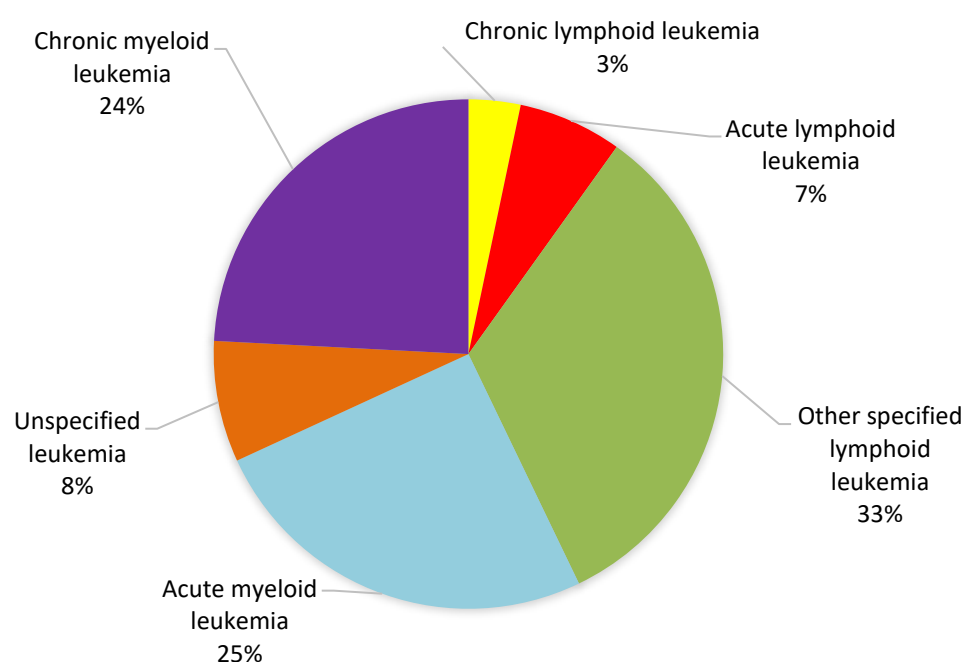


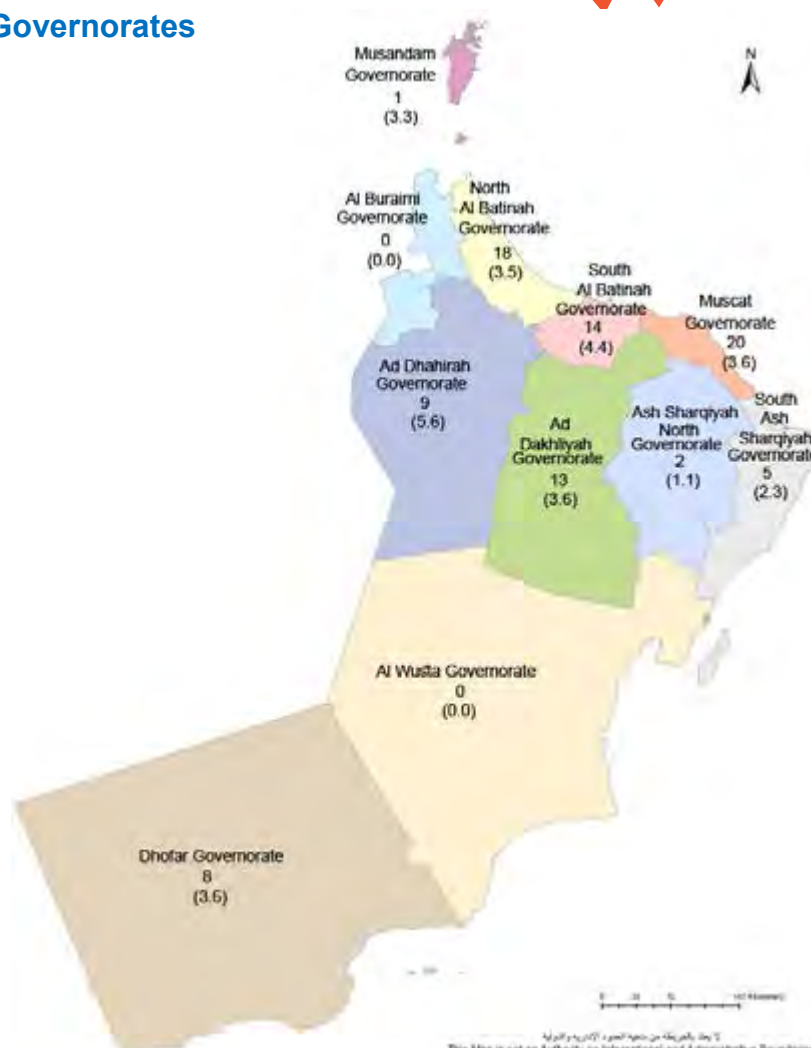


Figure 53 : Incidence of Leukemia by Governorates

(Incidence rates are per 100,000 population)

Governorates	Frequency	Incidence
Muscat	20	3.6
North Al - Batinah	18	3.5
Ad - Dakhliyah	13	3.6
South Al - Batinah	14	4.4
Dhofar	8	3.6
South Ash - Sharqiah	5	2.3
North Ash - Sharqiah	2	1.1
Adh -Dhahirah	9	5.6
Buraymi	0	0.0
Musandam	1	3.3
Al - Wusta	0	0.0
Unknown	1	
Total	91	3.4

Unknown 1



Trend of Leukemia Cancer 1996-2019

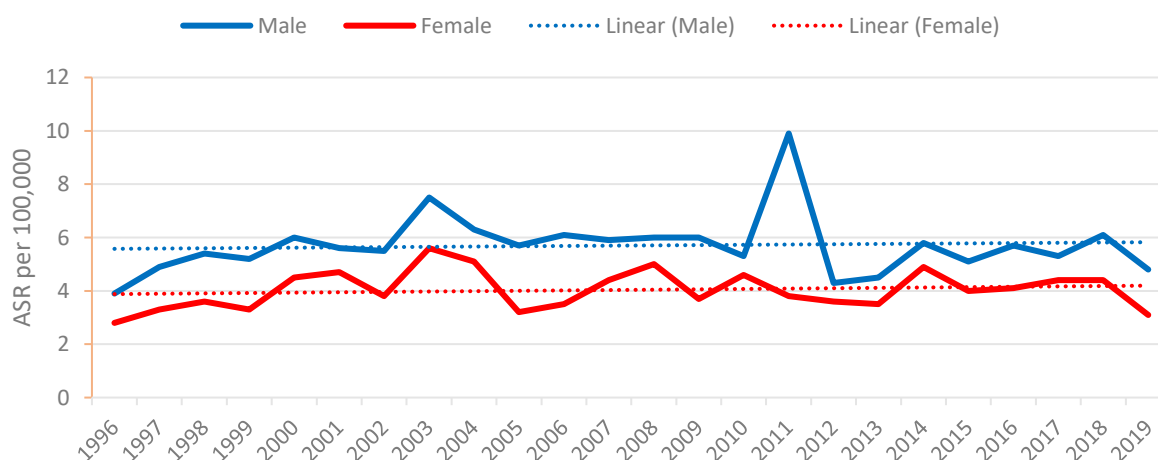
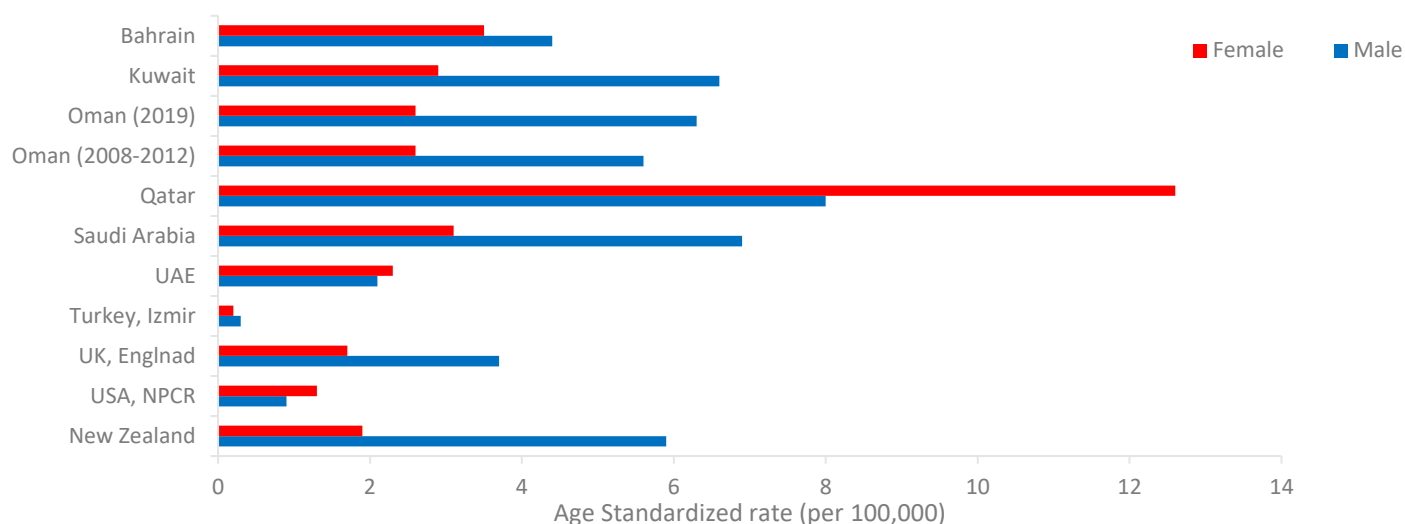




Table 33: Gender Distribution of Liver Cancer

Gender	Frequency	Crude Incidence rate	Age standardized incidence rate
Male	45	3.4	6.3
Female	23	1.7	2.6
Total	68		
Malignant lymphoma	1		

Figure 54: Age-standardized incidence rates of cancer of liver in Oman and some selected countries



Note: Data of GCC countries are from 2008-2012; data of New Zealand, UK England) Turkey (Izmir) are from 2003-2007, For USA –NPCR (National Program of , Cancer Registries from 2003-2007 was used

Figure 55 : Morphology of Liver Cancer

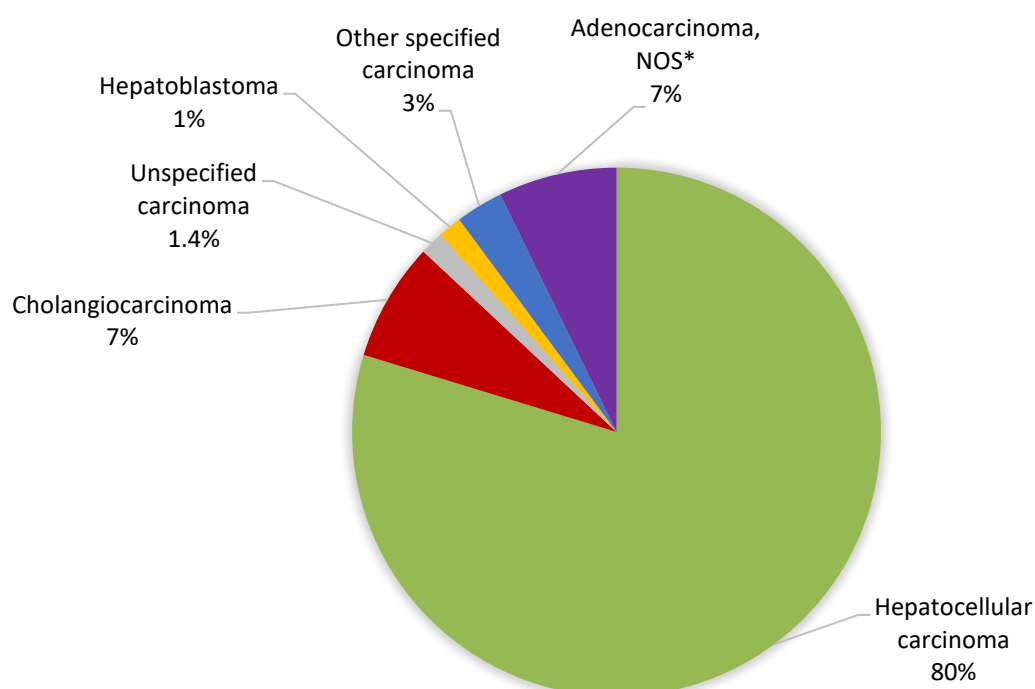
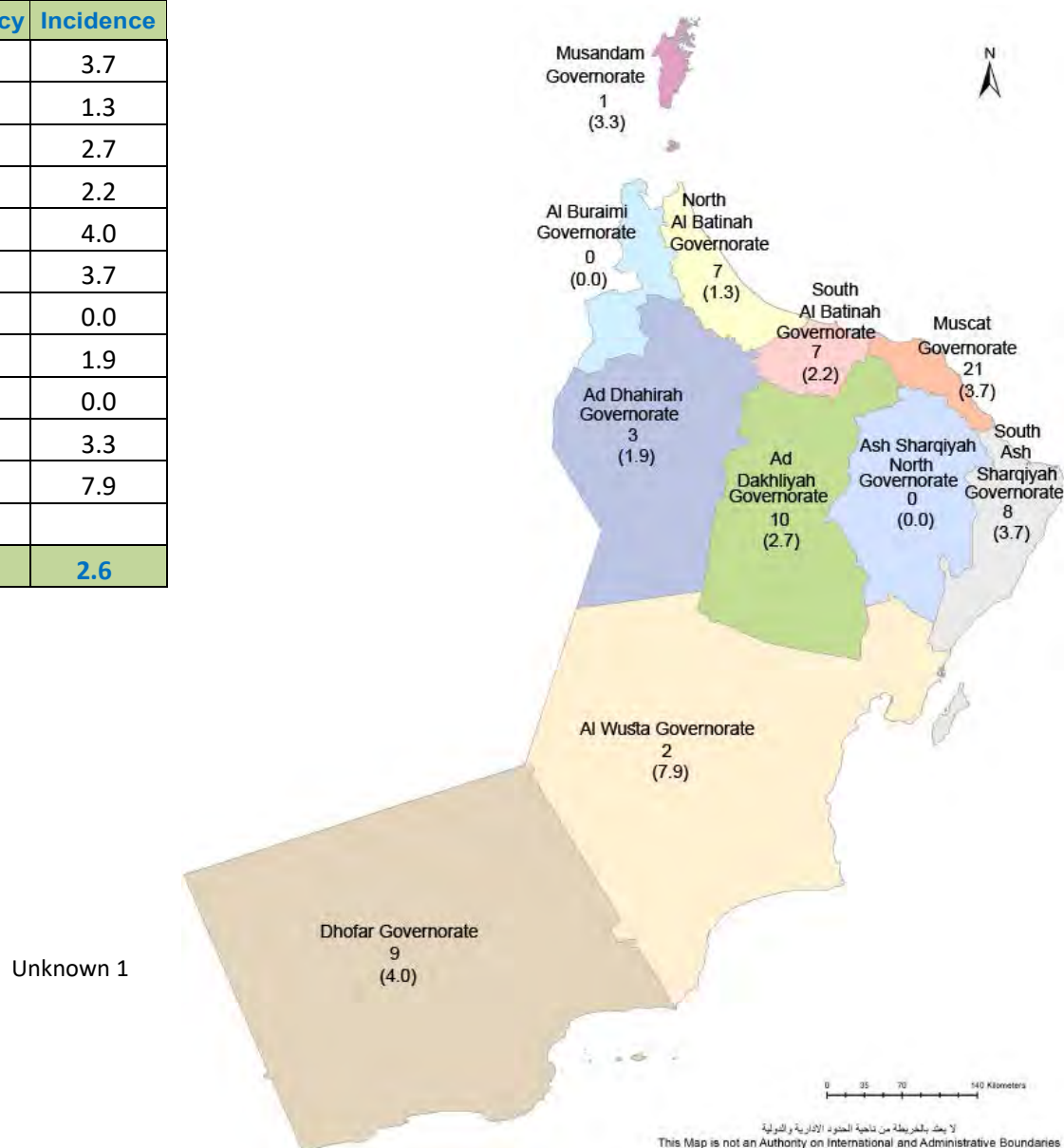


Figure 56: Incidence of Liver Cancer by Governorates

(Incidence rates are per 100,000 population)

Governorates	Frequency	Incidence
Muscat	21	3.7
North Al - Batinah	7	1.3
Ad - Dakhliyah	10	2.7
South Al - Batinah	7	2.2
Dhofar	9	4.0
South Ash - Sharqiah	8	3.7
North Ash - Sharqiah	0	0.0
Adh - Dhahirah	3	1.9
Buraymi	0	0.0
Musandam	1	3.3
Al - Wusta	2	7.9
Unknown	1	
Total	69	2.6



Trend of Liver Cancer 1996-2019

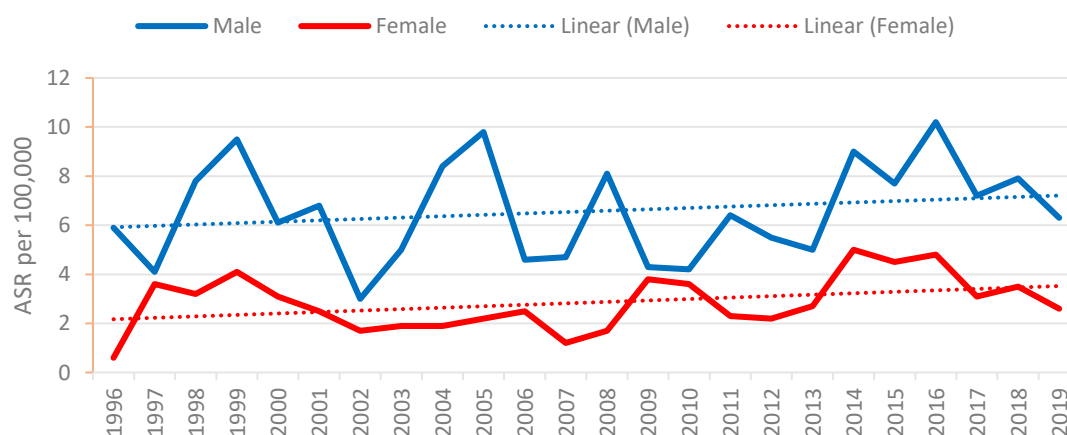
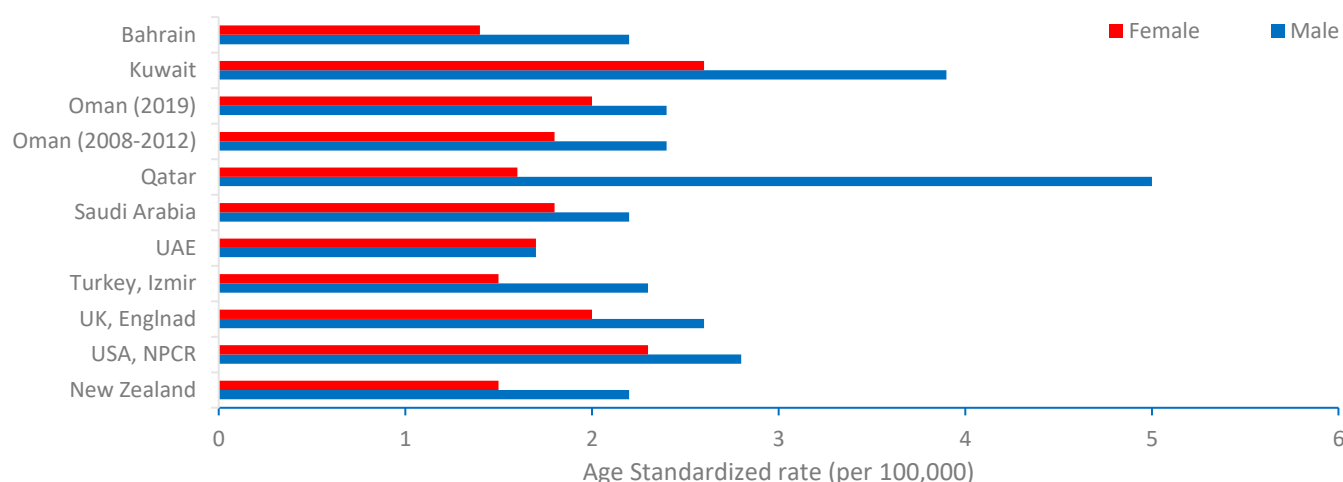




Table 34: Gender Distribution of lymphomas

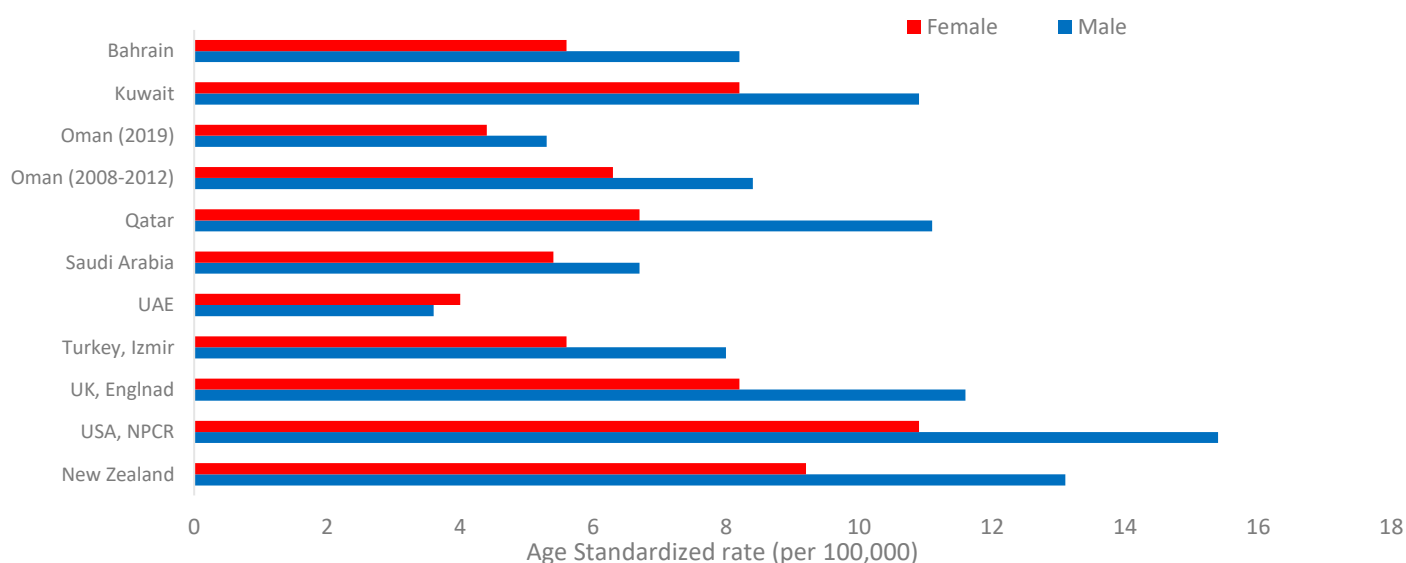
	Hodgkin Lymphoma			Non-Hodgkin Lymphoma		
Gender	Frequency	Crude Incidence rate	ASR	Frequency	Crude Incidence rate	ASR
Male	28	2.1	2.4	49	3.7	5.3
Female	24	1.8	2.0	44	3.3	4.4
Total	52			93		

Figure 57: Age-standardized incidence rates of Hodgkin Lymphoma in Oman and some selected countries



Note: Data of GCC countries are from 2008-2012; data of New Zealand, UK England Turkey Izmir are from 2003-2007, For USA –NPCR (National Program of Cancer Registries) from 2003-2007 was used

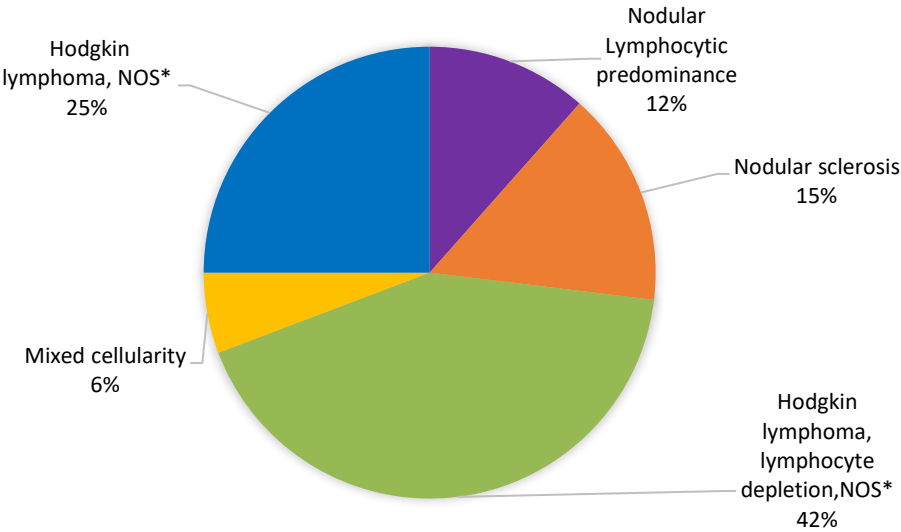
Figure 58: Age-standardized incidence rates of Non-Hodgkin Lymphoma in Oman and some selected countries



Note: Data of GCC countries are from 2008-2012; data of New Zealand, UK England Turkey Izmir are from 2003-2007, For USA –NPCR, National Program of Cancer Registries from 2003-2007 was used

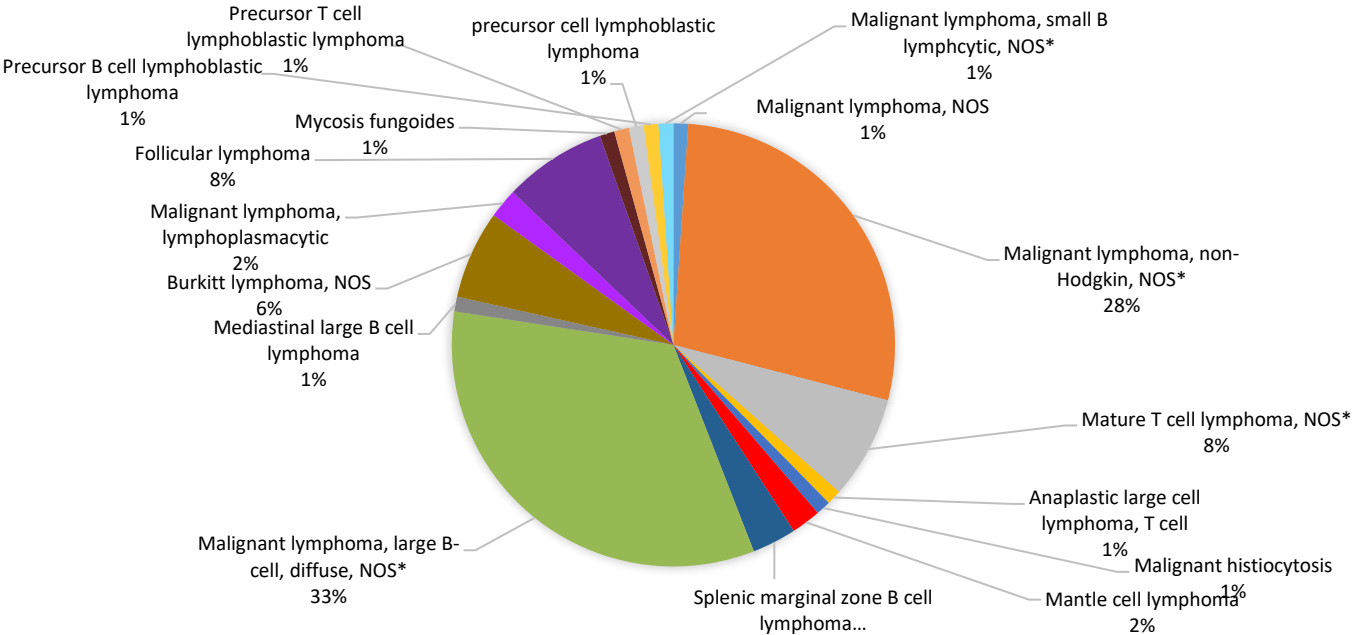


Figure 59: Morphology of Hodgkin Lymphoma



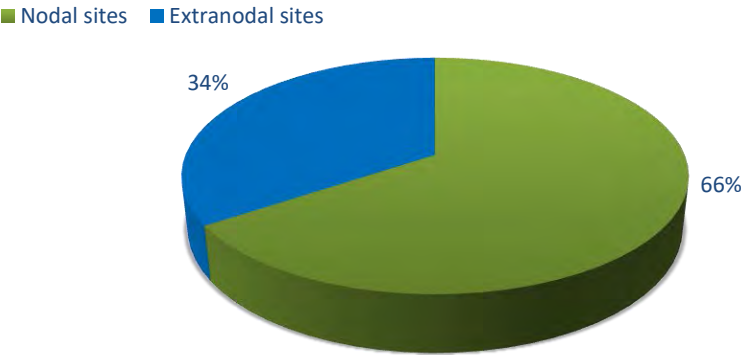
Not otherwise specified*

Figure 60: Morphology of Non-Hodgkin Lymphoma



Not otherwise specified*

Figure 61: Distribution of Non-Hodgkin Lymphoma sites



*Extranodal site includes: Stomach, Rectum, Bone marrow, Tonsils , Lung, Brain, Liver, Skin , Nasopharynx

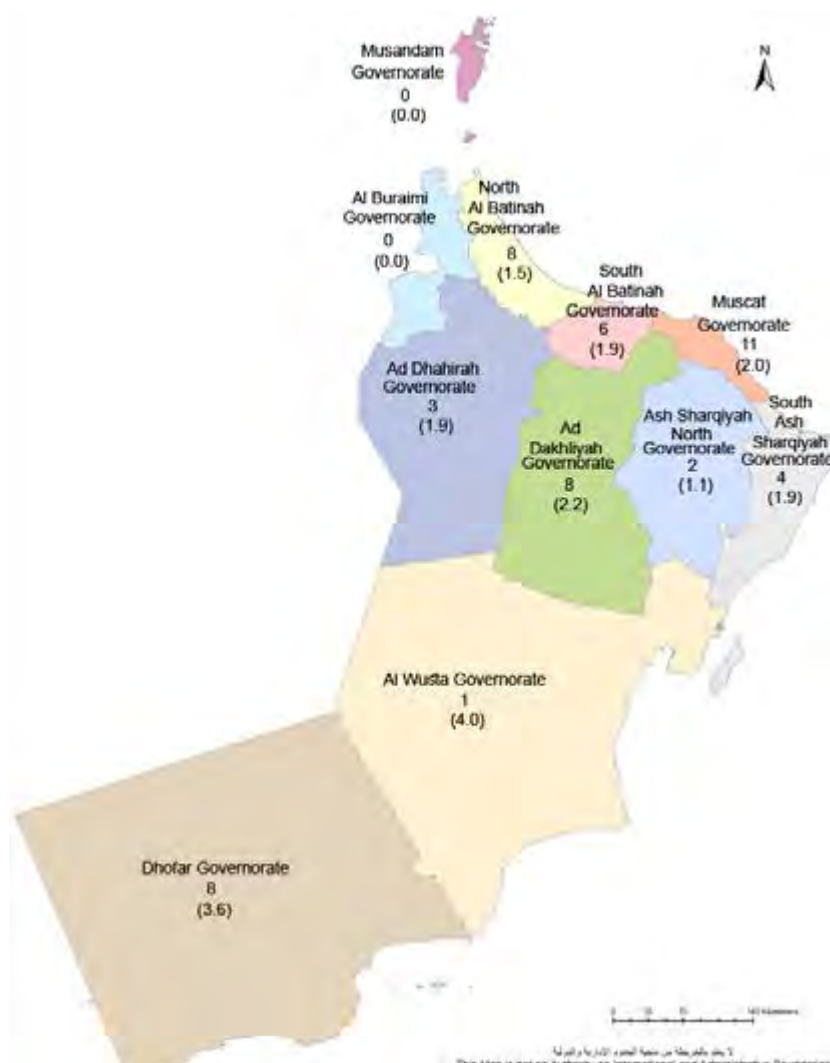


Figure 62: Incidence of Hodgkin Lymphoma by Governorates

(Incidence rate are per 100,000 population)

Governorates	Frequency	Incidence
Muscat	11	2.0
North Al - Batinah	8	1.5
Ad - Dakhliyah	8	2.2
South Al - Batinah	6	1.9
Dhofar	8	3.6
South Ash - Sharqiah	4	1.9
North Ash - Sharqiyah	2	1.1
Adh -Dhahirah	3	1.9
Buraymi	0	0.0
Musandam	0	0.0
Al - Wusta	1	4.0
Unknown	1	
Total	52	2.0

Unknown 1



Trend of Hodgkins Lymphoma Cancer 1996-2019

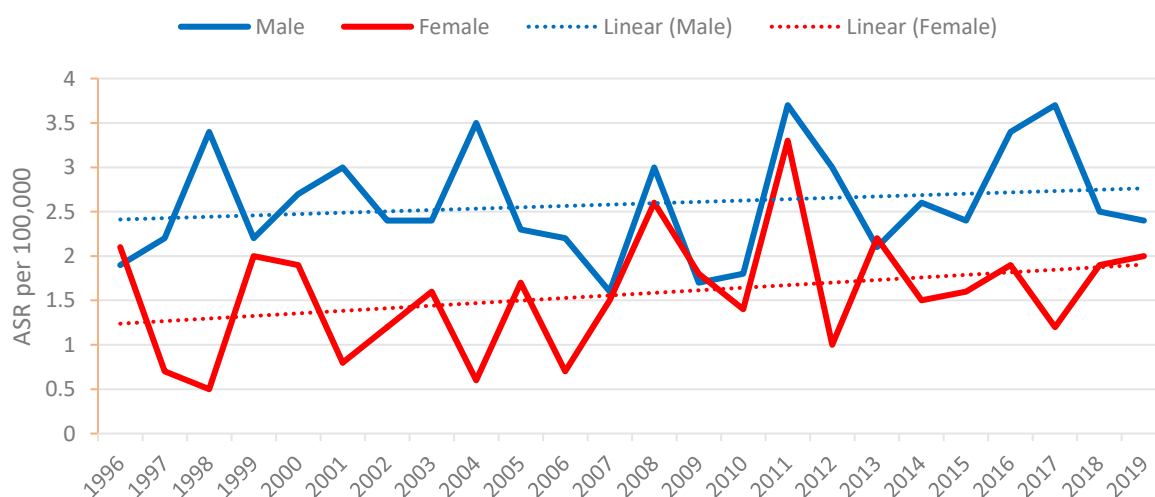


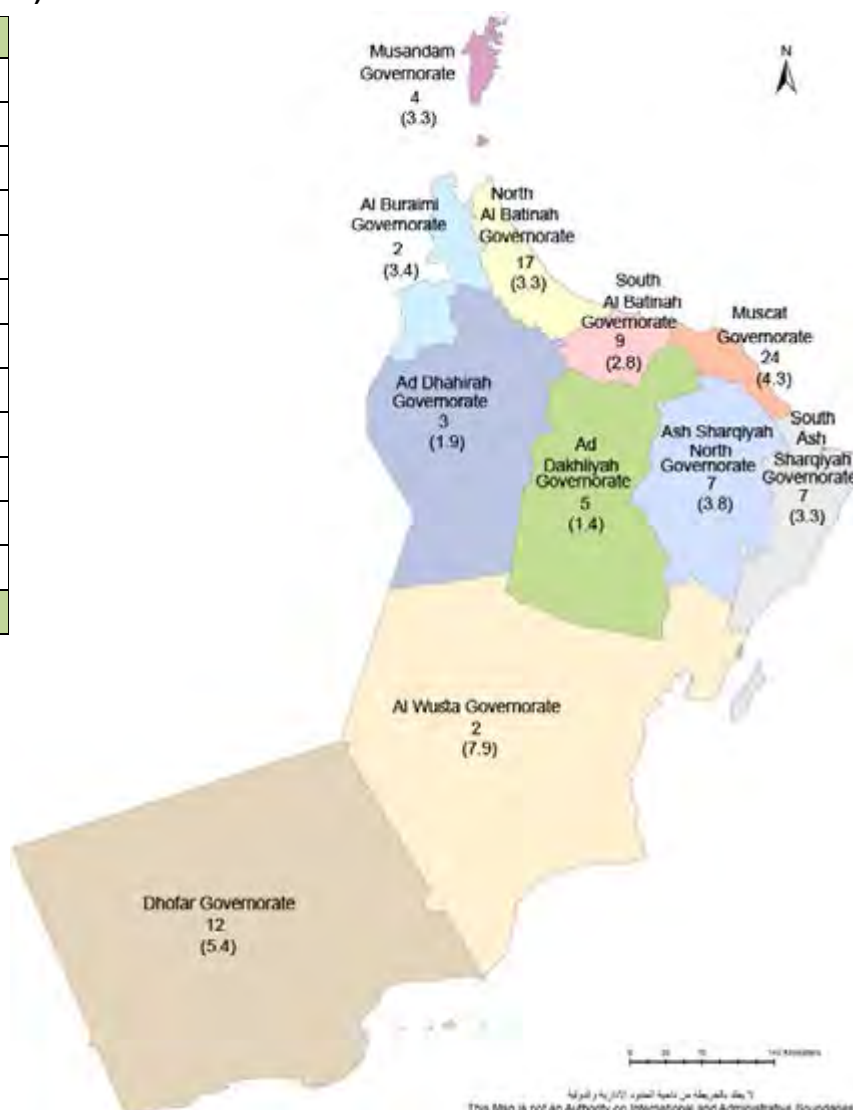


Figure 63: Incidence of Non-Hodgkin Lymphoma by Governorates

(Incidence rates are per 100,000 population)

Governorates	Frequency	Incidence
Muscat	24	4.3
North Al - Batinah	17	3.3
Ad - Dakhliyah	5	1.4
South Al - Batinah	9	2.8
Dhofar	12	5.4
South Ash - Sharqiah	7	3.3
North Ash - Sharqiah	7	3.8
Adh -Dhahirah	3	1.9
Buraymi	2	3.4
Musandam	4	13.3
Al - Wusta	2	7.9
Unknown	1	
Total	93	3.5

Unknown 1



Trend of Non-Hodkins Lymphoma Cancer 1996-2019

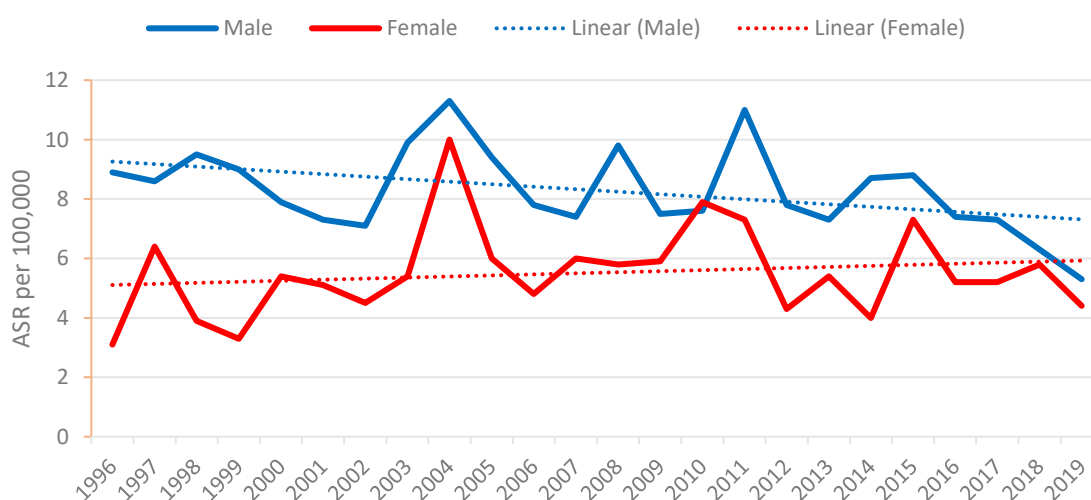
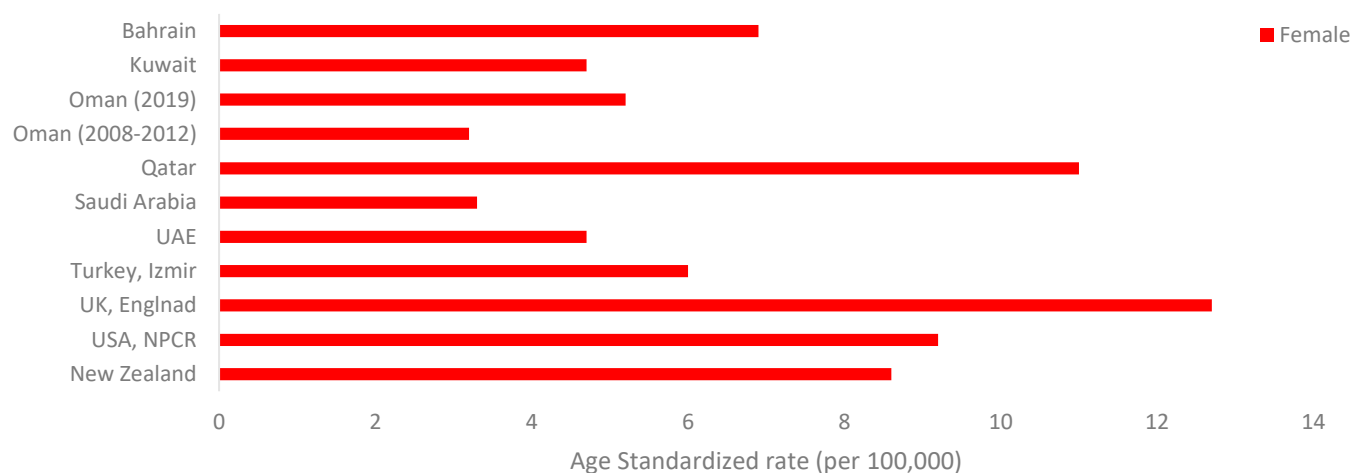




Table 35: Distribution of Ovarian Cancer

Gender	Frequency	Crude Incidence rate	Age standardized incidence rate
Female	45	3.4	5.2
Total	45		

Figure 64: Age-standardized incidence rates of Ovarian Cancer in Oman and some selected countries



Note: Data of GCC countries are from 2008-2012; data of New Zealand, UK (England), Turkey (Izmir) are from 2003-2007, For USA –NPCR (National Program of Cancer Registries) from 2003-2007 was used

Figure 65: Morphology of Ovarian Cancer

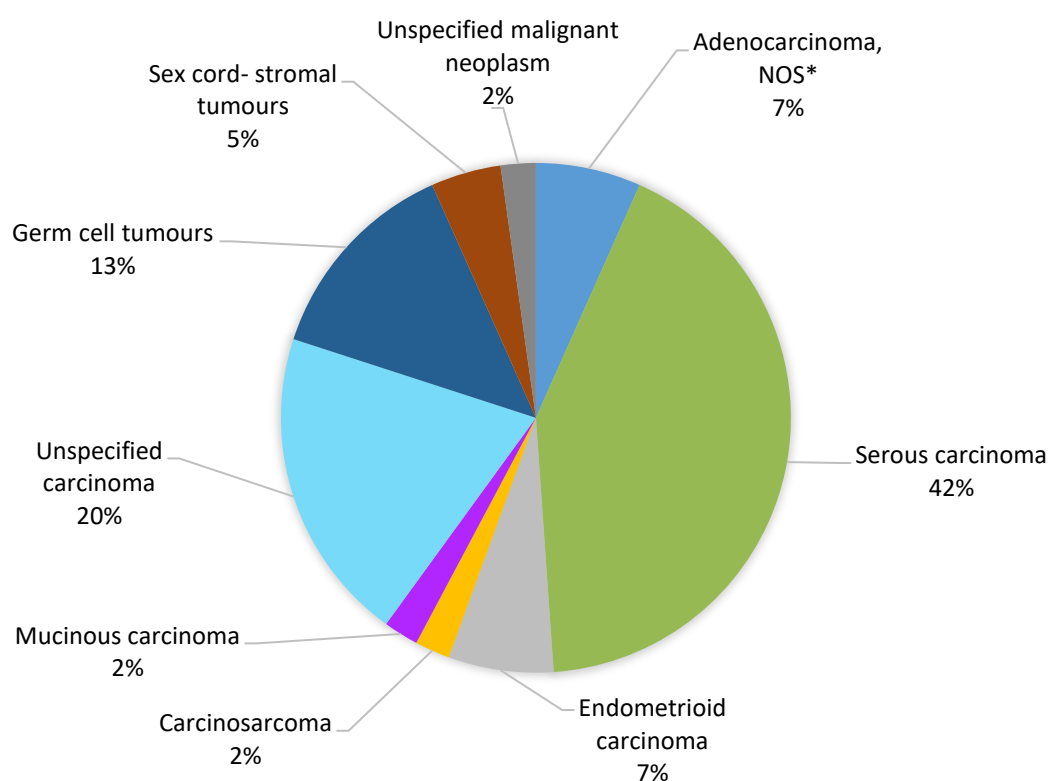
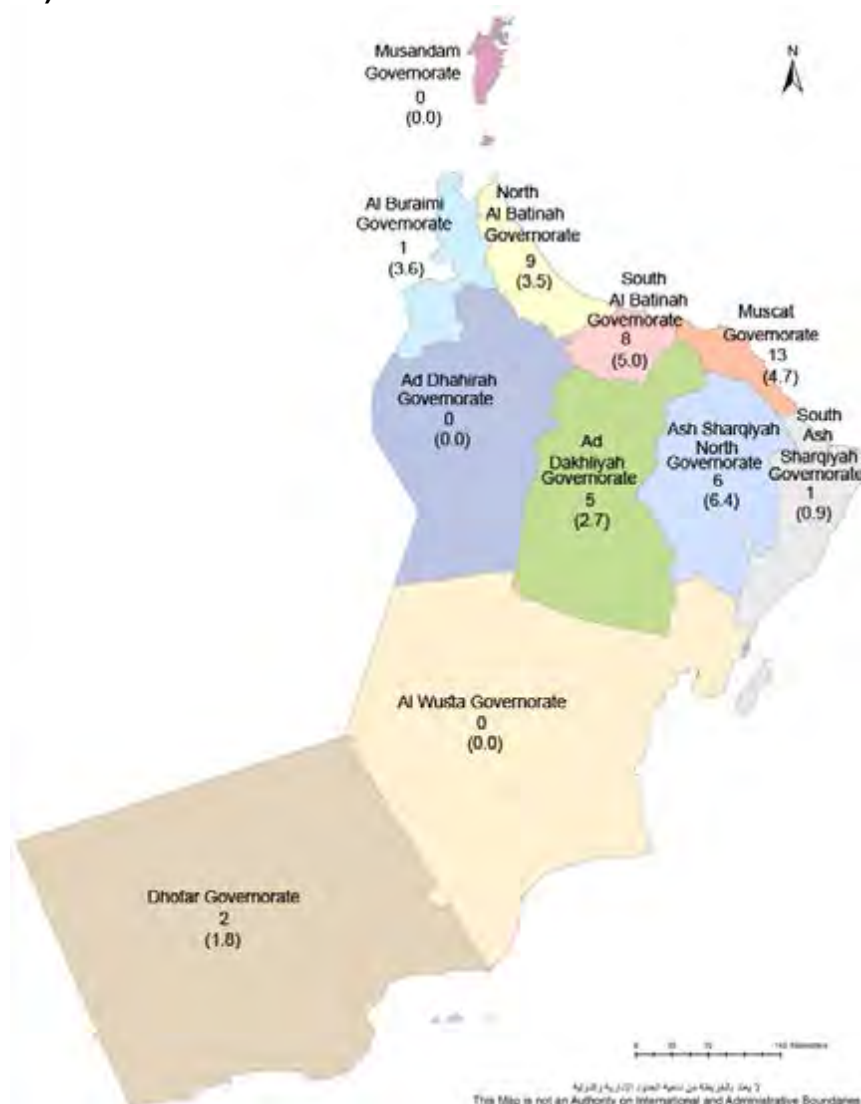




Figure 66: Incidence of Ovarian Cancer by Governorates

(Incidence rates are per 100,000 population)

Governorates	Frequency	Incidence
Muscat	13	4.7
North Al - Batinah	9	3.5
Ad - Dakhliyah	5	2.7
South Al - Batinah	8	5.0
Dhofar	2	1.8
South Ash - Sharqiah	1	0.9
North Ash - Sharqiah	6	6.4
Adh -Dhahirah	0	0.0
Buraymi	1	3.6
Musandam	0	0.0
Al - Wusta	0	0.0
Unknown	0	
Total	45	3.4



Unknown 0

Trend of Ovarian Cancer 1996-2019

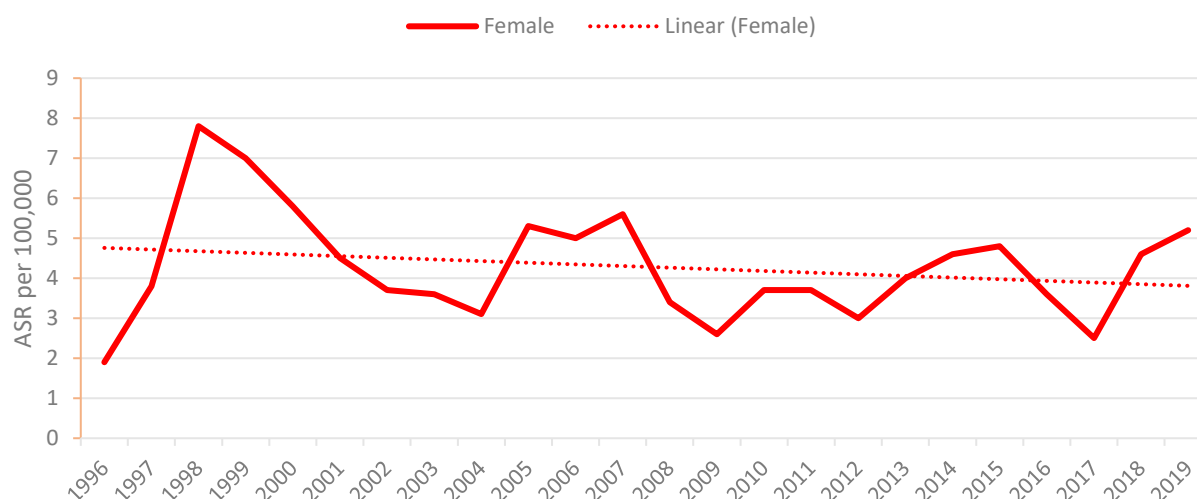
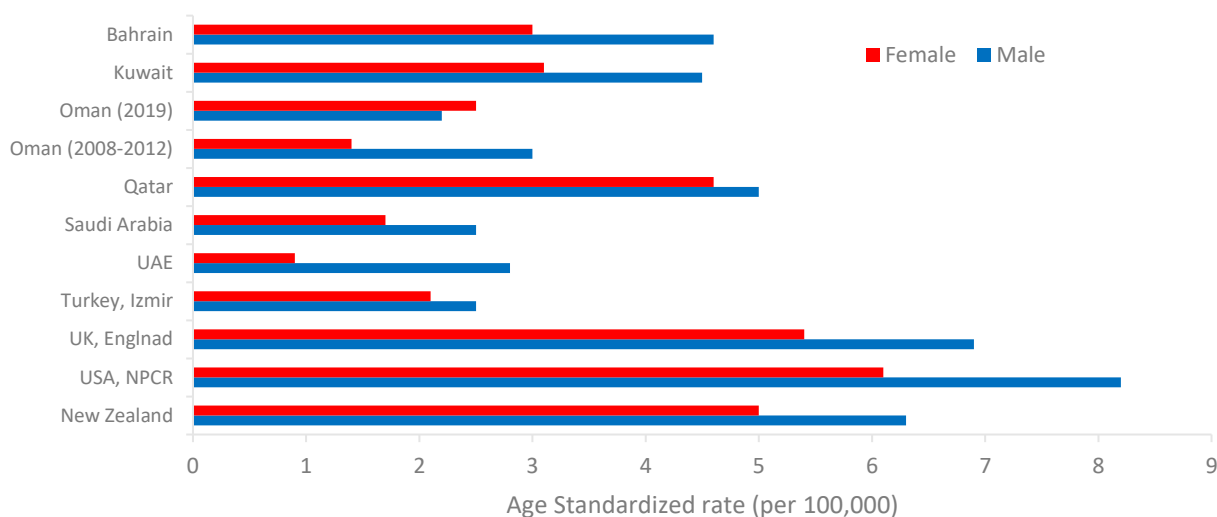




Table 36: Gender Distribution of Pancreatic Cancer

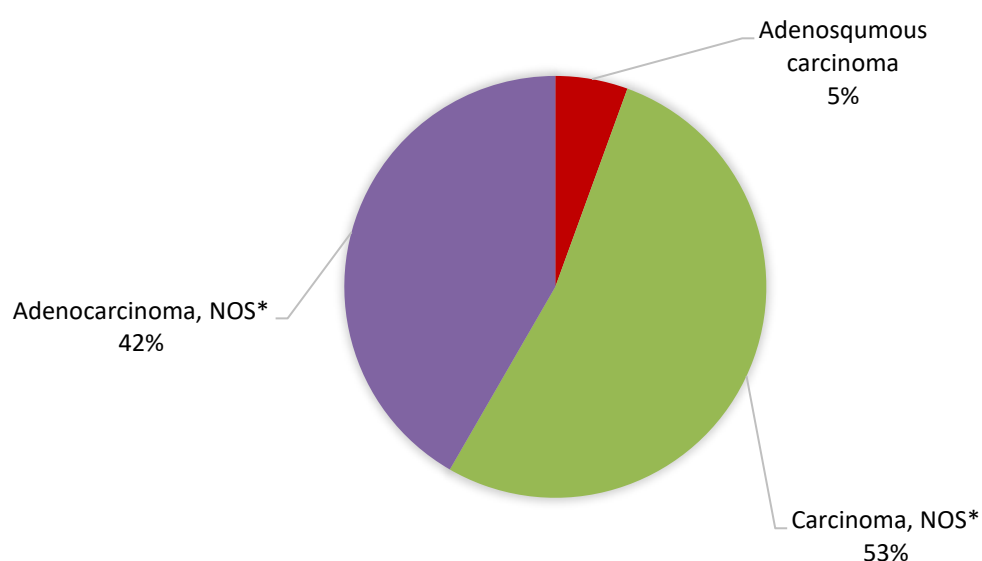
Gender	Frequency	Crude Incidence rate	Age standardized incidence rate
Male	17	1.3	2.2
Female	19	1.4	2.5
Total	36		

Figure 67 :Age-standardized incidence rates of Pancreatic Cancer in Oman and some selected countries



Note: Data of GCC countries are from 2008-2012; data of New Zealand, UK (England), Turkey (Izmir) are from 2003-2007, For USA –NPCR (National Program of Cancer Registries) from 2003-2007 was used

Figure 68: Morphology of Pancreatic Cancer



*Not otherwise specified

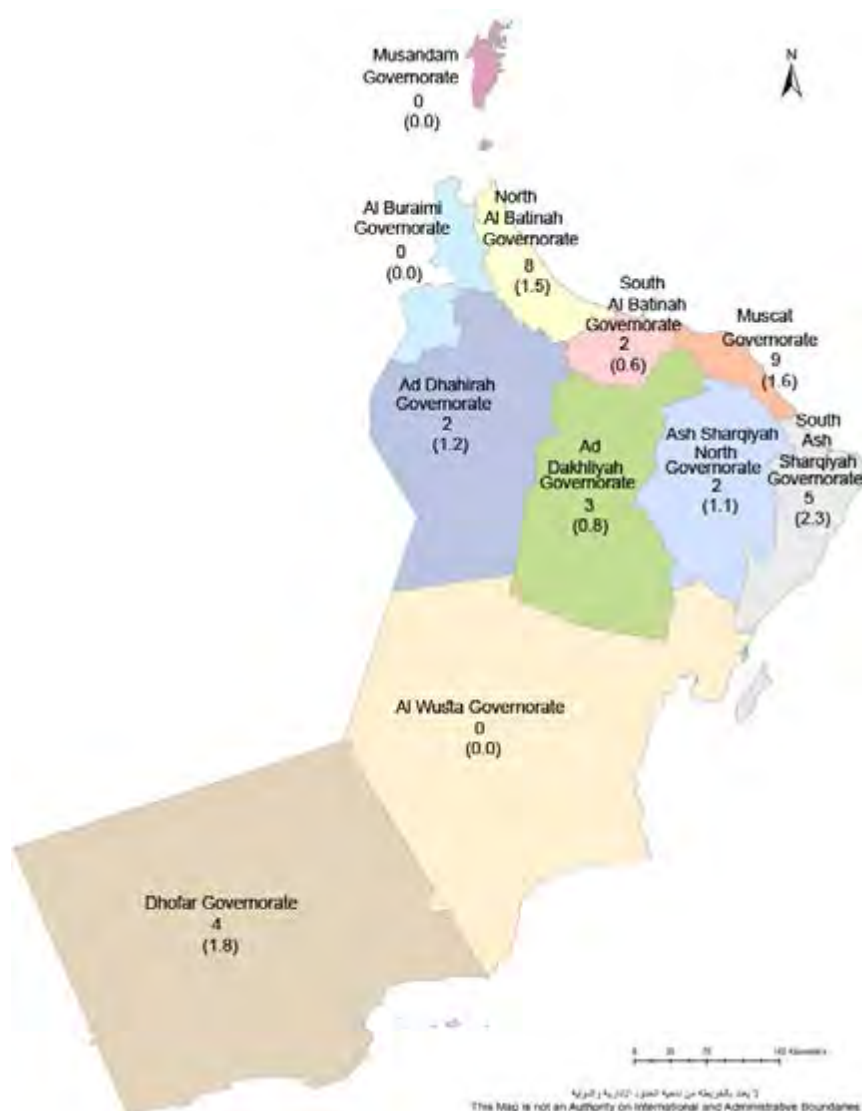


Figure 69 :Incidence of Pancreatic Cancer by Governorates

(Incidence rates are per 100,000 population)

Governorates	Frequency	Incidence
Muscat	9	1.6
North Al - Batinah	8	1.5
Ad - Dakhliyah	3	0.8
South Al - Batinah	2	0.6
Dhofar	4	1.8
South Ash - Sharqiah	5	2.3
North Ash - Sharqiah	2	1.1
Adh -Dhahirah	2	1.2
Buraymi	0	0.0
Musandam	0	0.0
Al - Wusta	0	0.0
Unknown	1	
Total	36	1.4

Unknown 1



Trend of Pancreatic Cancer 1996-2019

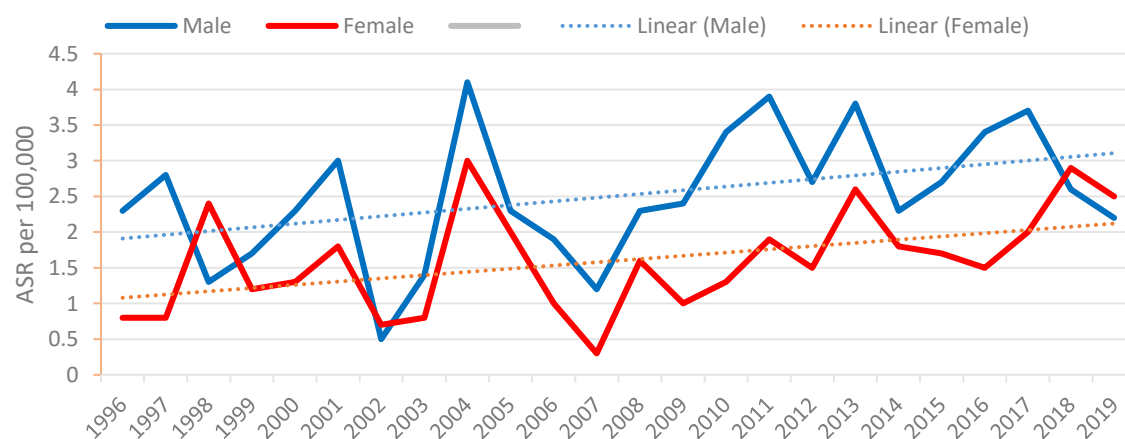
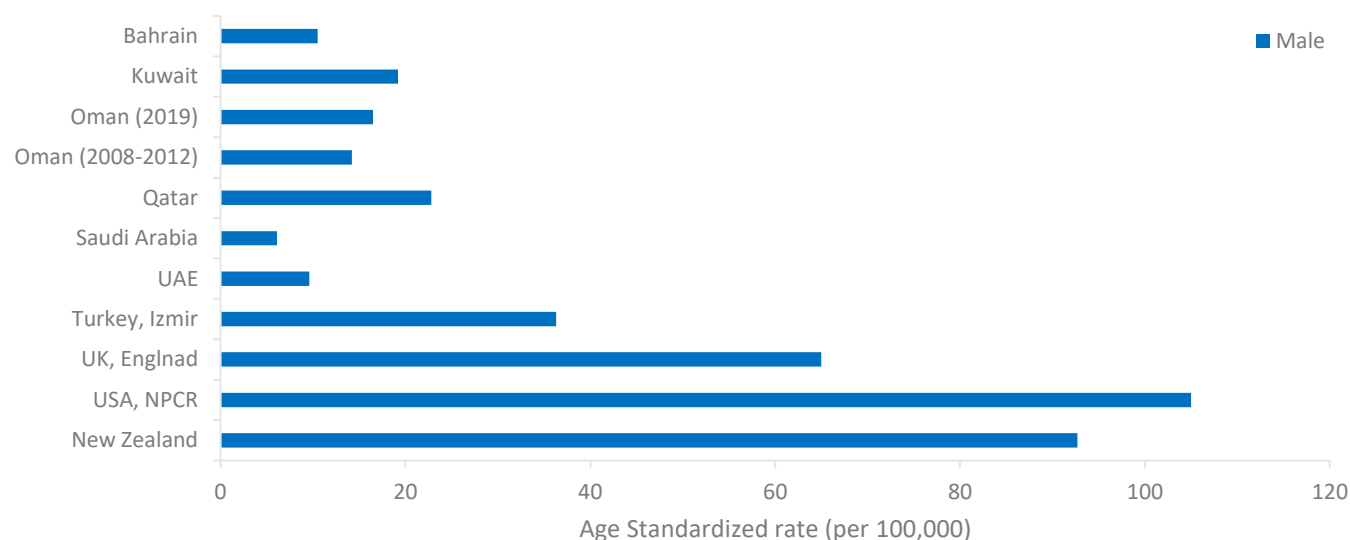




Table 37: Distribution of Prostate Cancer

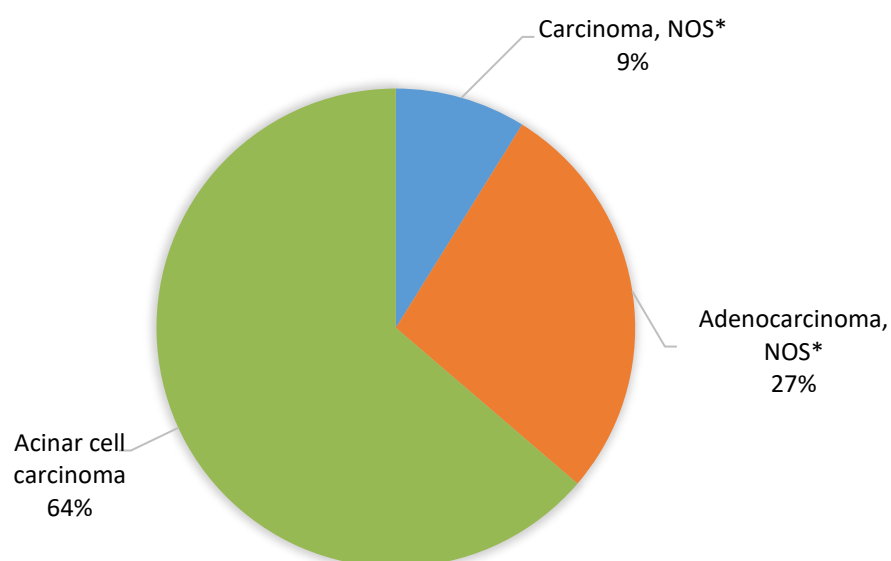
Gender	Frequency	Crude Incidence rate	Age standardized incidence rate
Male	113	8.5	16.5
Total	113		
Carcinoma in situ	1		

Figure 70: Age-standardized incidence rates of Prostate Cancer in Oman and some selected countries



Note: Data of GCC countries are from 2008-2012; data of New Zealand, UK (England), Turkey (Izmir) are from 2003-2007, For USA –NPCR (National Program of Cancer Registries) from 2003-2007 was used

Figure 71: Morphology of Prostate Cancer



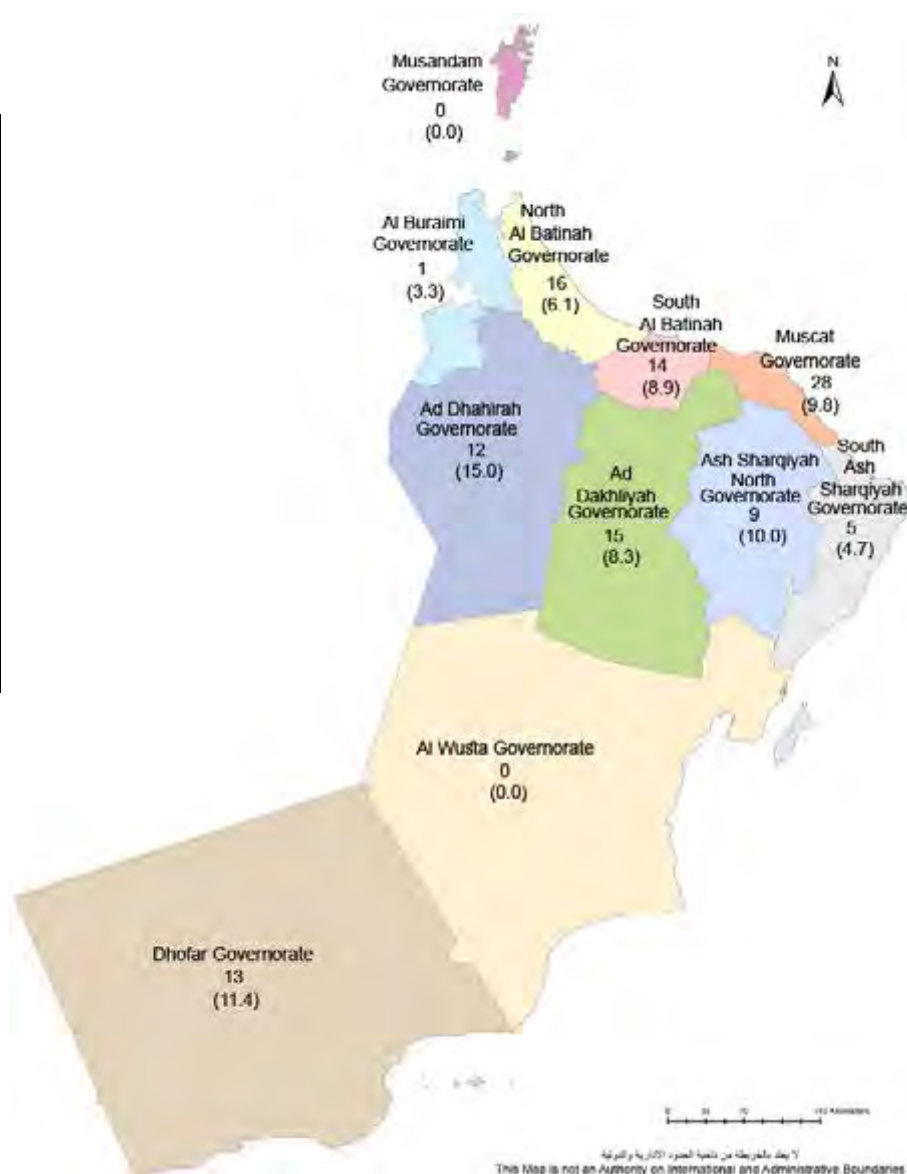
*Not otherwise specified



Figure 72: Incidence of Prostate Cancer by Governorates

(Incidence rates are per 100,000 population)

Governorates	Frequency	Incidence
Muscat	28	9.8
North Al - Batinah	16	6.1
Ad - Dakhliyah	15	8.3
South Al - Batinah	14	8.9
Dhofar	13	11.4
South Ash - Sharqiah	5	4.7
North Ash - Sharqiyah	9	10.0
Adh -Dhahirah	12	15.0
Buraymi	1	3.3
Musandam	0	0.0
Al - Wusta	0	0.0
Unknown	0	
Total	113	8.5



Trend of Prostate Cancer 1996-2019

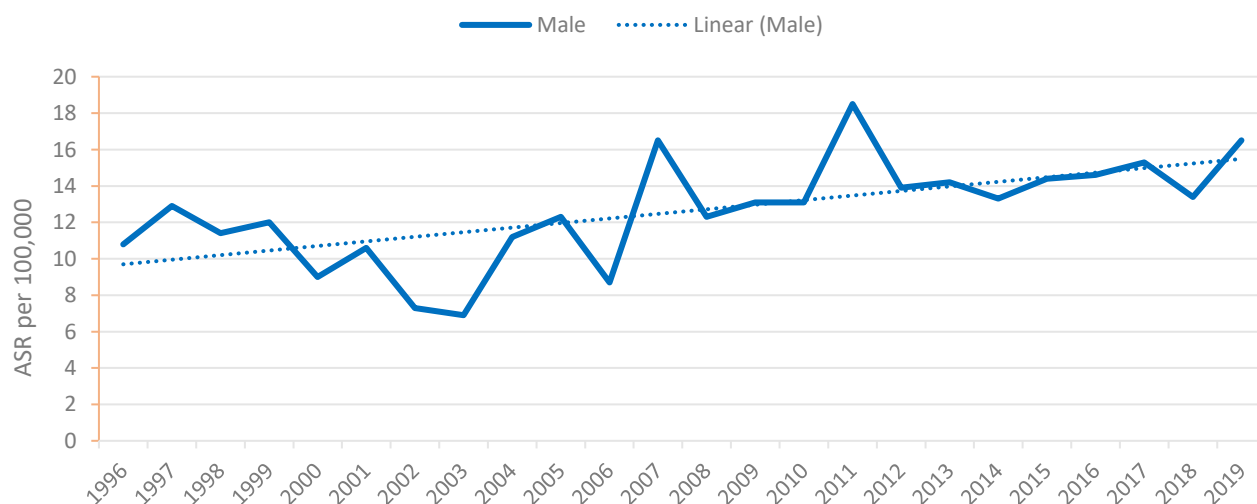
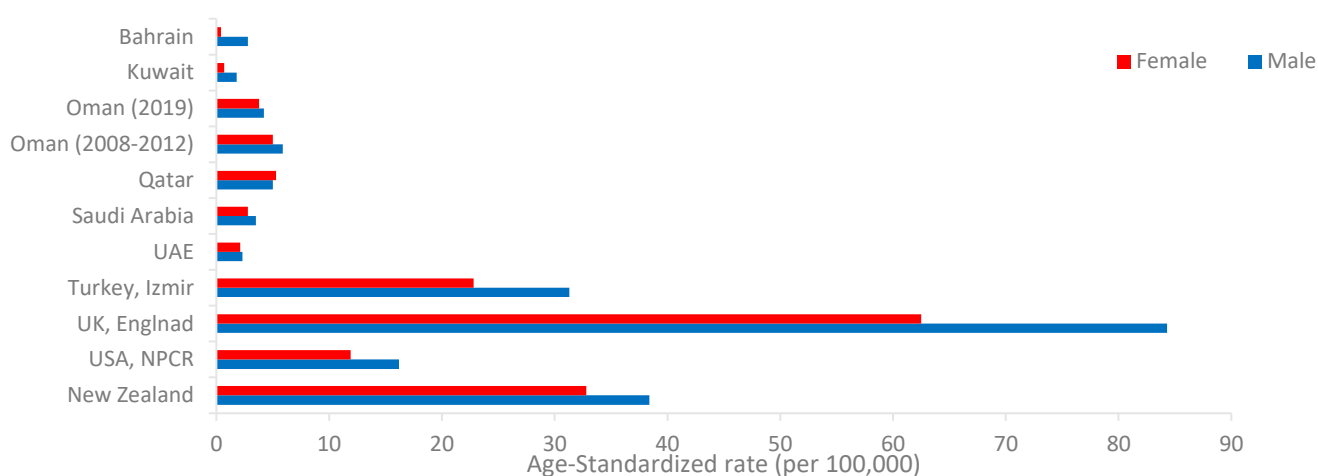




Table 38: Gender Distribution of Skin Cancer including Melanoma

Gender	Frequency	Crude Incidence rate	Age standardized incidence rate
Male	36	2.7	4.7
Female	32	2.5	3.9
Total	68		
Malignant Lymphoma	3		
Kaposi sarcoma	1	0.1	0.1
Carcinoma in Situ	1		

Figure 73: Age-standardized incidence rates of Skin Cancer in Oman and some selected countries



Note: Data of GCC countries are from 2008-2012; data of New Zealand, UK (England), Turkey (Izmir) are from 2003-2007, For USA –NPCR (National Program of Cancer Registries from 2003-2007 was used

Figure 74 : Morphology of Skin Cancer

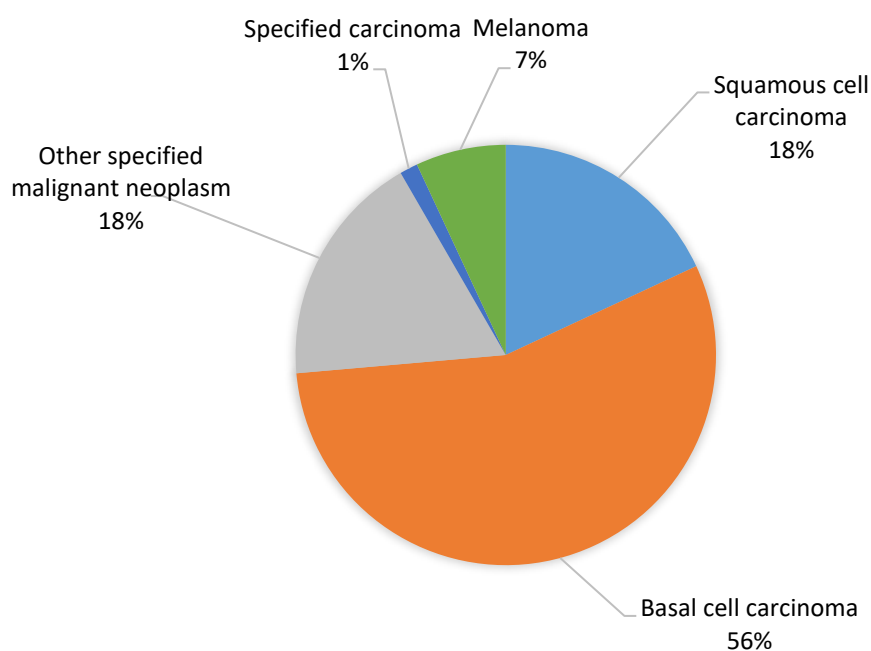



Figure 75: Incidence of Skin Cancer by Governorates

(Incidence rates are per 100,000 population)

Governorates	Frequency	Incidence
Muscat	12	2.1
North Al - Batinah	16	3.1
Ad - Dakhliyah	12	3.3
South Al - Batinah	5	1.6
Dhofar	1	0.4
South Ash - Sharqiah	7	3.3
North Ash - Sharqiah	9	4.9
Adh -Dhahirah	4	2.5
Buraymi	2	3.4
Musandam	2	6.6
Al - Wusta	1	4.0
Unknown	1	
Total	72	2.7

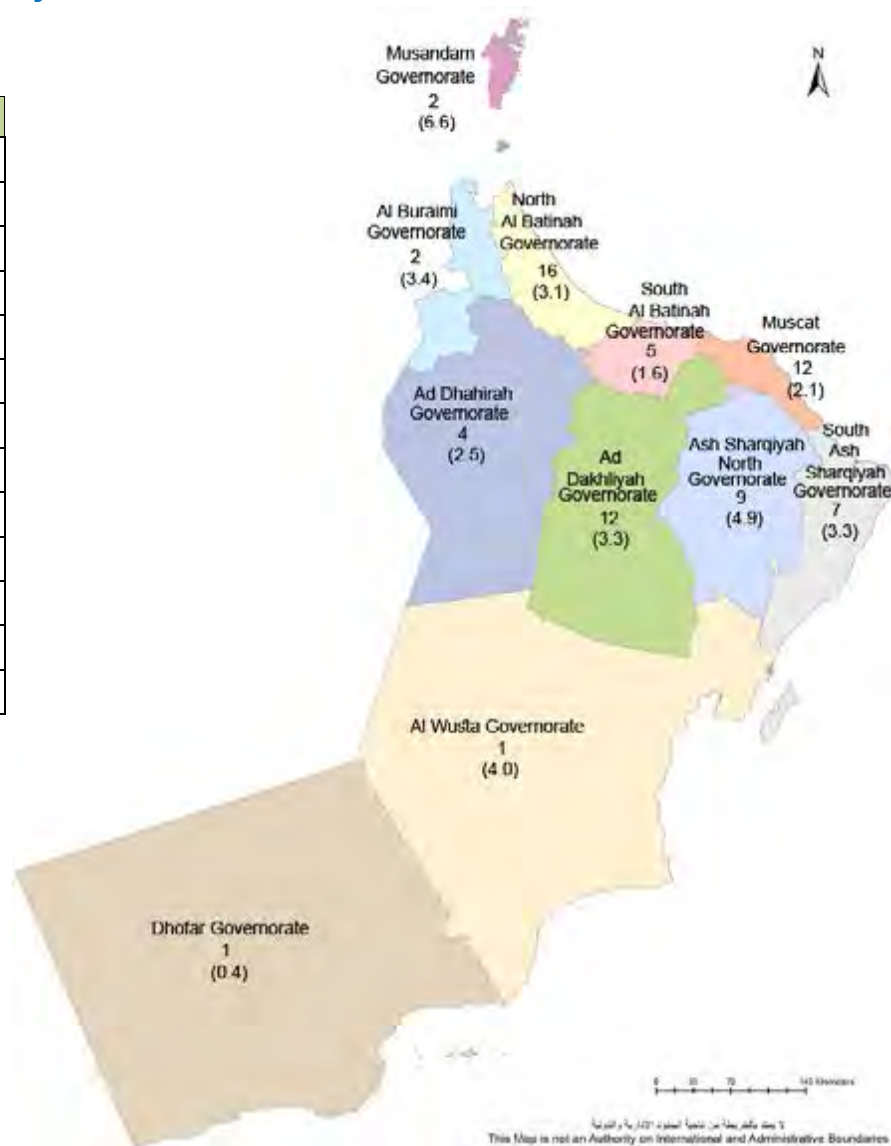
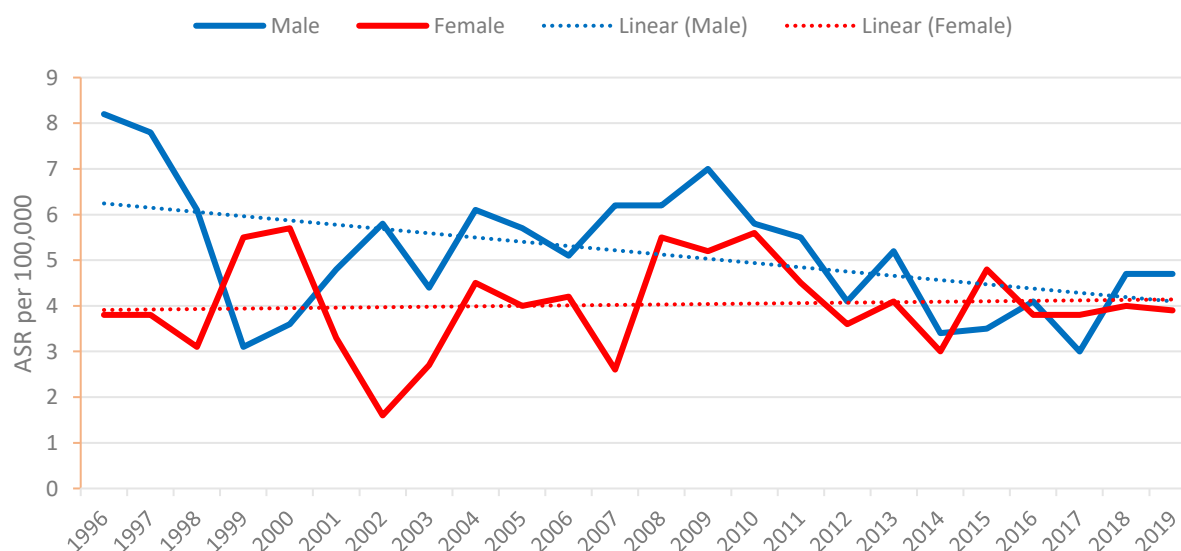
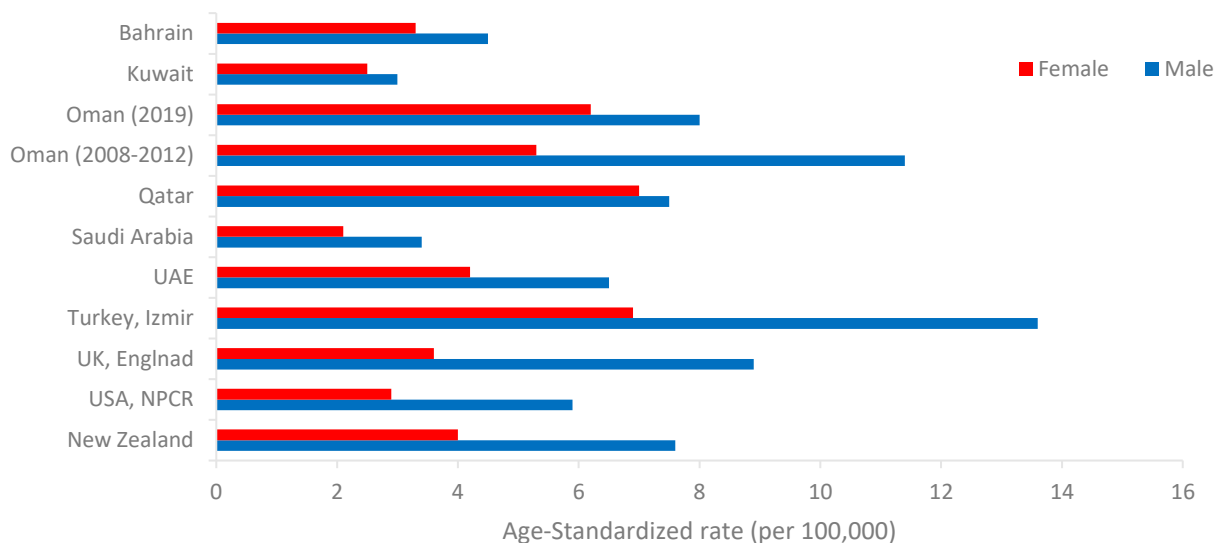

Trend of Skin Cancer 1996-2019




Table 39: Gender Distribution of Stomach Cancer

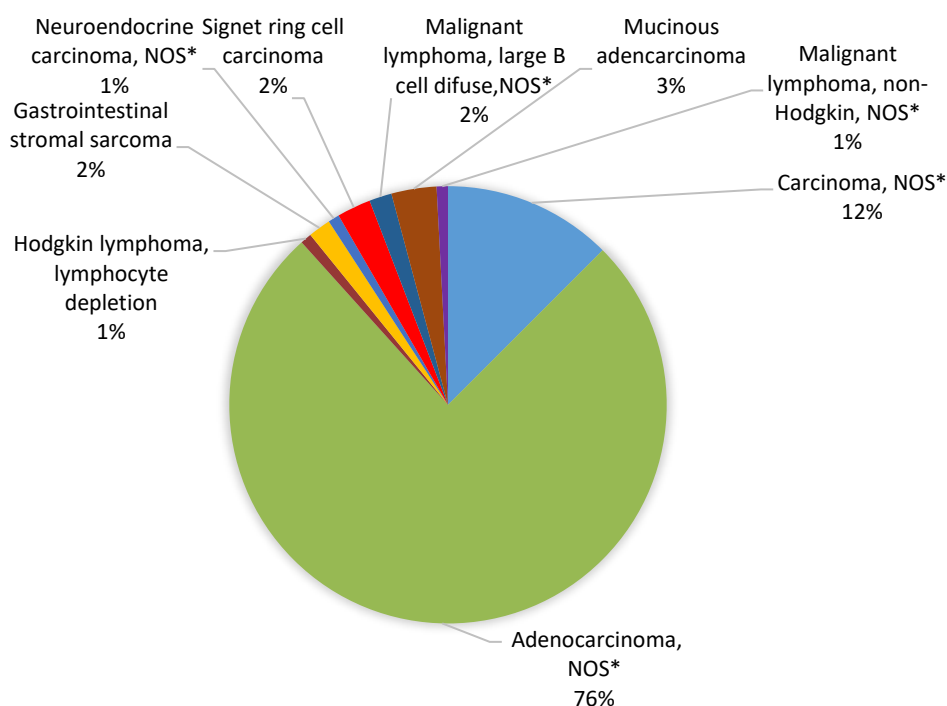
Gender	Frequency	Crude Incidence rate	Age standardized incidence rate
Male	64	4.8	8
Female	52	3.9	6.2
Total	116		
Malignant lymphoma	4		

Figure 76 : Age-standardized incidence rates of Stomach Cancer in Oman and some selected countries



Note: Data of GCC countries are from 2008-2012; data of New Zealand, UK England, Turkey Izmir are from 2003-2007, For USA –NPCR (National Program of Cancer Registries) from 2003-2007

Figure 77: Morphology of Stomach Cancer



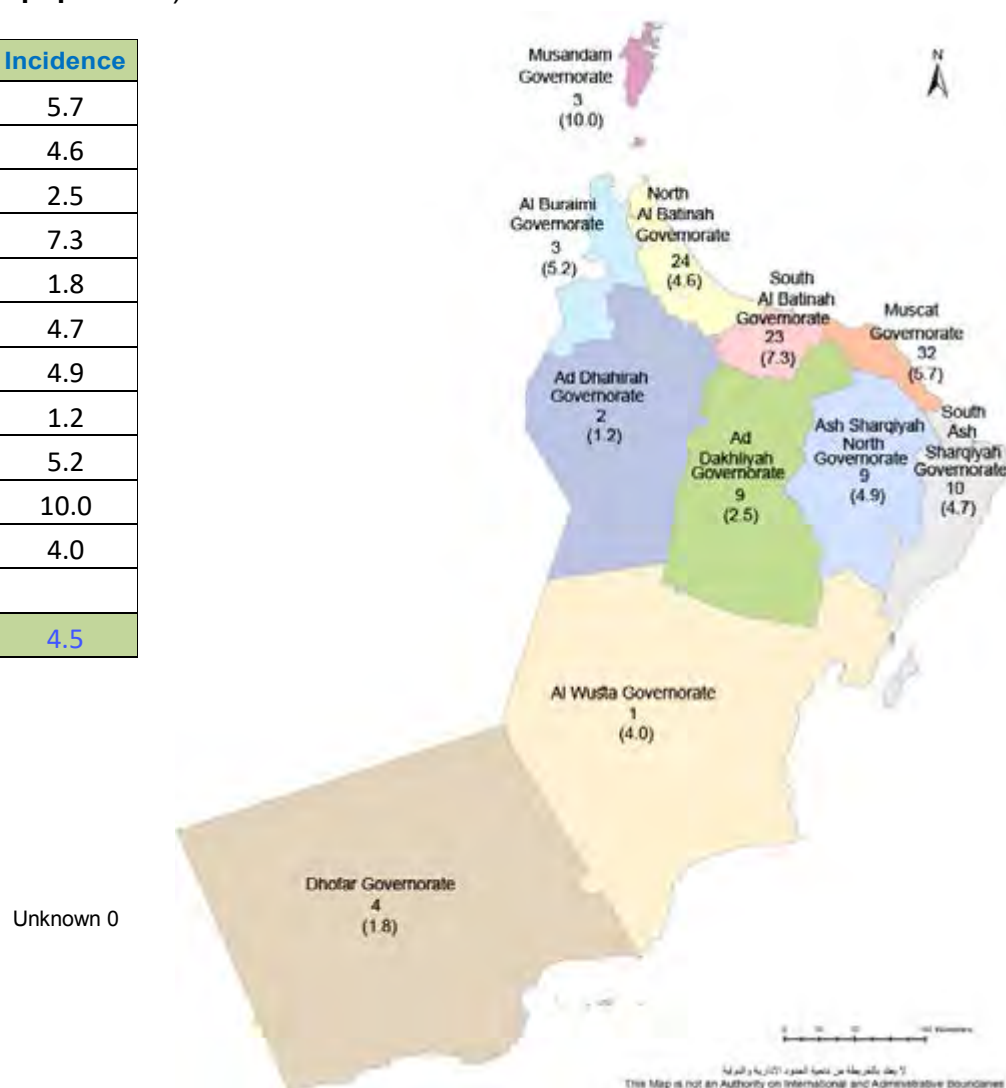
Not otherwise specified*



Figure 78 :Incidence of Stomach Cancer by Governorates

(Incidence rates are per 100,000 population)

Governorates	Frequency	Incidence
Muscat	32	5.7
North Al - Batinah	24	4.6
Ad - Dakhliyah	9	2.5
South Al - Batinah	23	7.3
Dhofar	4	1.8
South Ash - Sharqiah	10	4.7
North Ash - Sharqiah	9	4.9
Adh -Dhahirah	2	1.2
Buraymi	3	5.2
Musandam	3	10.0
Al - Wusta	1	4.0
Unknown	0	
Total	120	4.5



Trend of Stomach Cancer 1996-2019

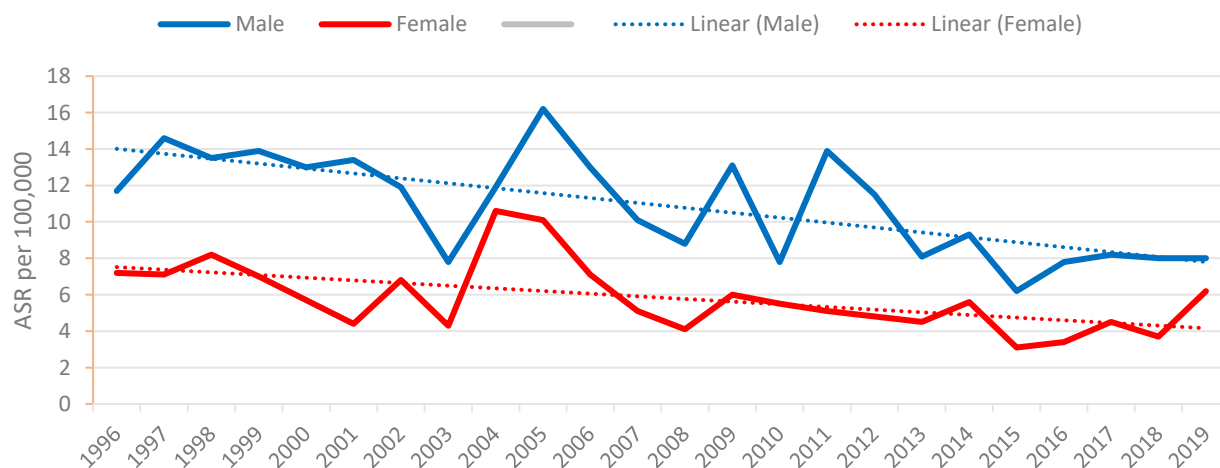
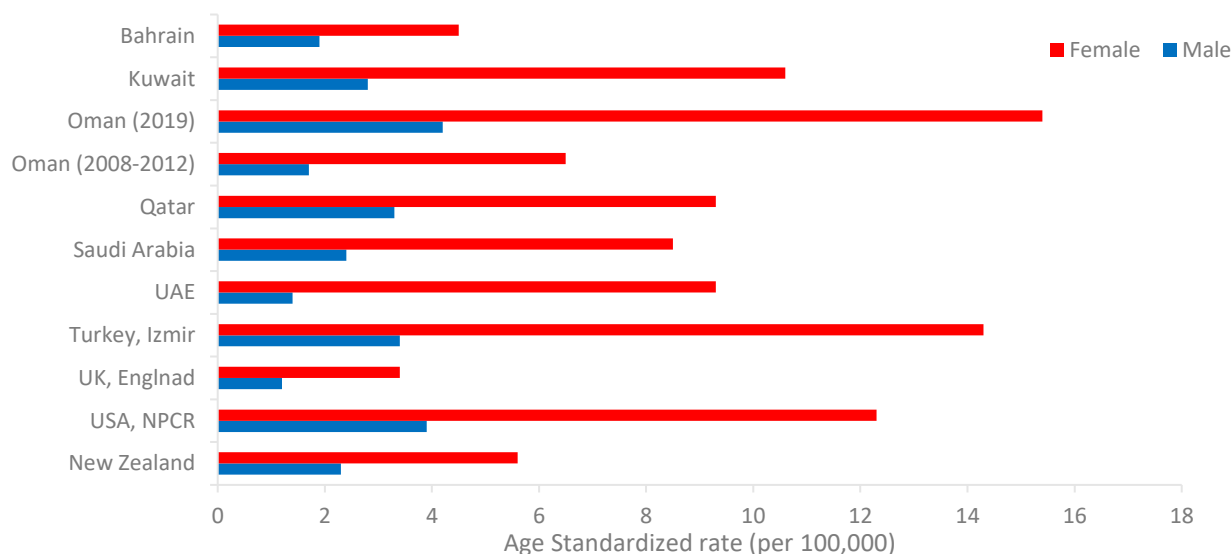




Table 40: Gender Distribution of Thyroid Cancer

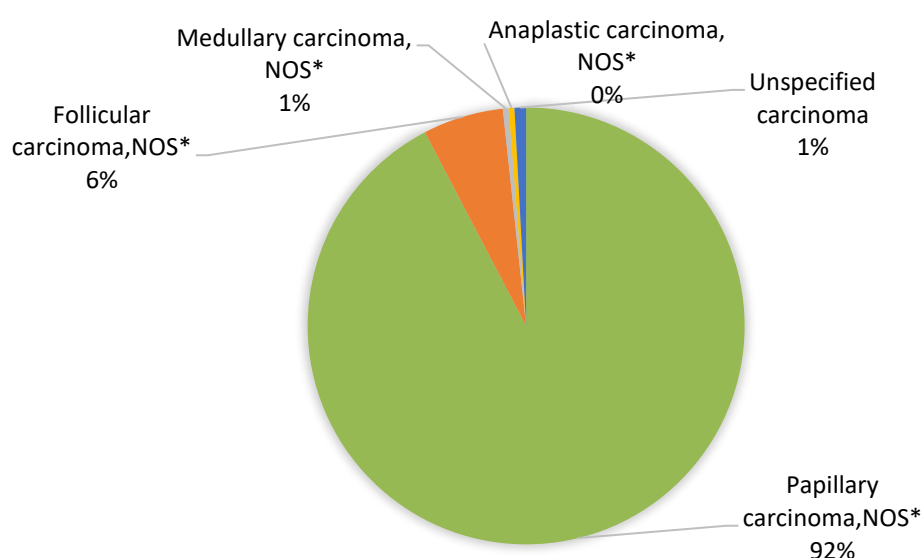
Gender	Frequency	Crude Incidence rate	Age standardized incidence rate
Male	50	3.7	4.2
Female	185	14.0	15.4
Total	235		
Carcinoma in Situ	1		

Figure 79: Age-standardized incidence rates of Thyroid Cancer in Oman and some selected countries



Note: Data of GCC countries are from 2008-2012; data of New Zealand, UK (England), Turkey (Izmir) are from 2003-2007, For USA –NPCR (National Program of .Cancer Registries) from 2003-2007) was used

Figure 80: Morphology of Thyroid Cancer



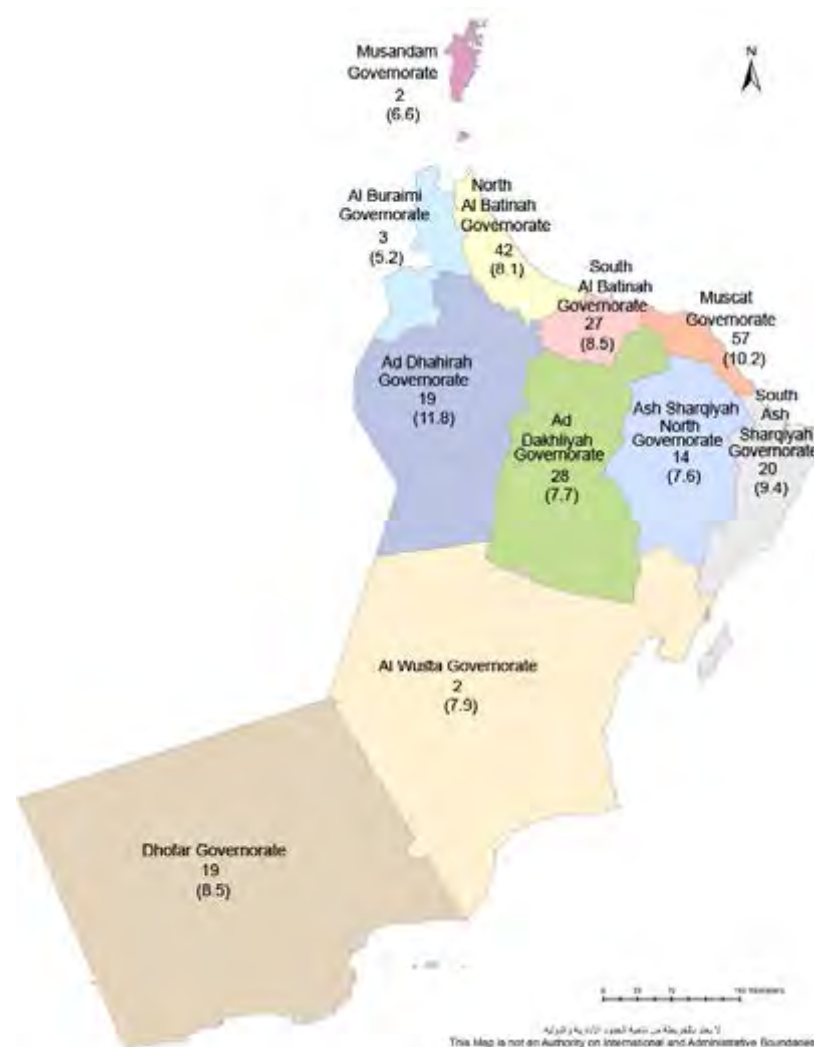
Not otherwise specified*



Figure 81: Incidence of Thyroid Cancer by Governorates

(Incidence rates are per 100,000 population)

Governorates	Frequency	Incidence
Muscat	57	10.2
North Al - Batinah	42	8.1
Ad - Dakhliyah	28	7.7
South Al - Batinah	27	8.5
Dhofar	19	8.5
South Ash - Sharqiah	20	9.4
North Ash - Sharqiyah	14	7.6
Adh -Dhahirah	19	11.8
Buraymi	3	5.2
Musandam	2	6.6
Al - Wusta	2	7.9
Unknown	2	
Total	235	8.9



Trend of Thyroid Cancer 1996-2019

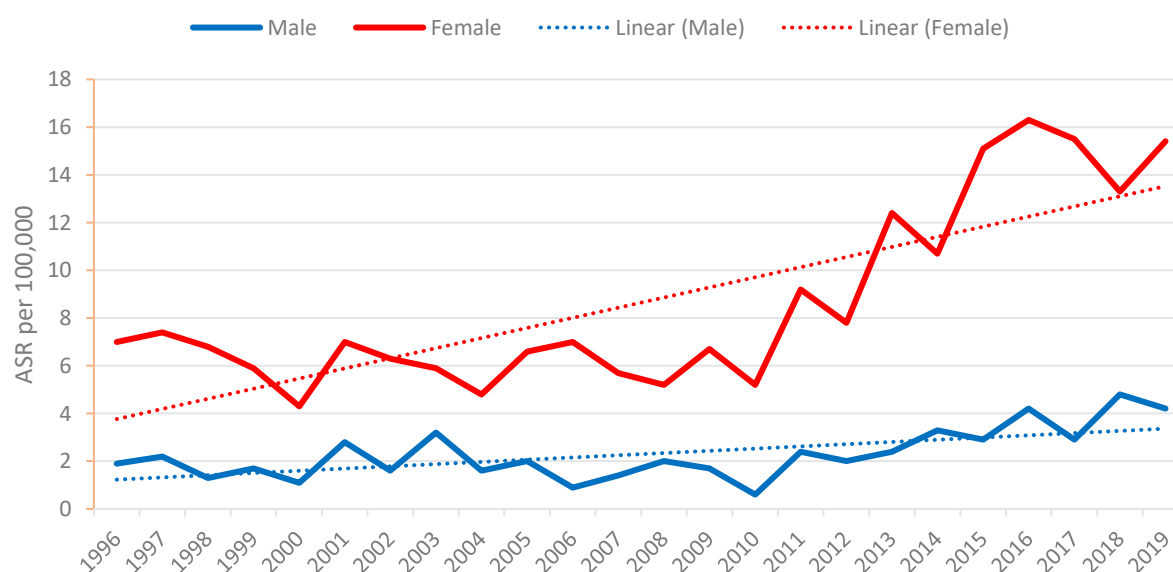
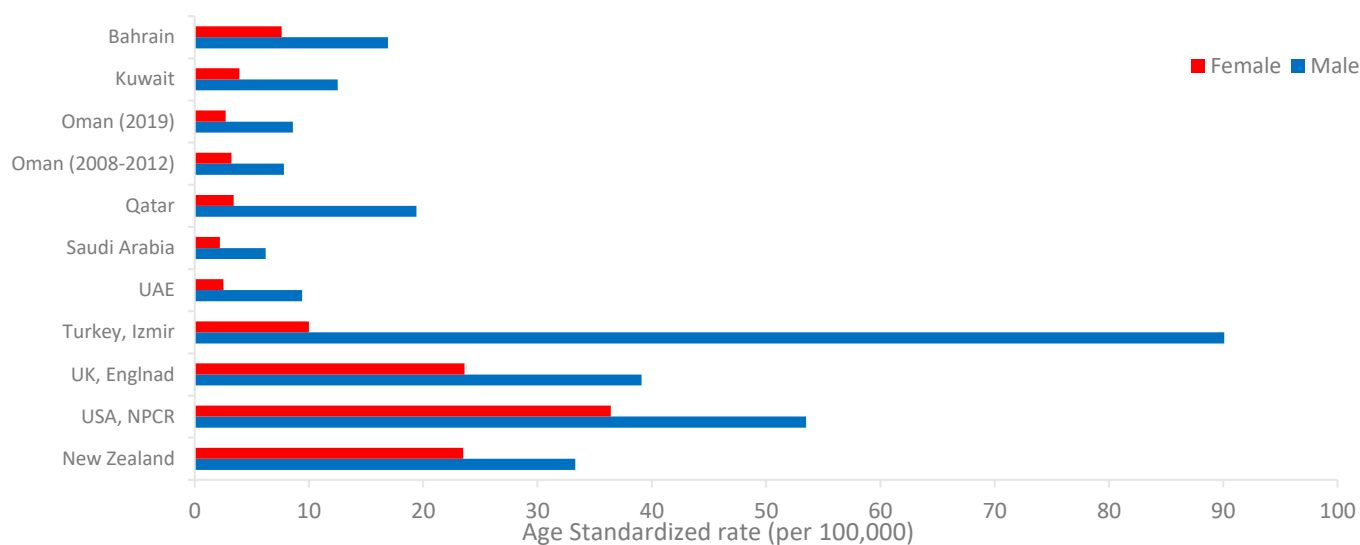




Table 41: Gender Distribution of TBL Cancer

Gender	Frequency	Crude Incidence rate	Age standardized incidence rate
Male	61	4.6	8.6
Female	21	1.6	2.7
Total	82		
Malignant lymphoma	2		

Figure 82 :Age-standardized incidence rates of Trachea, Bronchus and Lung Cancer in Oman and some selected countries



Note: Data of GCC countries are from 2008-2012; data of New Zealand, UK (England), Turkey (Izmir) are from 2003-2007, For USA –NPCR (National Program of Cancer Registries from 2003-2007 was used

Figure 83: Morphology of Trachea, Bronchus and Lung Cancer

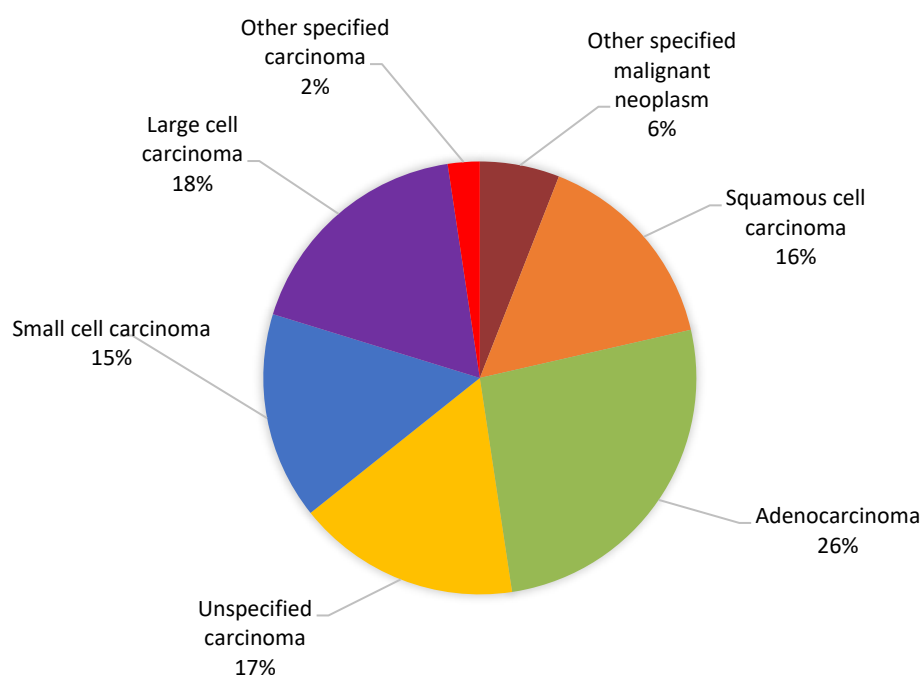
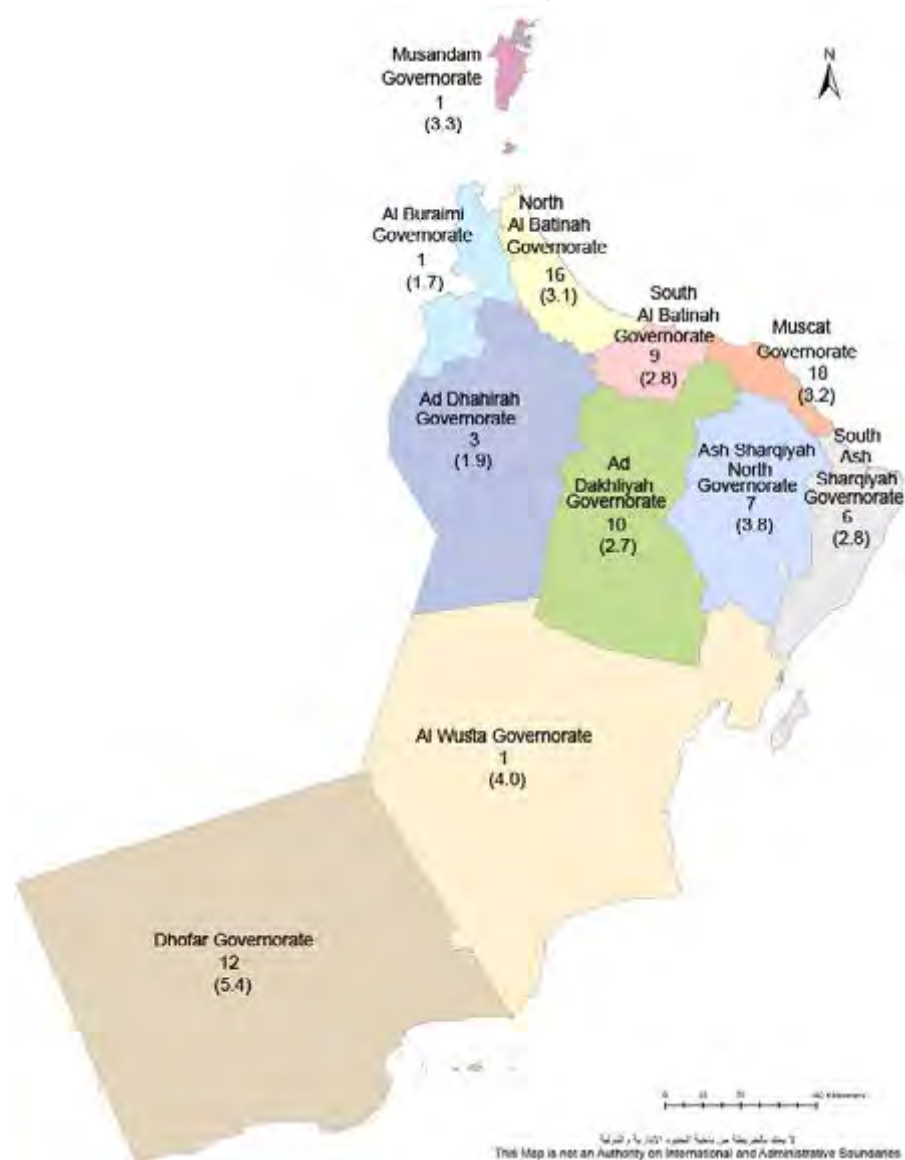




Figure 84: Incidence of Lung Cancer by Governorates

(Incidence rates are per 100,000 population)

Governorates	Frequency	Incidence
Muscat	18	3.2
North Al - Batinah	16	3.1
Ad - Dakhliyah	10	2.7
South Al - Batinah	9	2.8
Dhofar	12	5.4
South Ash - Sharqiah	6	2.8
North Ash - Sharqiah	7	3.8
Adh -Dhahirah	3	1.9
Buraymi	1	1.7
Musandam	1	3.3
Al - Wusta	1	4.0
Unknown	0	
Total	84	3.2



Trend of Lung Cancer 1996-2019

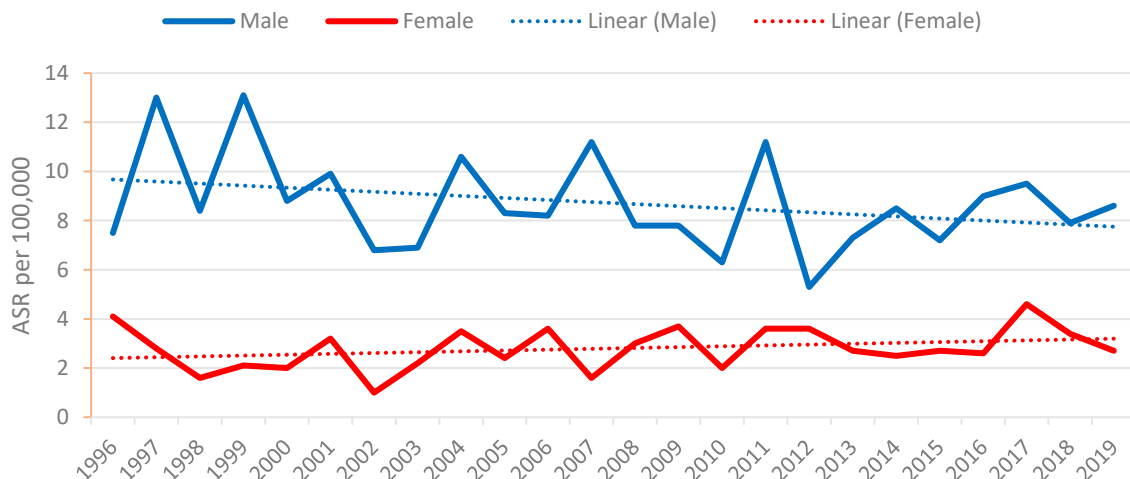




Figure 85: Stages of lung cancer 2018

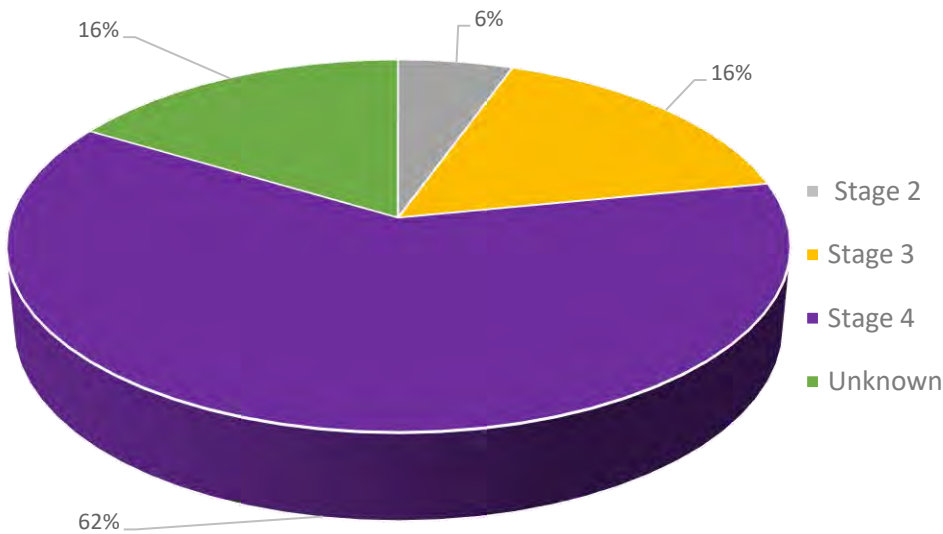


Figure 86: Stages of lung cancer 2019

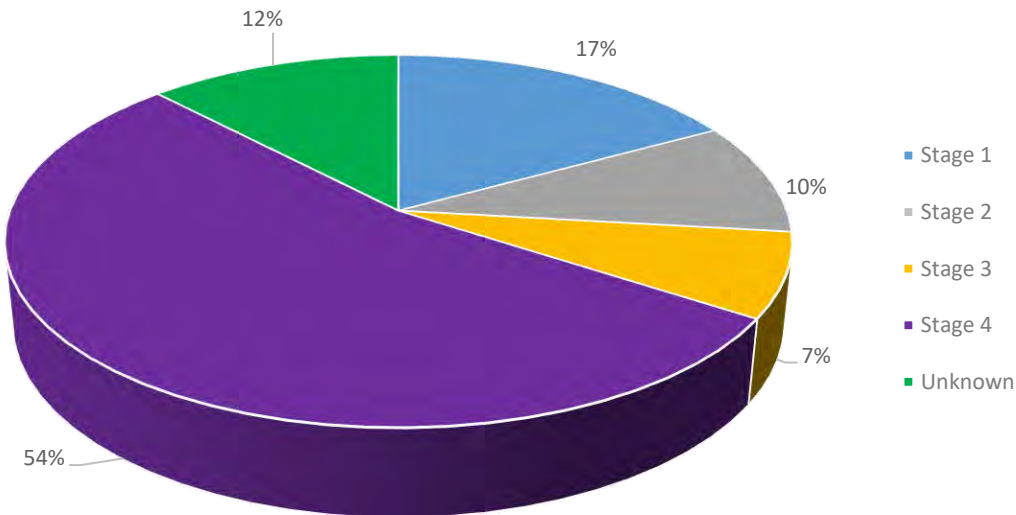
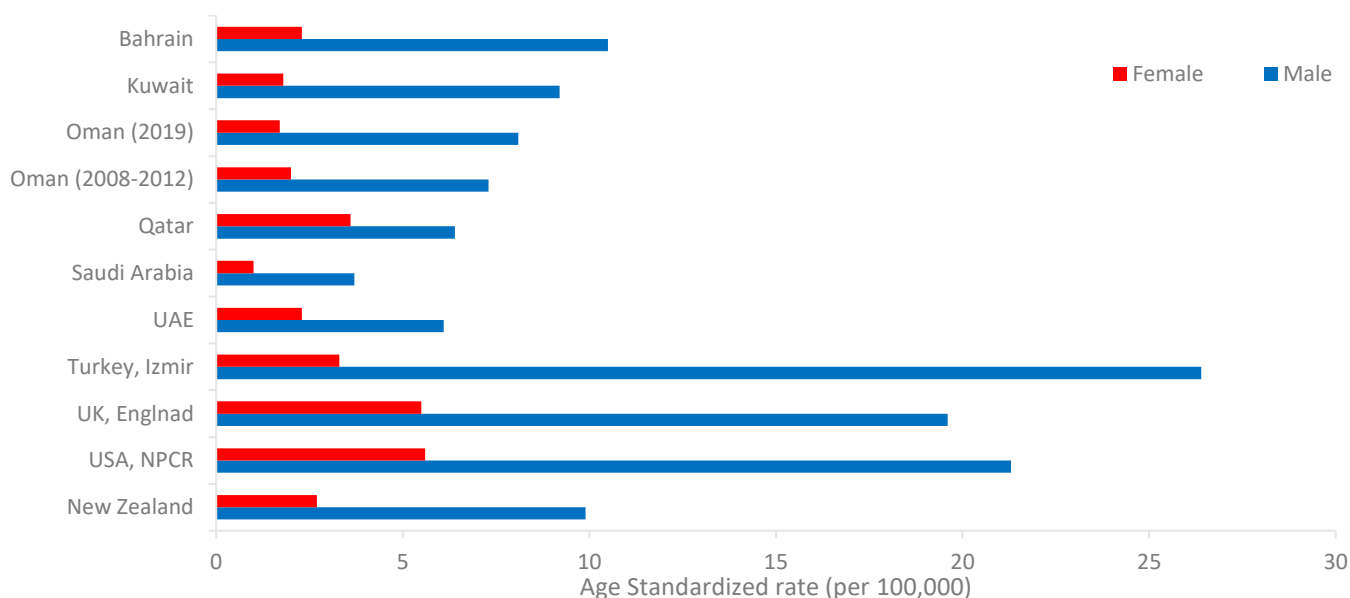




Table 42: Gender Distribution of Urinary Bladder Cancer

Gender	Frequency	Crude Incidence rate	Age standardized incidence rate
Male	61	4.6	8.1
Female	15	1.1	1.7
Total	76		

Figure 87: Age-standardized incidence rates of Urinary Bladder Cancer in Oman and some selected countries



Note: Data of GCC countries are from 2008-2012; data of New Zealand, UK (England), Turkey (Izmir) are from 2003-2007, For USA –NPCR (National Program of Cancer Registries) from 2003-2007 was used

Figure 88: Morphology of Urinary Bladder Cancer

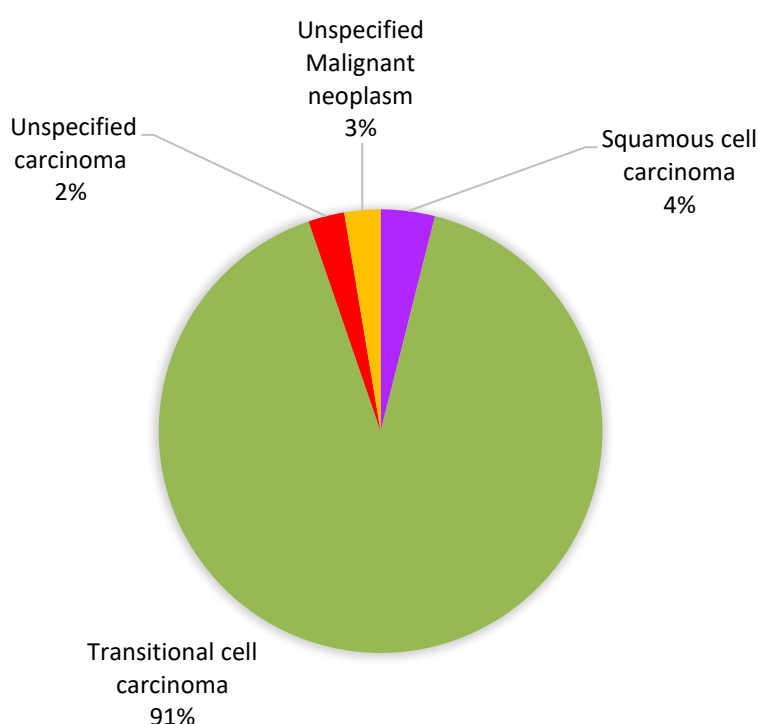
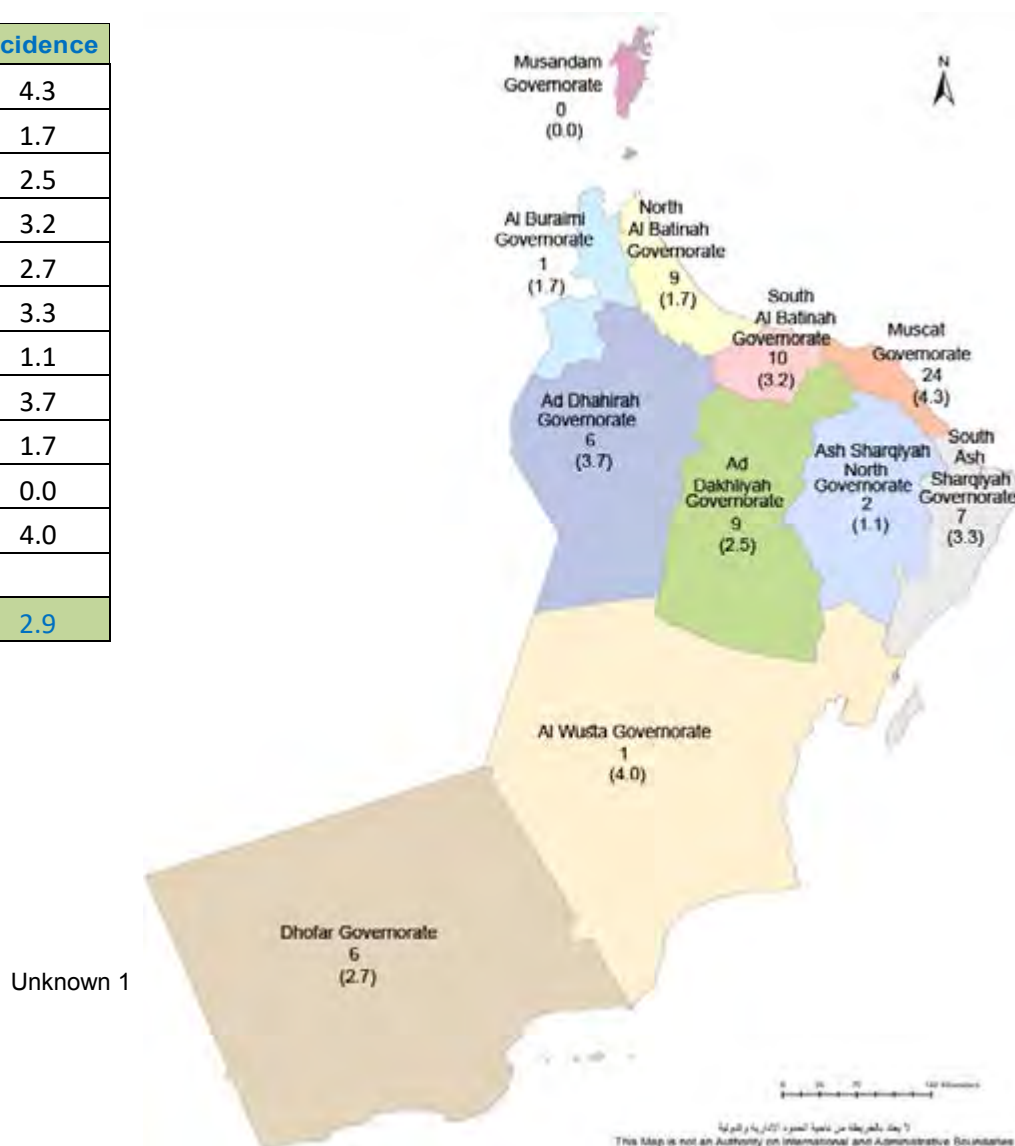




Figure 89: Incidence of Urinary Bladder Cancer by Governorates

(Incidence rates are per 100,000 population)

Governorates	Frequency	Incidence
Muscat	24	4.3
North Al - Batinah	9	1.7
Ad - Dakhliyah	9	2.5
South Al - Batinah	10	3.2
Dhofar	6	2.7
South Ash - Sharqiah	7	3.3
North Ash - Sharqiah	2	1.1
Adh - Dhahirah	6	3.7
Buraymi	1	1.7
Musandam	0	0.0
Al - Wusta	1	4.0
Unknown	1	
Total	76	2.9



Trend of Urinary Bladder Cancer 1996-2019

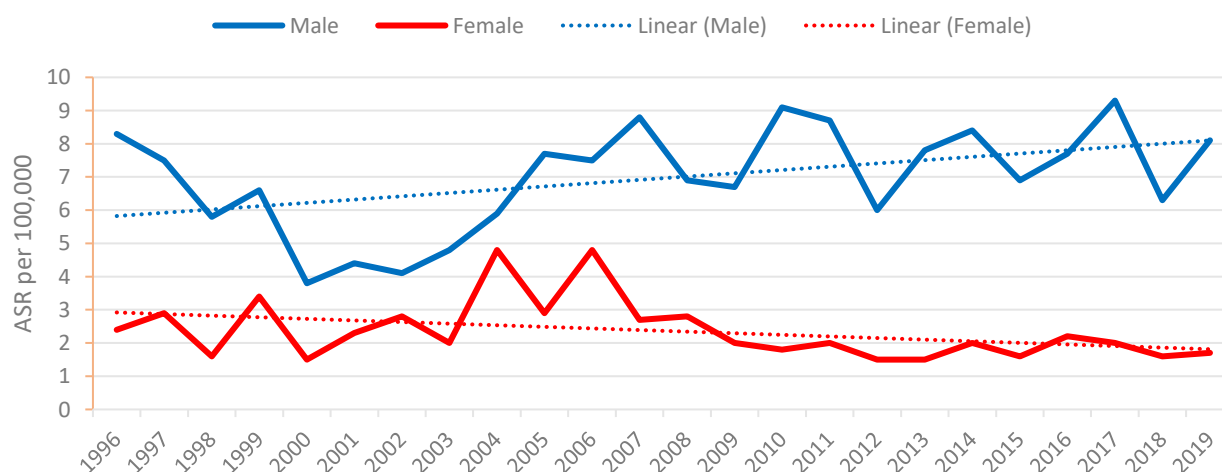
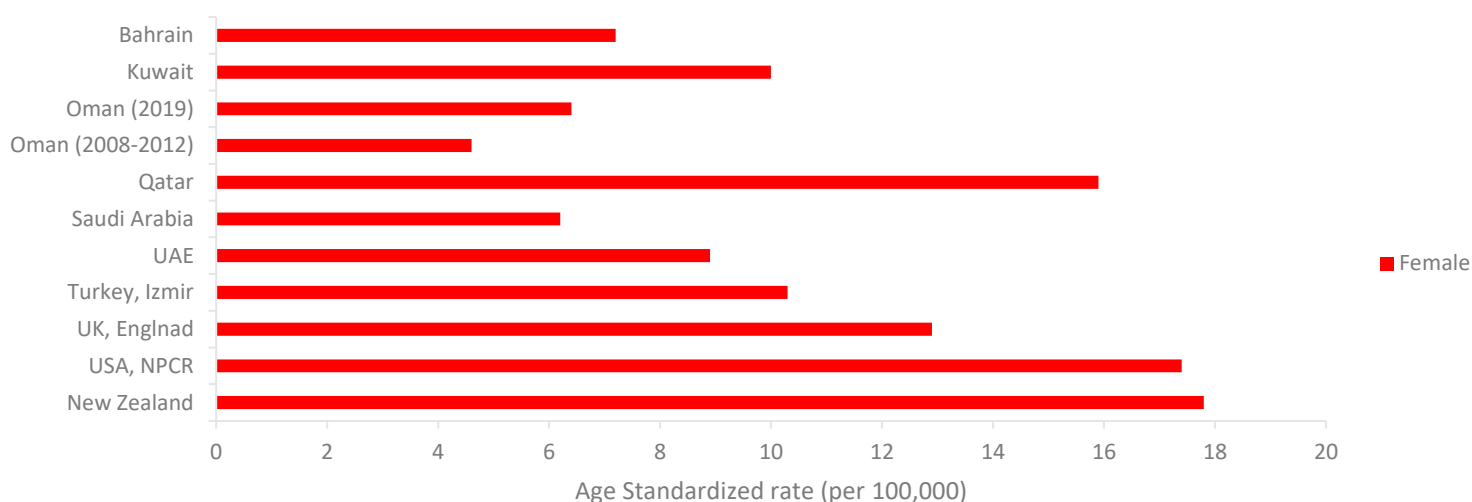
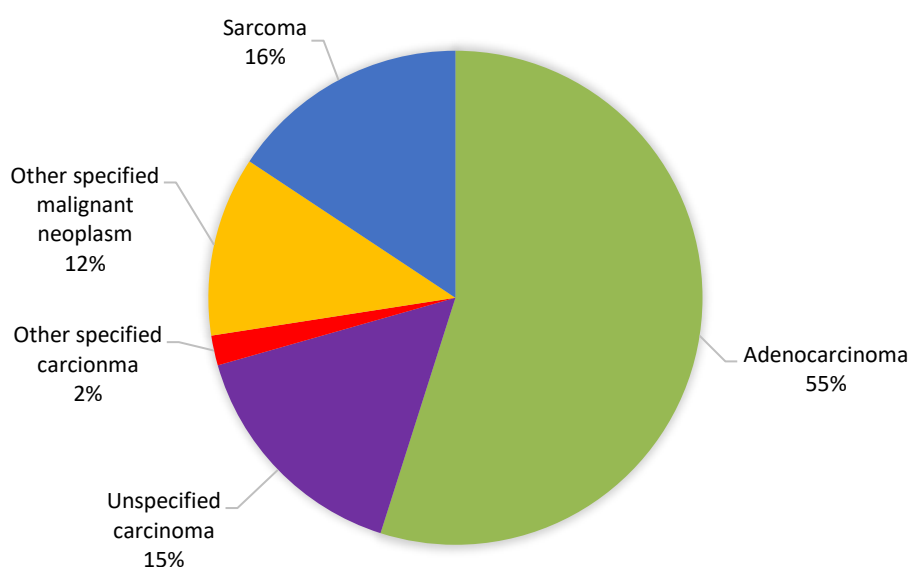


Table 43: Distribution of Uterine Cancer

Gender	Frequency	Crude Incidence rate	Age standardized incidence rate
Female	51	3.9	6.4
Total	51		

Figure 90: Age-standardized incidence rates of Uterine Cancer in Oman and some selected countries


Note: Data of GCC countries are from 2008-2012; data of New Zealand, UK England Turkey Izmir are from 2003-2007, For USA –NPCR (National Program of Cancer Registries from 2003-2007 was used

Figure 91: Morphology of Uterine Cancer


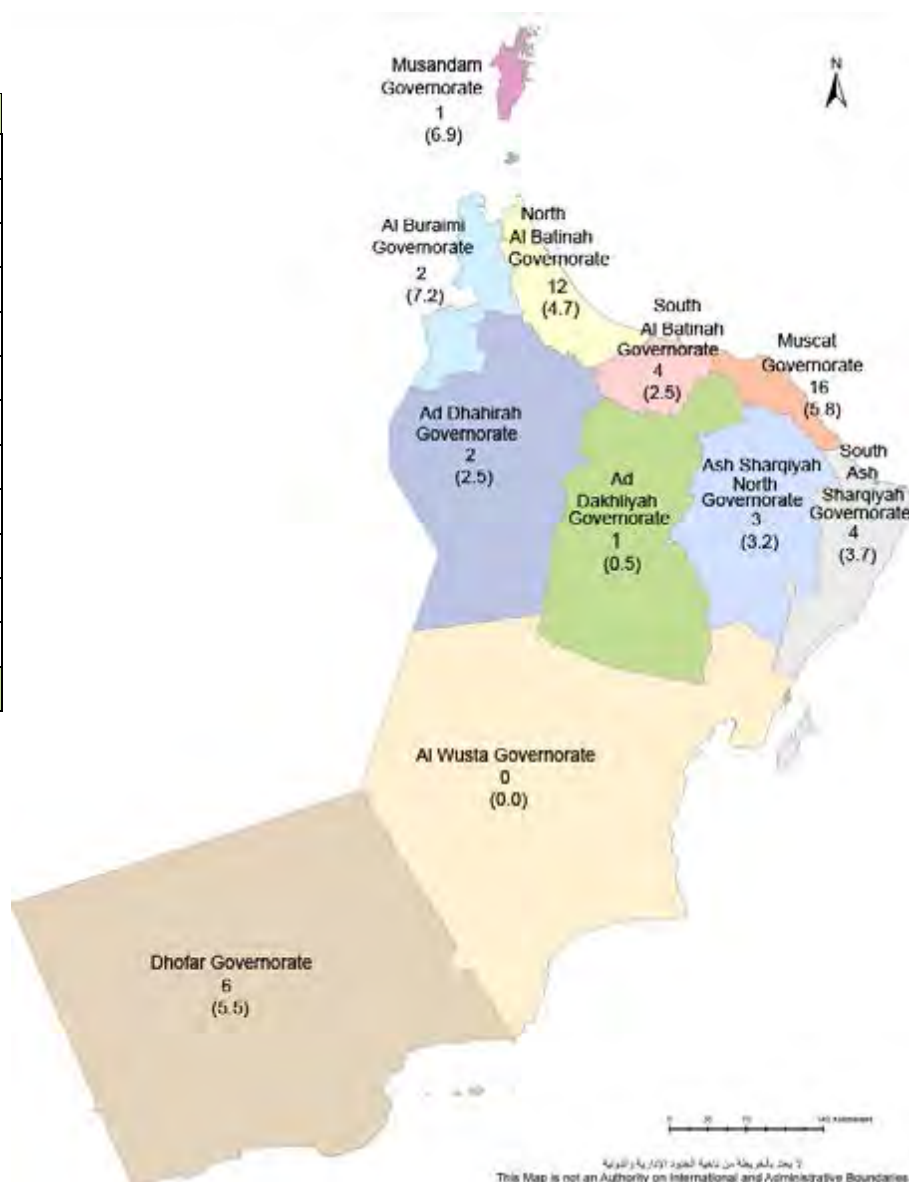
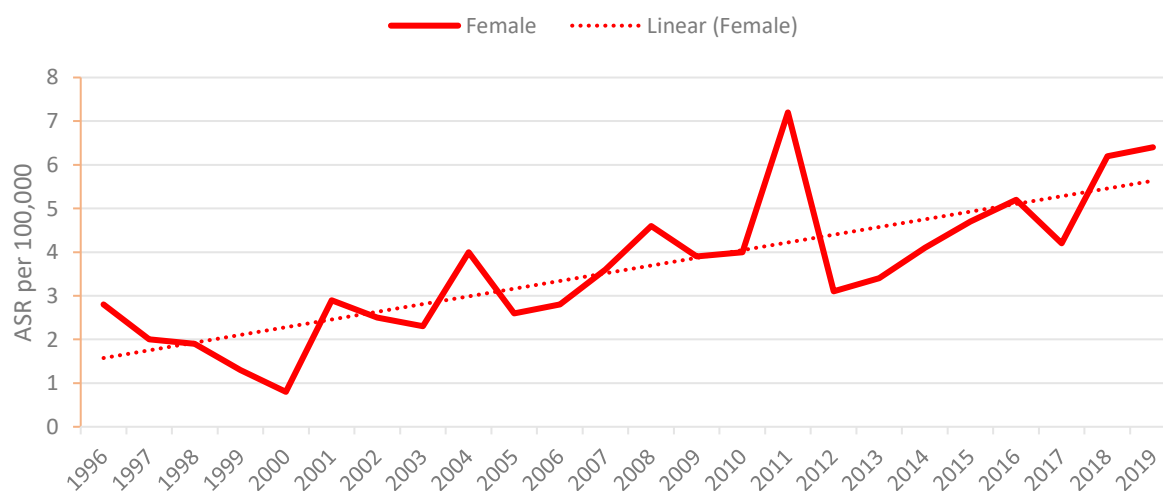
*Not otherwise specified

Figure 92: Incidence of Uterine Cancer by Governorates

(Incidence rates are per 100,000 population)

Governorates	Frequency	Incidence
Muscat	16	5.8
North Al - Batinah	12	4.7
Ad - Dakhliyah	1	0.5
South Al - Batinah	4	2.5
Dhofar	6	5.5
South Ash - Sharqiah	4	3.7
North Ash - Sharqiah	3	3.2
Adh -Dhahirah	2	2.5
Buraymi	2	7.2
Musandam	1	6.9
Al - Wusta	0	0.0
Unknown	0	
Total	51	3.9

Unknown 0


Trend of Uterine Cancer 1996-2019


Childhood Cancers

Childhood Cancers

Childhood Cancers

Of the 2,089 cases reported in Omanis during 2019, 124 cases were among children aged 14 years and below, constituting 5.9% of the total cancers reported.

Table 44: Frequency of Five Common Cancers in Omani Children

Topography	Frequency	Percentage (%)
Lymphoid leukemias	24	19.35
Neuroblastoma and ganglioneuroblastoma	12	9.68
Acute myeloid leukemias	10	8.06
Non-Hodgkin lymphomas	10	8.06
Hodgkin Lymphomas	8	6.45

Table 45: Frequency of Five Common Cancers in Omani Boys

Topography	Frequency	Percentage (%)
Lymphoid leukemias	17	24.64
Hodgkin Lymphomas	6	8.69
Unspecified and other specified leukemias	5	7.25
Neuroblastoma and ganglioneuroblastoma	4	5.79
Acute myeloid leukemias	4	5.79

Table 46: Frequency of Five Common Cancers in Omani Girls

Topography	Frequency	Percentage (%)
Neuroblastoma and ganglioneuroblastoma	8	14.55
Lymphoid leukemias	7	12.72
Non-Hodgkin lymphomas	7	12.72
Acute myeloid leukemias	6	10.9
Nephroblastoma and other nonepithelial renal tumors	3	5.45

Figure 93: Frequency Distribution of Common Cancers in Omani Children 2019

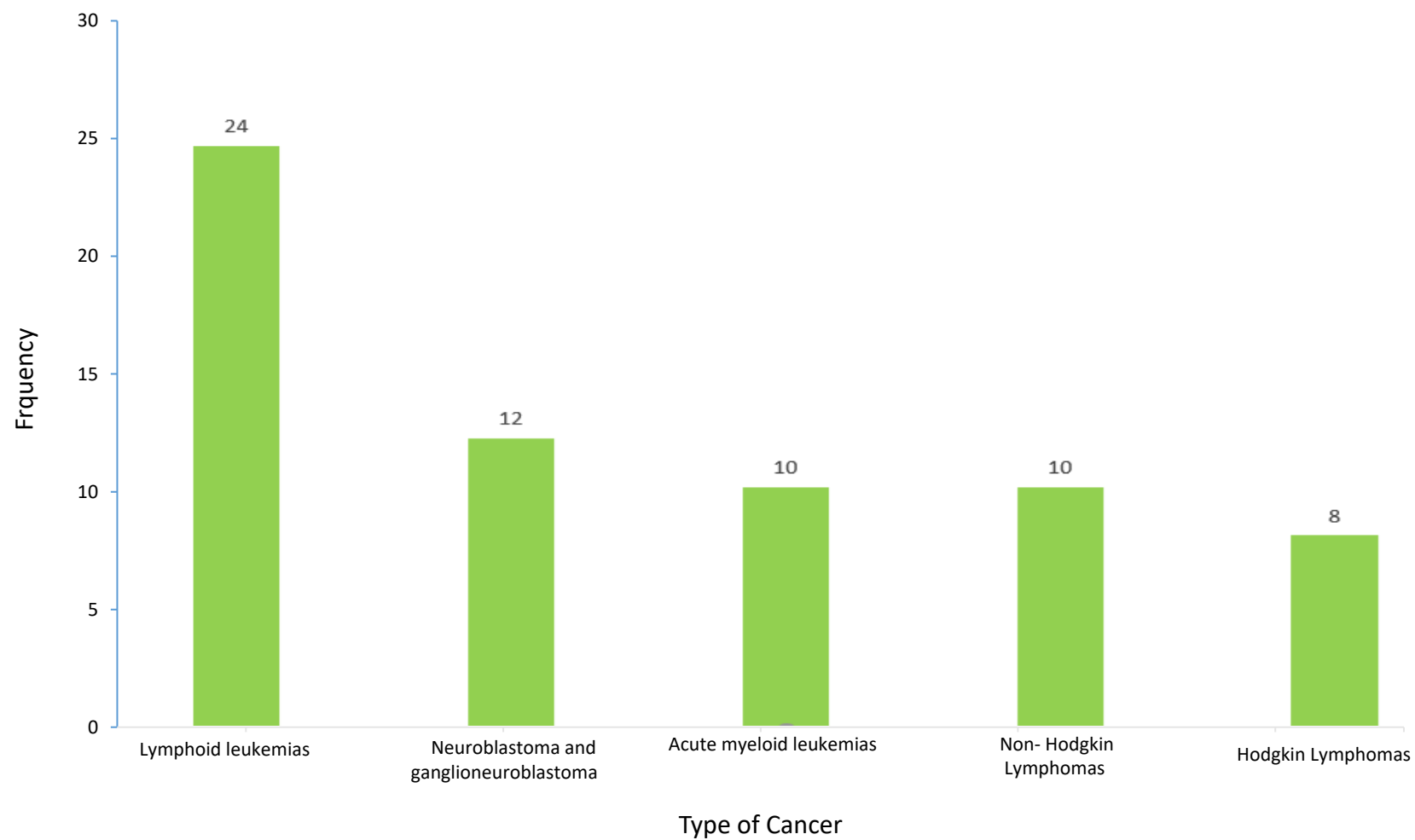


Table 47 : Frequency Distribution of Childhood Cancers in Oman, 2019(International Classification of Childhood Cancers)

CR, Crude incidence rate; ASR, Age-Standardized incidence rate. Both rates are per million per year. The above analysis is restricted to children aged 0-14 years inclusive.

Site	Male						Female					
	-0	-5	-10	All	CR*	ASR*	-0	-5	-10	All	CR*	ASR*
Leukemia, myeloproliferative and myelodysplastic diseases	18	4	5	27	52.8	32.0	7	4	2	13	26.4	16.6
Lymphoid leukemias	13	2	2	17	34.7	22.0	4	3	0	7	14.8	9.8
Acute myeloid leukemias	2	0	2	4	8.2	5.2	3	1	2	6	12.7	8.4
Chronic myeloproliferative diseases	0	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0
Myelodysplastic syndrome and other myeloproliferative diseases	1	0	0	1	2.0	1.3	0	0	0	0	0.0	0.0
Unspecified and other specified leukemias	2	2	1	5	10.2	6.5	0	0	0	0	0.0	0.0
Lymphomas and reticuloendothelial neoplasms	3	2	7	12	24.5	15.5	4	2	4	10	21.2	13.9
Hodgkin lymphomas	1	1	4	6	12.3	7.8	0	1	1	2	4.2	2.8
Non-Hodgkin lymphomas	0	1	2	3	6.1	3.9	4	0	3	7	14.8	9.8
Burkitt lymphoma	2	0	1	3	6.1	3.9	0	1	0	1	2.1	1.4
Miscellaneous lymphoreticular neoplasms	0	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0
Unspecified lymphomas	0	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0
CNS and miscellaneous intracranial and intraspinal neoplasms	3	2	3	8	16.3	10.3	3	1	2	6	12.7	8.4
Ependymoma and choroids plexus tumours	0	0	0	0	0.0	0.0	1	1	0	2	4.2	2.8
Astrocytomas	0	0	2	2	4.1	2.6	1	0	1	2	4.2	2.8
Intracranial and intraspinal embryonal tumours	1	1	1	3	6.1	3.9	0	0	1	1	2.1	1.4
Other gliomas	2	0	0	2	4.1	2.6	0	0	0	0	0.0	0.0
Other specified	0	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0
Unspecified	0	1	0	1	2.0	1.3	1	0	0	1	2.1	1.4
Neuroblastoma and other peripheral nervous cell tumours	3	1	0	4	8.2	5.2	8	0	0	8	17.0	11.1
Neuroblastoma and ganglioneuroblastoma	3	1	0	4	8.2	5.2	8	0	0	8	17.0	11.1
Other peripheral nervous cell tumours	0	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0
Retinoblastoma	2	0	0	2	4.1	2.6	1	0	0	1	2.1	1.4
Retinoblastoma	2	0	0	2	4.1	2.6	1	0	0	1	2.1	1.4
Renal tumours	1	1	0	2	4.1	2.6	1	2	0	3	6.4	4.2
Nephroblastoma and other nonepithelial renal tumors	1	1	0	2	4.1	2.6	1	2	0	3	6.4	4.2
Renal carcinomas	0	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0
Unspecified	0	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0
Hepatic tumours	2	1	0	3	6.1	3.9	2	0	0	2	4.2	2.8

Site	Male						Female					
Hepatoblastoma	1	0	0	1	2.0	1.3	0	0	0	0	0.0	0.0
Hepatic carcinomas	1	1	0	2	4.1	2.6	2	0	0	2	4.2	2.8
Unspecified	0	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0
Malignant bone tumours	0	0	0	0	0.0	0.0	0	0	1	1	2.1	1.4
Osteosarcomas	0	0	0	0	0.0	0.0	0	0	1	1	2.1	1.4
Chondrosarcomas	0	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0
Ewing tumour and related sarcomas of bone	0	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0
Other specified	0	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0
Unspecified	0	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0
Soft tissue and other extraosseous sarcomas	2	0	3	5	10.2	6.5	0	1	1	2	4.2	2.8
Rhabdomyosarcomas	1	0	0	1	2.0	1.3	0	0	0	0	0.0	0.0
Fibrosarcomas, peripheral nerve sheath and other fibrous neoplasms	0	0	1	1	2.0	1.3	0	0	0	0	0.0	0.0
Kaposi's sarcoma	0	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0
Other specified	1	0	2	3	6.1	3.9	0	1	1	2	4.2	2.8
Unspecified	0	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0
Germ cell and trophoblastic tumours and gonadal neoplasms	2	1	0	3	6.1	3.9	4	0	0	4	8.5	5.6
Intracranial and intraspinal germ cell tumours	0	1	0	1	2.0	1.3	0	0	0	0	0.0	0.0
Malignant extra cranial and extra gonadal germ cell tumours	1	0	0	1	2.0	1.3	3	0	0	3	6.4	4.2
Malignant gonadal germ cell tumours	1	0	0	1	2.0	1.3	1	0	0	1	2.1	1.4
Gonadal carcinomas	0	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0
Other and unspecified	0	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0
Other malignant epithelial neoplasms and malignant melanomas	1	0	2	3	6.1	3.9	0	1	2	3	6.4	4.2
Adrenocortical carcinomas	0	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0
Thyroid carcinomas	1	0	1	2	4.1	2.6	0	0	2	2	4.2	2.8
Nasopharyngeal carcinomas	0	0	1	1	2.0	1.3	0	0	0	0	0.0	0.0
Malignant melanoma	0	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0
Skin carcinomas	0	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0
Other and unspecified	0	0	0	0	0.0	0.0	0	1	0	1	2.1	1.4
Other and unspecified malignant neoplasms	0	0	0	0	0.0	0.0	1	0	1	2	4.2	2.8
Other specified	0	0	0	0	0.0	0.0	1	0	0	1	2.1	1.4
Other unspecified	0	0	0	0	0.0	0.0	0	0	1	1	2.1	1.4
Total	37	12	20	69	140.9	89.2	31	11	13	55	116.6	76.6

Cancer among Non-Omanis

Cancer among Non-Omanis

The total number of all tumors registered among Non-Omanis was 202. Of these only 2 cases (0.99%) were carcinoma in Situ. Out of 200 malignant cases males accounted for 80 cases (40%) and females accounted for 120 cases (60%) (Table 48).The high frequency of cancer reported from Muscat 115 cases followed by Dhofar 46 cases.

Table 48: Gender Distribution of Cancer Cases among Non-Omanis

Gender	Frequency	Percentage (%)
Male	80	40
Female	120	60
Total	200	100
Carcinoma in situ	2	

Table 49: Five Most Common Cancers in Non-Omanis (Males & Females)

Topography	Frequency	Percentage (%)
Breast	55	28
Colorectal	20	10
Leukemia	16	8
Thyroid	14	7
Skin	12	6

Table 50: Five Most Common Cancers in Non-Omanis (Males)

Topography	Frequency	Percentage (%)
Colorectal	13	16.25
Leukemia	10	12.5
Prostate	5	6.25
Non-Hodgkin Lymphoma	5	6.25
Skin	5	6.25

Table 51: Five Most Common Cancers among Non-Omanis (Females)

Topography	Frequency	Percentage (%)
Breast	55	68.75
Thyroid	13	16.25
Skin	8	10
Colorectal	7	8.75
Ovary	6	7.5

Figure 94: Stages of breast cancer 2018

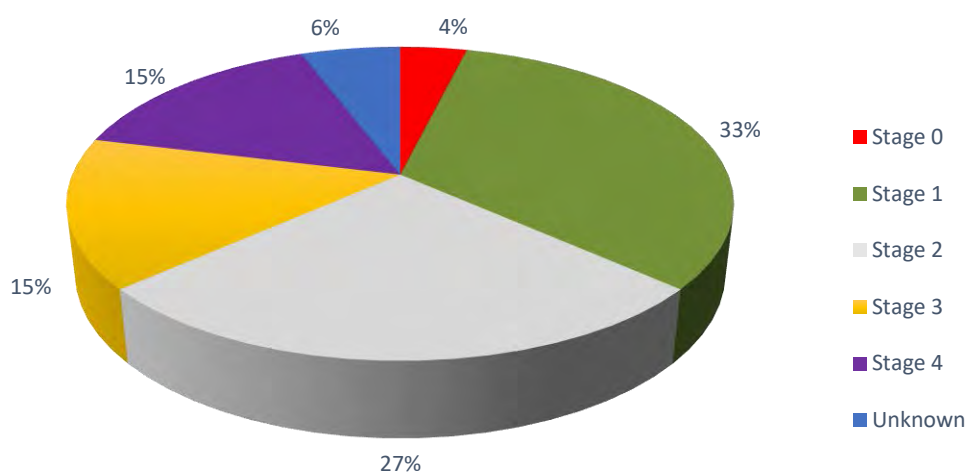


Figure 95: Stages of breast cancer 2019

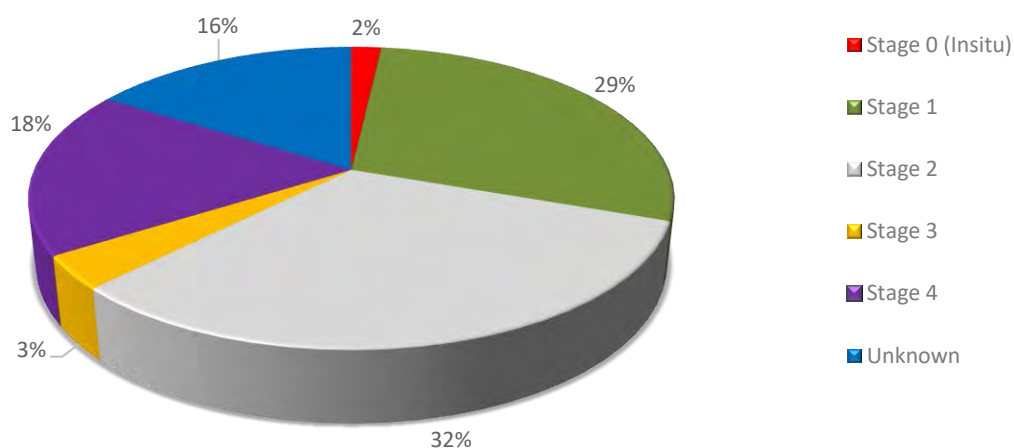


Table 52: Regional Distribution of Cancer Cases among Non-Omanis

Region	Frequency
Muscat	115
Dhofar	46
North Al Batinah	5
Al Buraymi	5
North Ash Sharqiyah	4
Ad Dakhliyah	10
South Ash Sharqiyah	5
South Al Batinah	8
Adh Dhahirah	0
Musandam	0
AL Wusta	0
Unknown	2
Total	200

Table 53: Distribution of Cancer Cases among Non-Omanis by Nationality 2019

Country	Frequency
India	30
Egypt	25
Yemen	24
Sudan	17
United Republic of Tanzania	15
United Kingdom	14
Philippines	12
Bangladesh	9
Pakistan	8
Iraq	6
Syrian Arab Republic	4
Sri Lanka	3
Somalia	3
Iran, Islamic Republic of	2

Country	Frequency
Jordan	2
Lebanon	2
Tunisia	2
Afghanistan	1
Algeria	1
Argentina	1
Australia	1
Bahrain	1
Canada	1
Ecuador	1
France	1
Germany	1
Greece	1
Indonesia	1
Kenya	1
Mexico	1
Morocco	1
Netherlands	1
New Zealand	1
Nigeria	1
Uganda	1
Uruguay	1
Unknown	3
Total	200

Deaths Due to Cancer

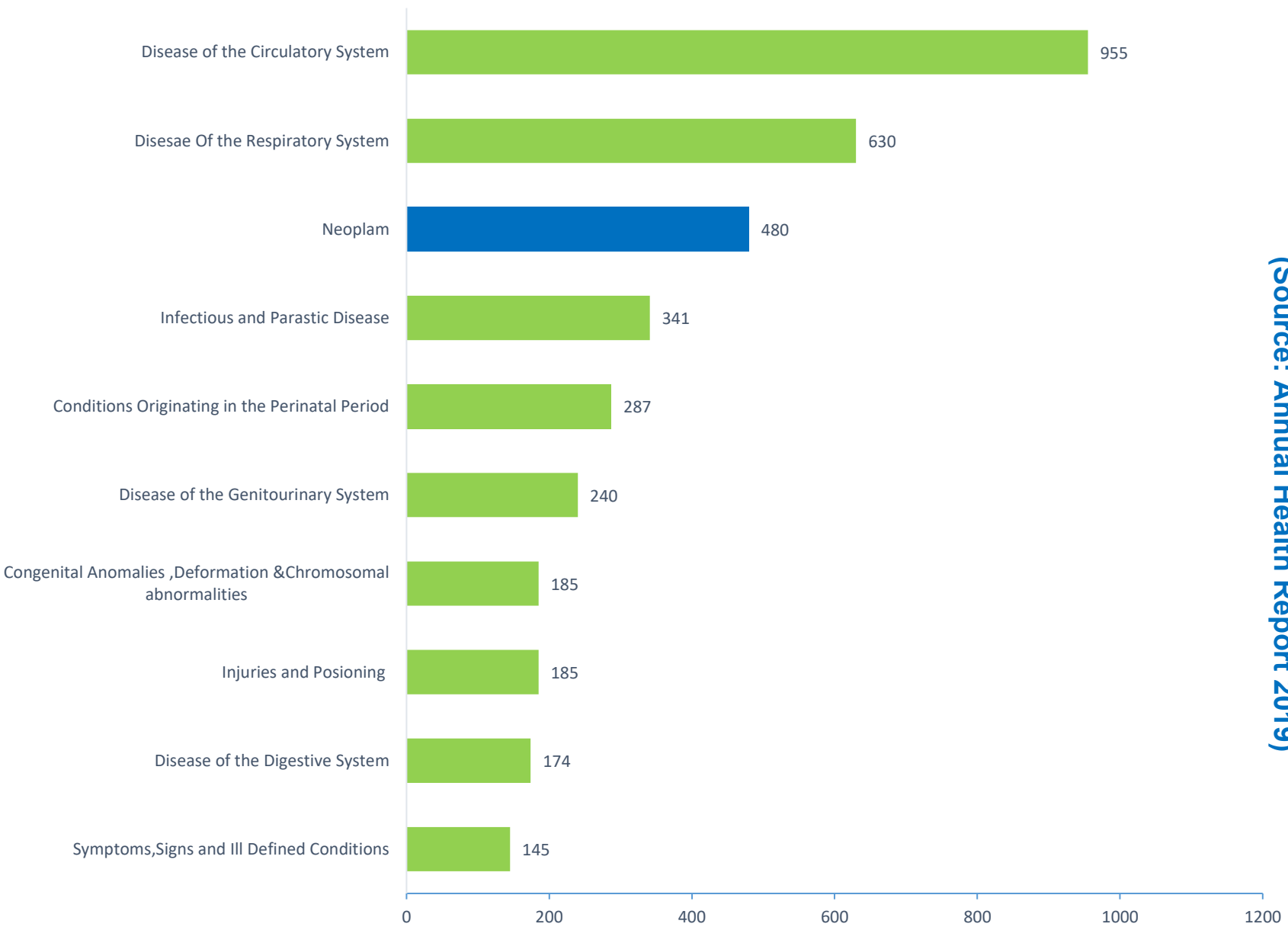
Cancer Mortality

Table 54: Hospital-based Deaths Due to Cancer in 2019

Cancer site	Male	Female	Total
Malignant neoplasm of lip, oral cavity, pharynx & esophagus	15	7	22
Malignant neoplasm of stomach	28	17	45
Malignant neoplasm of colon	20	21	41
Malignant neoplasm of rectum, rectosigmoid junction and anus	13	2	15
Malignant neoplasm of liver & intrahepatic bile ducts	37	9	46
Malignant neoplasm of pancreas	13	20	33
Malignant neoplasm of other sites of digestive organs	3	2	5
Malignant neoplasm of larynx	2	0	2
Malignant neoplasm of trachea, bronchus and lung	40	16	56
Malignant neoplasm of other respiratory & intrathoracic organs	1	2	3
Malignant neoplasm of bone & articular cartilage	0	4	4
Other malignant neoplasms of skin	0	1	1
Malignant melanoma of skin	1	0	1
Malignant neoplasm of retroperitoneum & peritoneum	1	1	2
Other malignant neoplasms of mesothelial and soft tissue	4	2	6
Malignant neoplasm of breast	0	43	43
Malignant neoplasm of cervix uteri	-	5	5
Malignant neoplasm of other & unspecified parts of uterus	-	8	8
Malignant neoplasm of other female genital organs	-	15	15
Malignant neoplasm of prostate	14	-	14
Malignant neoplasm of male genital organs	6	-	6
Malignant neoplasm of urinary bladder	9	6	15
Other malignant neoplasm of urinary Tract	3	0	3
Malignant neoplasm of brain	13	8	21
Malignant neoplasm of other parts of central nervous system	2	1	3
Malignant neoplasm of thyroid & endocrine glands	2	4	6
Malignant neoplasm of ill-defined, secondary & unspecified sites	10	5	15
Hodgkin's diseases	1	1	2
Non Hodgkin's lymphoma	10	5	15
Other malignant neoplasm of lymphatic & haemopoietic tissue	2	2	4
Leukemia	16	7	23
Total	266	214	480

Note: The above data are deaths of cancer patients, which occurred in hospitals of the Ministry of Health only.

Figure 96 : Most Common Causes of MOH Hospital Deaths
(Source: Annual Health Report 2019)



Oman National Cancer Registry
Directorate General of Primary Health Care
Ministry of Health
Sultanate of Oman

Request for Data from the Oman National Cancer Registry
All requests should be submitted to the attention of the Director,
Department of Non-Communicable Disease
DGPHC, Post Box 393, Area Code 100, Muscat, Sultanate of Oman
Tel: (968) 24946378 Fax: (968) 24946379

Date Submitted :

Name :

Department :

Institution :

Telephone No :

Fax No :

Information Requested:

(Specify patient population, Time period, Year/s, Anatomic site/Histology, Region / Wilayat etc.)

Purpose of Request:

(Specify presentation at conference/meeting/publication, clinical/epidemiological study, personal information, etc.)

Collaborators and Co-authors:

Ethical approval received..... : Yes / No

Requester's affirmation statement:

I hereby, the requester of the above data affirm that the data given to me by the Oman National Cancer Registry will be treated with utmost confidentiality in relation to patient's identity, I also affirm that the data given to me will not be presented or published by me or any of my collaborators as an original work but rather can be cited in my presentation and / or publication with acknowledgement to the ONCR.

Requester's signature :

Date :

For official use only:

Request :

Approved :

Denied :

Director of Non- Communicable Disease department Signature

Date :



Annex 2



SAMPLE OF OMAN NATIONAL CANCER REGISTRY FORM

To : Directorate General of Health Affairs Department of Non-Communicable Disease Surveillance & Control (DNCD)				DGHA, Muscat Tel.: 24696187, Fax : 24695480 E-mail : dep-ncd@moh.gov.om			
1. Cancer Registry No. (To be filled by the Cancer Registry)				2. Date of Registration (To be filled by the Cancer Registry)			
3. Patient Hospital File No.				4. Hospital Name			
5. Department of				6. Civil ID.			
7. First Name		8. Father's Name		9. Grandfather's Name		10. Tribe Name	
11. Sex ☐ 1-M ☐ 2-F ☐ 3-Unknown		12. Marital Status ☐ 1-Single ☐ 2-Married ☐ 3-Divorced ☐ 4-Widowed ☐ 5-Unknown		13. Age or D. of Birth		14. Nationality ☐ 1-Omani ☐ 2-Non-Omani (Specify) ☐ 3-Unknown	
15. Country of Birth		16. Religion ☐ 1-Muslim ☐ 2-Christian ☐ 3-Hindu ☐ 4-Jewish ☐ 5-Other ☐ 6-Not Known		17. Ethnic Group ☐ 1-Arab ☐ 2-Asian ☐ 3-Caucasian ☐ 4-Other ☐ 5-Not Known		18. Occupation	
Patient's Address Land Line				21. Wilayat			
19. Telephone Mobile				22. Village			
20. Other contact's Tel. No.				23. Date of First Diagnosis			
24. If PI had Biopsy given Lab. Biopsy Specimen No.				25. Primary Site of Cancer			
26. Histological type of Cancer				ICD-O-3 Code (ICD-O-3 Code will be filled by the Central Registry)			
27. Laterality ☐ 0-Not a Paired Site, Unknown or ill-defined Site ☐ 1-Right : Origin of Primary ☐ 2-Left : Origin of Primary ☐ 3-Bilateral Involvement ☐ 9-Paired Site, Laterality Unknown		28. Extent of Disease ☐ 0-In Situ ☐ 1-Localized ☐ 2-Regional by Direct Extension ☐ 3-Regional to Lymph Nodes ☐ 4-Regional (both 2,3) ☐ 5-Regional (not specified) ☐ 7-Distant Metastasis/Systemic Disease ☐ 8-Not applicable (e.g. Leukemias) ☐ 9-Unstaged, Unknown or Unspecified		29. Histologic Grading ☐ 1-Grade I : Well differentiated/Differentiated, NOS ☐ 2-Grade II : Moderately differentiated/Moderately well differentiated/ Intermediate differentiation ☐ 3-Grade III : Poorly differentiated ☐ 4-Grade IV : Undifferentiated anaplastic ☐ 5-T : Cell ☐ 6-B : Cell ☐ 7-Null Cell ☐ 8-Killer Cell ☐ 9-Grade or differentiation not determined, not stated or not applicable ☐ 10-Other's			
TNM Classification (Clinical)				31. N			
32. M				33. M			
34. Clinical (Stage)				35. Most valid basis of Diagnosis			
36. Treatment				37. Cause of Death			
38. Date of Death				39. Date of Last Contact			
39. Source of Information				Doctor's Name :			
Doctor's Signature :				Doctor's Designation :			
Date :				Department :			
Tumor Register :				Coding :			
(To be Filled by the Cancer Registry)				Entry :			

1. Send White copy to NCD Section, Fax : 24695480 2. Keep Pink Copy in Patient's Case Notes (File) 3. Send Blue Copy to Medical Records Dept.

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