2018

Qatar National Cancer Registry (QNCR)

سجل قطر الوطني للسرطان

Annual Report

التقرير السنوي

2018

2018

2018
Cancer Annual Report
State of Qatar

National Cancer Program
Qatar National Cancer Registry
Ministry of Public Health,
Qatar P.O. Box 42 Doha, Qatar
www.qcic.moph.gov.qa
qncr@moph.gov.qa
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DISCLAIMER

Information included in this report reflects the data at the time of closing the database for cleaning and analysis in March 2021. QNCR continues to receive more data and updates, so any missing or incomplete information, will be completed later on, and can be provided upon specific requests through an email to qncr@moph.gov.qa

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ABBREVIATIONS

ASR	Age Standardized Rate
ASIR	Age-Specific Incidence Rate
cTNM	Clinical Tumor Node Metastases stage
CTR	Certified Tumor Registrar
CNS	Central Nervous System
EMRO	Eastern Mediterranean Regional Office (World Health Organization)
GI	Gastro-Intestinal
HMC	Hamad Medical Corporation
ICD 10	International Classification of Disease 10th Revision
ICD O-3	International Classification of Disease for Oncology 3rd Revision
MDT	Multi-Disciplinary Team
MTA	Medical Treatment Abroad
NCCCR	National Center for Cancer Care and Research
NCP	National Cancer Program
NCS	National Cancer Strategy
NHS	National Health Strategy
PHCC	Primary Healthcare Corporation
QNCR	Qatar National Cancer Registry
MoPH	Ministry of Public Health

التقديم

يشكل السرطان تحديا عالميا ، لذلك يجب أن يستمر العمل على مكافحة هذا المرض من خلال الوعي العام أولا لدى عامة الناس، وثانيا من خلال تحديث أنظمة الرعاية بشكل مستمر ودعم البحوث الطبية التي تهدف إلى إيجاد العلاج لهذا المرض.

وتبرز أهمية البيانات من خلال الاعتماد المطلق عليها في مجالات التخطيط للبرامج الوطنية التي تغطي مجالات النوعية والكشف المبكر والعلاج والعناية التلطيفية، وقد أولت وزارة الصحة العامة في دولة قطر اهتمامها بالبيانات فقامت بإنشاء سجل قطر الوطني للسرطان عام 2014، والتزمت بضمان حصول السجل على كل الدعم لضمان التشغيل السليم والمستمر وتوفير بيانات عالية الجودة.

يسعدني اليوم أن أقدم إليكم تقرير الإصابة بالسرطان وأن أشارككم في تعداد حالات الإصابة بالسرطان للعام 2018 وانتشارها والنجاة من المرض في دولة قطر. الإصدار السنوي المستمر لهذا التقرير، والذي يتضمن بيانات وبائية عن السرطان، يضمن تخطيطاً وصنع سياسات معتمدة على البيانات، مما يضمن تحسين استراتيجياتنا الصحية وبرامج مكافحة السرطان والكشف عنه والوقاية منه.

أود أن أشكر الأفراد والمؤسسات الذين ساهموا في إصدار هذا التقرير. بشكل خاص مؤسسة حمد الطبية، لمساهمتها الكبيرة في البيانات، وجميع أصحاب المصلحة من الوزارة والقطاع الخاص، ونؤكد تقديرنا ودعمنا لفريق سجل قطر الوطني للسرطان والبرنامج الوطني للسرطان.

الشيخ د. محمد بن حمد آل ثاني

نائب رئيس اللجنة الوطنية للسرطان

مدير إدارة الصحة العامة

وزارة الصحة العامة

الملخص التنفيذي

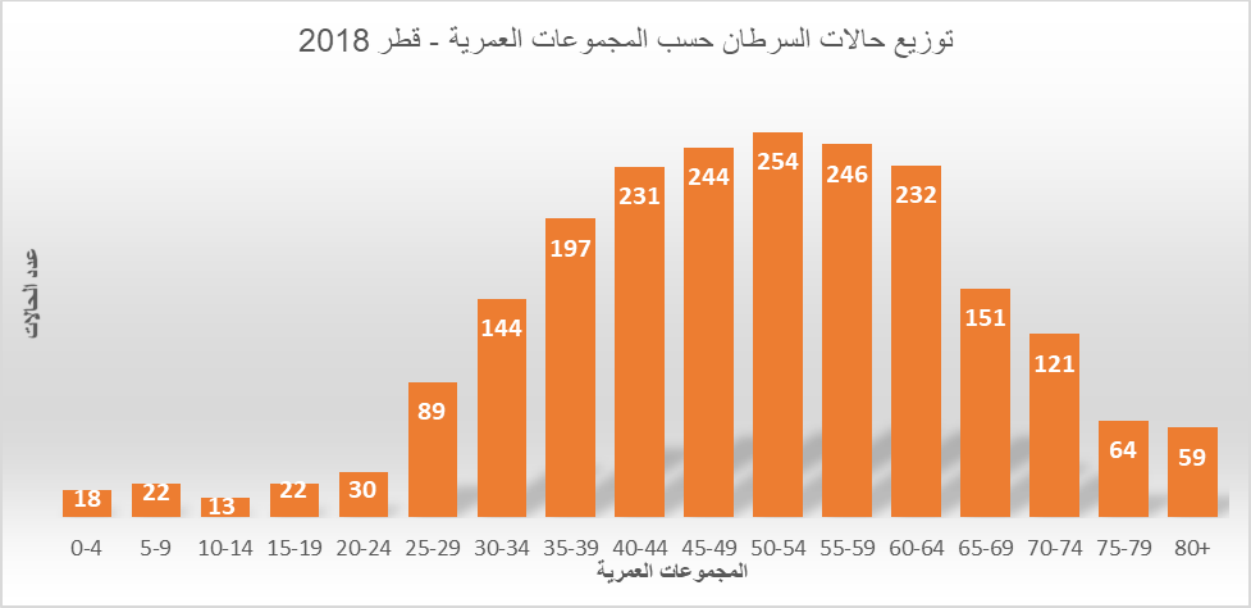
منذ تأسيسه عام 2014، يعكف سجل قطر الوطني للسرطان العامل في وزارة الصحة العامة، على تسجيل كافة حالات السرطان في دولة قطر والتي بلغ عدد سكانها عام 2018، مليونين وسبعمائة ألف نسمة.

خلال عام 2018، تم تسجيل 2136 حالة إصابة جديدة بالسرطان، والجدول أدناه يبين توزيع هذه الحالات حسب الجنسية والجنس:

السلوك السرطاني	قطري			غير قطري			المجموع الكلي
	المجموع	ذكور	إناث	المجموع	ذكور	إناث	
متعدي	372	161	211	1641	926	715	2013
موضعي	23	5	18	81	37	44	104
حميد (الدماغ والجهاز العصبي المركزي فقط)	1		1	11	6	5	12
غير محدد	4		4	4	2	2	8
المجموع الكلي	**400**	**166**	**234**	**1737**	**971**	**766**	**2137**

معدل الإصابة الخام وجد أنه 77.42 حالة لكل 100000 وأن المعدل المصحح للعمر كان بواقع 189.3 لكل 100000.

الرسم التوضيحي أدناه يبرز توزيع الحالات حسب المجموعات العمرية، ونلاحظ أن أكثر الحالات كانت في الفترة العمرية من 50 إلى 54



معدلات السرطان الأكثر انتشارا بين الجنسين

نظام الترميز الدولي 10	موضع السرطان	العدد	%
C50 / D05	الثدي	367	17.17%
C18-C21 / D01	القولون والمستقيم	201	9.41%
C73 / D09.3	الغدة الدرقية	123	5.76%
C91-C95	سرطان الدم (اللوكيميا)	112	5.71
C61 / D07.5	غدة البروستات	106	4.96%
C82-C85, C96	الليمفوما غير الهودجكونية	91	4.26%
C33-C34 / D02.1-D02.2	الرئة والقصبة الهوائية	90	4.21%
C67 / D09.0	المثانة	76	3.56%
C44 / D04	الجلد غير الميلانومي	75	3.51%
C22 / D01.5	الكبد والقناة الصفراء	73	3.42%

FOREWORD

Cancer is a global challenge; thus, work must continue to combat this disease through, first public awareness among the public, and second through continuous modernization of care systems and support for medical research aiming at finding a cure for this disease.

The importance of data is highlighted by the absolute reliance on it in the areas of planning for national public health programs that cover the areas of awareness, early detection, treatment, and palliative care. The Ministry of Public Health in the State of Qatar has paid attention to data and established the Qatar National Cancer Registry in 2014 and committed to ensuring that the registry receives all support to ensure proper and continuous operation and provision of high-quality data.

Today, I am pleased to present to you the cancer incidence report and to share with you the number of cancer cases for the year 2018, its prevalence and survival from disease in the State of Qatar. The ongoing annual release of this report, which includes epidemiological data on cancer, enhances data-driven planning and policy making, ensuring that our health strategies and cancer prevention, detection and control programs are improved.

I would like to thank the individuals and institutions who produced this report. Hamad Medical Corporation, for its significant contribution to data, and all other stakeholders from the Ministry and the private sector, we assure our appreciation and support for the Qatar National Cancer Registry team and the National Cancer Program.

Shk. Dr. Mohammad Bin Hamad Al Thani

Vice Chair, National Cancer Committee

Director of Public Health Department

Ministry of Public Health

ACKNOWLEDGEMENT

The Qatar Cancer Incidence Annual Report for 2016 was mainly edited by **Mr. Amid Abu Hmaidan**, Manager of the Cancer Registry.

Special thanks to **the Cancer Information Governance Board CIGB, Chaired by Dr. Al Hareth Al Khater**.

For their in-depth review and recommendations on the scientific content of the report.

Name	Institution
Dr. Al Hareth Al Khater	Hamad Medical Corporation – National Center for Cancer Care and Research (NCCCR)
Dr. Khalid Al Rumaihi	Hamad Medical Corporation – Ambulatory Care Center
Dr. Naima Al Mulla	Sidra Medicine – Pediatric Hematology and Oncology section
Dr. Ruba Taha	Hamad Medical Corporation – National Center for Cancer Care and Research (NCCCR)
Mr. Paul Halliday	Hamad Medical Corporation
Dr. Salha Bujassoum	Hamad Medical Corporation – National Center for Cancer Care and Research (NCCCR)
Ms. Rindai Magezah	Sidra Medicine - Research Governance
Dr. Mohammed Ussama Al Homsi	Hamad Medical Corporation – National Center for Cancer Care and Research (NCCCR)
Dr. Reem Jawad A A Al Sulaiman	Hamad Medical Corporation – National Center for Cancer Care and Research (NCCCR)
Ms. Khadra Abdi	Sidra Medicine - Institutional Review Board (IRB)

Deepest appreciation to all our colleagues for their major contribution to the data reporting and analysis:

Name	Institution
Mr. Rafael Tan Gani	Qatar National Cancer Registry QNCR Team at MOPH
Mr. Elias Mamo	
Ms. Esraa Al Abbadi	
Dr. Raza Abbas Hussain	Cancer Information Team - NCCCR
Mr. Rami Kamzoul	
Ms. Banurekha Starlin	
Ms. Anita Kasthuri Amudhavalli	
Mr. Prashant Dinkarrao Halde	Cancer Services Team - HMC
Dr. Ghalia Mohamed Ali Al-Harami	Relationship Management and Medical Treatment Abroad Department at MoPH
Dr. Nesrin Fouad Megahed	
Ms. Dheya Abdulla Al-Arabi	
Mr. Hameed Melan Kandy	
Mr. Shamseldin Ali Hassan Khalifa	Public Health Department at MoPH
Mr. Amine Bin Ali Toumi	
Ms. Parvaneh Amani	Al Emadi Hospital
Dr. Rafif Assadi	Al Ahli Hospital
Dr. Delaram Ardalan	Al Borg Laboratory
Ms. Hanan Abdulrehim	Doha Clinic
Ms. Cecile Benson	

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DATA MANAGEMENT

DENOMINATOR

Cancer incidence nominator covers all cases diagnosed with cancer in the State of Qatar excluding cases classified as “Visitors”, in addition to Qatari cases diagnosed abroad.

Whilst for the calculation of prevalence and survival, we considered the Qatari population only, for being a stable population, which allows a reasonable control on the information compared to non-Qatari population.

Only In situ and malignant cases are included, except for brain and central nervous system where all behaviors are included.

MATERIAL AND METHODS

DEFINITIONS

INCIDENCE[3]

Incidence is the number of new cases arising in a given period in a specified mid-year population. This information is collected routinely by cancer registries. It can be expressed as an absolute number of cases per year or as a rate per 100,000 persons per year (see Crude rate and ASR below).

MORTALITY[3]

Mortality is the number of deaths occurring in each period in a specified population. It can be expressed as an absolute number of deaths per year or as a rate per 100,000 persons per year.

PREVALENCE[3]

The prevalence of a particular cancer can be defined as the number of persons in a defined population who have been diagnosed with that type of cancer, and who are still alive at the end of a given year. Complete prevalence represents the number of persons alive at certain point in time who previously had a diagnosis of the disease, regardless of how long ago the diagnosis was, or if the patient is still under treatment or is considered cured. Partial prevalence, which limits the number of patients to those diagnosed during a fixed time in the past, is a particularly useful measure of cancer burden.

Prevalence is presented for the adult population only (ages 15 and over) and is available both as numbers and as proportions per 100,000 persons.

CRUDE RATE[3]

Data on incidence or mortality are often presented as rates. For a specific tumor and population, a crude rate is calculated simply by dividing the number of new cancers or cancer deaths observed during a given time period by the corresponding number of person years in the population at risk. For cancer, the result is usually expressed as an annual rate per 100,000 persons at risk.

AGE STANDARDIZED RATE ASR[3]

An age-standardized rate (ASR) is a summary measure of the rate that a population would have if it had a standard age structure. Standardization is necessary when comparing several populations that differ with respect to age because age has a powerful influence on the risk of cancer. The ASR is a weighted mean of the age-specific rates; the weights are taken from population distribution of the standard population. The most frequently used standard population is the World Standard Population. The calculated incidence or mortality rate is then called age-standardized incidence or mortality rate (world). It is also expressed per 100,000.

CUMULATIVE RISK[3]

Cumulative incidence/mortality is the probability or risk of individuals getting/dying from the disease during a specified period. For cancer, it is expressed as the number of newborn children (out of 100) who would be expected to develop/die from a particular cancer before the age of 75 if they had the rates of cancer observed in the period in the absence of competing causes.

EQUATIONS

CRUDE INCIDENCE RATE [1]

It is calculated according to the following equation:

$$Crude\ Incidence\ Rate\ = \frac{Total\ Number\ of\ cancer\ cases\ diagnosed\ in\ the\ given\ year}{Total\ Population\ in\ the\ same\ year} \times 100000$$

AGE-SPECIFIC INCIDENCE RATE ASIR

The Age-Specific Incidence Rate ASIR is calculated simply by dividing the number of cancer incidences observed in a given age category during a given time period by the corresponding number of person years in the population at risk in the same age category and time period. For cancer, the result is usually expressed as an annual rate per 100,000 person-years.

$$ASIR\ = \frac{Number\ of\ cancer\ cases\ diagnosed\ in\ the\ given\ age\ group}{Population\ at\ risk\ in\ the\ same\ age\ group} \times 100000$$

AGE STANDARDIZED RATE ASR[4]

It is calculated as

$$ASR\ = \sum ASIR\ \times Weight\ of\ Standard\ Population$$

The weight of standard population is calculated as follows

$$Weight\ = \frac{Standard\ population\ of\ a\ given\ age\ group}{Total\ standard\ population}$$

Table-1 represents the standard age-group population published by WHO.

Age Group	Population	Weight
0-4	88,569	0.088569
5 - 9	86,870	0.0868696
10 - 14	85,970	0.0859699
15 - 19	84,670	0.0846704
20 - 24	82,171	0.0821712
25 - 29	79,272	0.0792723
30 - 34	76,073	0.0760734
35 - 39	71,475	0.071475
40 - 44	65,877	0.0658769
45 - 49	60,379	0.0603789
50 - 54	53,681	0.0536812
55 - 59	45,484	0.0454841
60 - 64	37,187	0.037187
65 - 69	29,590	0.0295896
70 - 74	22,092	0.0220923
75 - 79	15,195	0.0151947
80 +	15,445	0.0154446
Total	100 000	1

Table 1: WHO Standard Population

THE CUMULATIVE RISK

The cumulative rate is expressed as

$$\text{The cumulative rate } = \sum_{i=1}^{A} ai\ ti$$

$$The\ Cumulative\ risk\ = 100\ \times [1 - \exp(cumulative\ rate/100)]$$

OVERALL CANCER INCIDENCE

2018

OVERALL CANCER INCIDENCE

EXECUTIVE SUMMARY

The Qatar National Cancer Registry (QNCR), at the Ministry of Public Health is the national cancer registry for the State of Qatar, with a population of 2,760. 170 in 2018.

During the year 2018, there were 2137 registered cancer cases, with a distribution of 19% Qataris, and 81% Non-Qataris. The following table describes the number of cases distributed by behavior, gender, and nationality:

Cancer Behavior	Non-Qatari			Qatari			Grand Total
	F	M	Total	F	M	Total	
Malignant, primary site (invasive)	715	926	1641	211	161	372	2013
Carcinoma in situ	44	37	81	18	5	23	104
Uncertain (Reportable for intracranial and CNS sites only)	5	6	11	1		1	12
Benign (Reportable for intracranial and CNS sites only)	2	2	4	4		4	8
Grand Total	**766**	**971**	**1737**	**234**	**166**	**400**	**2137**

Table 2: Number of cases distributed by behavior, gender, and nationality

Crude incidence rate was 77.42 per 100 000 and Age Standardized Rate ASR was 189.30 per 100 000 population at risk.

Distribution of cases by basis of diagnosis showed that 92.61% of the cases where microscopically confirmed:

Basis of Diagnosis	%	N
Positive histology	85.12%	1819
Positive cytology	7.30%	156
Radiology and other imaging techniques without microscopic confirmation	5.01%	107
Positive laboratory test/marker study	1.82%	39
Death Certificate Only	0.37%	8
Unknown whether or not microscopically confirmed	0.19%	4
Direct visualization without microscopic confirmation	0.14%	3
Clinical diagnosis only	0.05%	1
Grand Total	**100.00%**	**2137**

Table 3: Basis of Diagnosis

SEER Summary stage gives another view of the cancer incidence in the country.

SEER Summary Stage	N	%
Localized only	831	38.89%
Unknown if extension or metastasis (un-staged, unknown, or unspecified)	463	21.67%
Distant site(s)/node(s) involved	421	19.70%
Regional lymph nodes only	262	12.26%
In situ	105	4.91%
Regional by BOTH direct extension AND regional lymph nodes	28	1.31%
Regional by direct extension only	13	0.61%
Benign, borderline	10	0.47%
Regional, NOS	4	0.19%
Grand Total	**2137**	**100.00%**

Table 4: SEER Summary stage

Distribution by age group indicates that the peak of incidence was among the patients of the age 50-54:

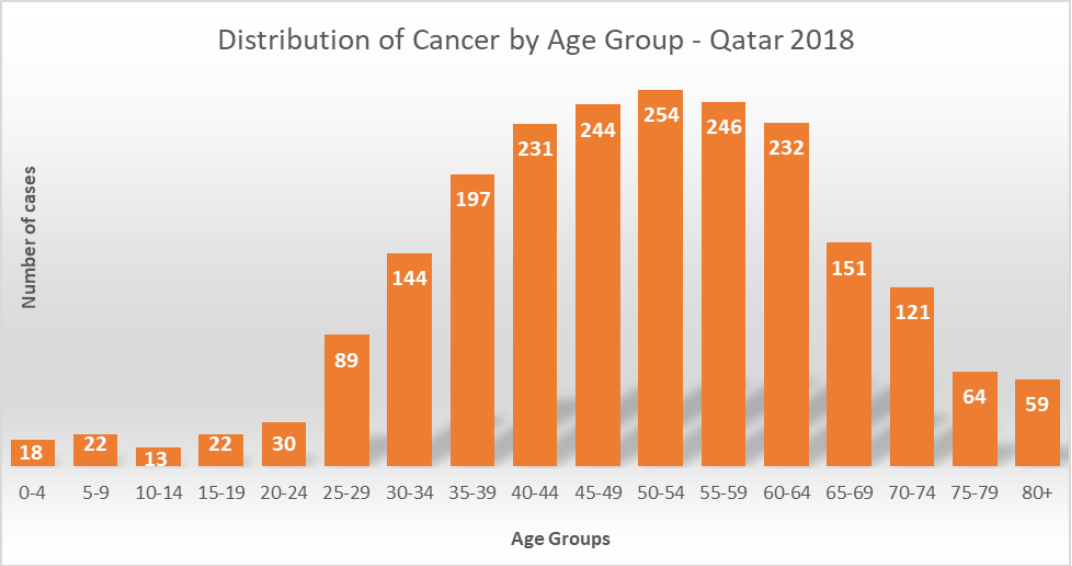

Figure 1: Distribution of cancer by age groups

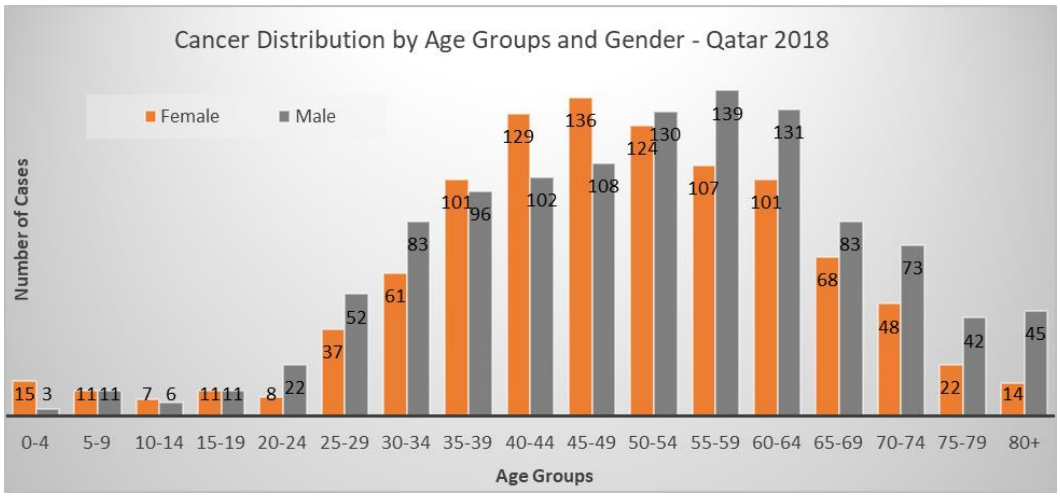

Figure 2:Distribution of cancer by age groups and gender

Regardless of the nationality and the gender, the following table presents the most common cancers diagnosed during 2018. Breast was the most common of all cancers with 17.17% of all cases, followed by colorectal (9.40% of the cases).

ICD 10 Codes	Primary Site	N	%
C50 / D05	Breast	367	17.17%
C18-C21 / D01	Colorectal	201	9.40%
C73 / D09.3	Thyroid gland	123	5.75%
C91-C95	Leukemia	122	5.71%
C61 / D07.5	Prostate	106	4.96%
C64-C66, C68 / D09.1	Urinary Tract	91	4.26%
C82-C86, C96	Non-Hodgkin Lymphoma	90	4.21%
C33-C34 / D02.1-D02.2	Trachea, bronchus and lung	88	4.12%
C67 / D09.0	Bladder	76	3.55%
C44 / D04	Non-Melanoma skin cancer	75	3.51%
C22 / D01.5	Liver and intrahepatic bile ducts	73	3.41%

Table 5: Most common cancers, all genders, and all nationalities

Age-Group (5 year)	Male		Female		All	
	N	ASIR	N	ASIR	N	ASIR
0-4	3	4.10	15	70396	18	12.55
5 - 9	11	15.89	11	67058	22	16.15
10 - 14	6	11.14	7	51614	13	12.33
15 - 19	11	23.08	11	37500	22	25.83
20 - 24	22	10.02	8	45170	30	11.34
25 - 29	52	14.31	37	90412	89	19.62
30 - 34	83	21.43	61	104314	144	29.29
35 - 39	96	31.09	101	85790	197	49.92
40 - 44	102	50.25	129	59944	231	87.86
45 - 49	108	75.95	136	38105	244	135.33
50 - 54	130	154.85	124	24445	254	234.33
55 - 59	139	271.69	107	15903	246	366.81
60 - 64	131	510.05	101	9377	232	661.70
65 - 69	83	830.25	68	4991	151	1007.47
70 - 74	73	1560.83	48	3048	121	1566.34
75 - 79	42	1630.43	22	1987	64	1402.59
80 +	45	1965.92	14	1910	59	1405.10
Total "N"	**2137**					
ASR per 100000 (WHO population)	**189.30**					
Crude incidence rate per 100000	**77.42**					
Cumulative Risk of Incidence [0-74]	**19.09**					

Table 6: Summary of cancer burden

CANCERS ACROSS ALL NATIONALITIES AND GENDERS

ICD 10 Code	ICD 10 Description	NON-Qatari						Qatari						Grand Total	
		F		M		Total		F		M		Total			
		N	%	N	%	N	%	N	%	N	%	N	%	N	%
C00-C97	All Sites	766	100.0%	971	100.0%	1737	100.0%	234	100.0%	166	100.0%	400	100.0%	2137	100.0%
C001	External lower lip		0.0%	2	0.2%	2	0.1%		0.0%		0.0%		0.0%	2	0.1%
C006	Commissure of lip		0.0%	1	0.1%	1	0.1%		0.0%		0.0%		0.0%	1	0.0%
C01	Malignant neoplasm of base of tongue		0.0%	1	0.1%	1	0.1%		0.0%		0.0%		0.0%	1	0.0%
C020	Dorsal surface of tongue		0.0%	1	0.1%	1	0.1%		0.0%		0.0%		0.0%	1	0.0%
C021	Tip of tongue	1	0.1%	11	1.1%	12	0.7%		0.0%		0.0%		0.0%	12	0.6%
C030	Upper gum		0.0%	1	0.1%	1	0.1%		0.0%		0.0%		0.0%	1	0.0%
C031	Lower gum		0.0%	2	0.2%	2	0.1%		0.0%		0.0%		0.0%	2	0.1%
C039	Gum, unspecified		0.0%	2	0.2%	2	0.1%		0.0%		0.0%		0.0%	2	0.1%
C060	Cheek mucosa	1	0.1%	9	0.9%	10	0.6%		0.0%		0.0%		0.0%	10	0.5%
C062	Retromolar area		0.0%	1	0.1%	1	0.1%		0.0%		0.0%		0.0%	1	0.0%
C07	Malignant neoplasm of parotid gland	5	0.7%	5	0.5%	10	0.6%	2	0.9%	1	0.6%	3	0.8%	13	0.6%
C080	Submandibular gland	1	0.1%	1	0.1%	2	0.1%		0.0%		0.0%		0.0%	2	0.1%
C099	Tonsil, unspecified	1	0.1%		0.0%	1	0.1%		0.0%		0.0%		0.0%	1	0.0%
C108	Overlapping lesion of oropharynx		0.0%	1	0.1%	1	0.1%		0.0%		0.0%		0.0%	1	0.0%
C109	Oropharynx, unspecified		0.0%	3	0.3%	3	0.2%		0.0%		0.0%		0.0%	3	0.1%
C110	Superior wall of nasopharynx		0.0%	1	0.1%	1	0.1%	1	0.4%		0.0%	1	0.3%	2	0.1%
C111	Posterior wall of nasopharynx		0.0%	2	0.2%	2	0.1%		0.0%		0.0%		0.0%	2	0.1%
C112	Lateral wall of nasopharynx	1	0.1%		0.0%	1	0.1%		0.0%		0.0%		0.0%	1	0.0%
C113	Anterior wall of nasopharynx		0.0%	1	0.1%	1	0.1%		0.0%		0.0%		0.0%	1	0.0%
C119	Nasopharynx, unspecified	1	0.1%	7	0.7%	8	0.5%		0.0%	2	1.2%	2	0.5%	10	0.5%
C139	Hypopharynx, unspecified		0.0%	2	0.2%	2	0.1%		0.0%		0.0%		0.0%	2	0.1%
C148	Overlapping lesion of lip, oral cavity and pharynx		0.0%	1	0.1%	1	0.1%		0.0%		0.0%		0.0%	1	0.0%
C154	Middle third of oesophagus	2	0.3%		0.0%	2	0.1%		0.0%		0.0%		0.0%	2	0.1%
C155	Lower third of oesophagus	1	0.1%	2	0.2%	3	0.2%	1	0.4%	1	0.6%	2	0.5%	5	0.2%
C159	Oesophagus, unspecified		0.0%	2	0.2%	2	0.1%	1	0.4%		0.0%	1	0.3%	3	0.1%
C160	Cardia	1	0.1%	7	0.7%	8	0.5%		0.0%	2	1.2%	2	0.5%	10	0.5%
C161	Fundus of stomach	1	0.1%	1	0.1%	2	0.1%	1	0.4%		0.0%	1	0.3%	3	0.1%
C162	Body of stomach	4	0.5%	2	0.2%	6	0.3%		0.0%	1	0.6%	1	0.3%	7	0.3%
C163	Pyloric antrum	3	0.4%	5	0.5%	8	0.5%		0.0%		0.0%		0.0%	8	0.4%
C165	Lesser curvature of stomach, unspecified		0.0%	1	0.1%	1	0.1%		0.0%		0.0%		0.0%	1	0.0%
C168	Overlapping lesion of stomach		0.0%		0.0%		0.0%	1	0.4%		0.0%	1	0.3%	1	0.0%
C169	Stomach, unspecified	10	1.3%	14	1.4%	24	1.4%	1	0.4%	4	2.4%	5	1.3%	29	1.4%

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C170	Duodenum	2	0.3%	4	0.4%	6	0.3%		0.0%		0.0%		0.0%	6	0.3%
C171	Jejunum		0.0%	2	0.2%	2	0.1%		0.0%	1	0.6%	1	0.3%	3	0.1%
C172	Ileum	2	0.3%	2	0.2%	4	0.2%		0.0%		0.0%		0.0%	4	0.2%
C179	Small intestine, unspecified		0.0%	1	0.1%	1	0.1%		0.0%		0.0%		0.0%	1	0.0%
C180	Caecum	1	0.1%	5	0.5%	6	0.3%	2	0.9%	3	1.8%	5	1.3%	11	0.5%
C181	Appendix	3	0.4%	8	0.8%	11	0.6%		0.0%		0.0%		0.0%	11	0.5%
C182	Ascending colon	4	0.5%	8	0.8%	12	0.7%	1	0.4%	1	0.6%	2	0.5%	14	0.7%
C183	Hepatic flexure	2	0.3%	2	0.2%	4	0.2%		0.0%	5	3.0%	5	1.3%	9	0.4%
C184	Transverse colon	3	0.4%	2	0.2%	5	0.3%	1	0.4%	2	1.2%	3	0.8%	8	0.4%
C185	Splenic flexure		0.0%	2	0.2%	2	0.1%		0.0%		0.0%		0.0%	2	0.1%
C186	Descending colon	4	0.5%	4	0.4%	8	0.5%	6	2.6%	1	0.6%	7	1.8%	15	0.7%
C187	Sigmoid colon	11	1.4%	18	1.9%	29	1.7%	7	3.0%	11	6.6%	18	4.5%	47	2.2%
C189	Colon, unspecified	4	0.5%	4	0.4%	8	0.5%		0.0%		0.0%		0.0%	8	0.4%
C19	Malignant neoplasm of rectosigmoid junction	6	0.8%	11	1.1%	17	1.0%	3	1.3%	2	1.2%	5	1.3%	22	1.0%
C20	Malignant neoplasm of rectum	7	0.9%	20	2.1%	27	1.6%	8	3.4%	8	4.8%	16	4.0%	43	2.0%
C211	Anal canal	2	0.3%	2	0.2%	4	0.2%		0.0%	2	1.2%	2	0.5%	6	0.3%
C218	Overlapping lesion of rectum, anus and anal canal	2	0.3%	2	0.2%	4	0.2%		0.0%	1	0.6%	1	0.3%	5	0.2%
C220	Liver cell carcinoma	5	0.7%	45	4.6%	50	2.9%	4	1.7%	13	7.8%	17	4.3%	67	3.1%
C221	Intrahepatic bile duct carcinoma	1	0.1%	1	0.1%	2	0.1%		0.0%		0.0%		0.0%	2	0.1%
C224	Other sarcomas of liver		0.0%	1	0.1%	1	0.1%		0.0%		0.0%		0.0%	1	0.0%
C227	Other specified carcinomas of liver		0.0%		0.0%		0.0%	1	0.4%		0.0%	1	0.3%	1	0.0%
C229	Liver, unspecified		0.0%	1	0.1%	1	0.1%	1	0.4%		0.0%	1	0.3%	2	0.1%
C23	Malignant neoplasm of gallbladder	2	0.3%	4	0.4%	6	0.3%		0.0%		0.0%		0.0%	6	0.3%
C240	Extrahepatic bile duct	2	0.3%	7	0.7%	9	0.5%	1	0.4%	1	0.6%	2	0.5%	11	0.5%
C241	Ampulla of Vater		0.0%	9	0.9%	9	0.5%		0.0%	1	0.6%	1	0.3%	10	0.5%
C250	Head of pancreas	3	0.4%	14	1.4%	17	1.0%	2	0.9%	1	0.6%	3	0.8%	20	0.9%
C251	Body of pancreas	1	0.1%	2	0.2%	3	0.2%		0.0%		0.0%		0.0%	3	0.1%
C252	Tail of pancreas	2	0.3%	3	0.3%	5	0.3%	1	0.4%	1	0.6%	2	0.5%	7	0.3%
C257	Other parts of pancreas		0.0%	1	0.1%	1	0.1%		0.0%		0.0%		0.0%	1	0.0%
C258	Overlapping lesion of pancreas	1	0.1%		0.0%	1	0.1%		0.0%		0.0%		0.0%	1	0.0%
C259	Pancreas, unspecified	2	0.3%	5	0.5%	7	0.4%		0.0%	2	1.2%	2	0.5%	9	0.4%
C269	Ill-defined sites within the digestive system		0.0%	1	0.1%	1	0.1%		0.0%		0.0%		0.0%	1	0.0%
C300	Nasal cavity		0.0%	2	0.2%	2	0.1%		0.0%		0.0%		0.0%	2	0.1%
C310	Maxillary sinus		0.0%	1	0.1%	1	0.1%		0.0%	1	0.6%	1	0.3%	2	0.1%
C320	Glottis		0.0%	1	0.1%	1	0.1%		0.0%		0.0%		0.0%	1	0.0%
C321	Supraglottis	1	0.1%	2	0.2%	3	0.2%		0.0%		0.0%		0.0%	3	0.1%
C323	Laryngeal cartilage		0.0%	1	0.1%	1	0.1%		0.0%		0.0%		0.0%	1	0.0%

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C329	Larynx, unspecified		0.0%		0.0%		0.0%		0.0%	1	0.6%	1	0.3%	1	0.0%
C340	Main bronchus		0.0%	4	0.4%	4	0.2%		0.0%		0.0%		0.0%	4	0.2%
C341	Upper lobe, bronchus or lung	1	0.1%	21	2.2%	22	1.3%		0.0%	4	2.4%	4	1.0%	26	1.2%
C342	Middle lobe, bronchus or lung	1	0.1%	3	0.3%	4	0.2%		0.0%		0.0%		0.0%	4	0.2%
C343	Lower lobe, bronchus or lung	3	0.4%	15	1.5%	18	1.0%		0.0%	2	1.2%	2	0.5%	20	0.9%
C349	Bronchus or lung, unspecified	8	1.0%	17	1.8%	25	1.4%	1	0.4%	8	4.8%	9	2.3%	34	1.6%
C37	Malignant neoplasm of thymus	1	0.1%	1	0.1%	2	0.1%		0.0%		0.0%		0.0%	2	0.1%
C380	Heart		0.0%	1	0.1%	1	0.1%		0.0%		0.0%		0.0%	1	0.0%
C381	Anterior mediastinum		0.0%	2	0.2%	2	0.1%		0.0%		0.0%		0.0%	2	0.1%
C383	Mediastinum, part unspecified		0.0%	1	0.1%	1	0.1%		0.0%		0.0%		0.0%	1	0.0%
C384	Pleura	1	0.1%	1	0.1%	2	0.1%		0.0%		0.0%		0.0%	2	0.1%
C400	Scapula and long bones of upper limb	1	0.1%		0.0%	1	0.1%		0.0%		0.0%		0.0%	1	0.0%
C402	Long bones of lower limb	4	0.5%	3	0.3%	7	0.4%		0.0%	1	0.6%	1	0.3%	8	0.4%
C403	Short bones of lower limb		0.0%	1	0.1%	1	0.1%		0.0%		0.0%		0.0%	1	0.0%
C414	Pelvic bones, sacrum and coccyx		0.0%	1	0.1%	1	0.1%		0.0%		0.0%		0.0%	1	0.0%
C419	Bone and articular cartilage, unspecified		0.0%	4	0.4%	4	0.2%		0.0%	1	0.6%	1	0.3%	5	0.2%
C433	Malignant melanoma of other and unspecified parts of face		0.0%	1	0.1%	1	0.1%		0.0%		0.0%		0.0%	1	0.0%
C434	Malignant melanoma of scalp and neck	2	0.3%	2	0.2%	4	0.2%		0.0%		0.0%		0.0%	4	0.2%
C435	Malignant melanoma of trunk	2	0.3%	4	0.4%	6	0.3%		0.0%		0.0%		0.0%	6	0.3%
C436	Malignant melanoma of upper limb, including shoulder	1	0.1%	1	0.1%	2	0.1%		0.0%		0.0%		0.0%	2	0.1%
C437	Malignant melanoma of lower limb, including hip	3	0.4%	1	0.1%	4	0.2%		0.0%		0.0%		0.0%	4	0.2%
C439	Malignant melanoma of skin, unspecified	1	0.1%	1	0.1%	2	0.1%		0.0%		0.0%		0.0%	2	0.1%
C440	Skin of lip		0.0%	1	0.1%	1	0.1%		0.0%		0.0%		0.0%	1	0.0%
C441	Skin of eyelid, including canthus	1	0.1%	2	0.2%	3	0.2%		0.0%		0.0%		0.0%	3	0.1%
C442	Skin of ear and external auricular canal		0.0%	5	0.5%	5	0.3%		0.0%	1	0.6%	1	0.3%	6	0.3%
C443	Skin of other and unspecified parts of face	12	1.6%	16	1.6%	28	1.6%		0.0%	1	0.6%	1	0.3%	29	1.4%
C444	Skin of scalp and neck	2	0.3%	4	0.4%	6	0.3%		0.0%		0.0%		0.0%	6	0.3%
C445	Skin of trunk	6	0.8%	3	0.3%	9	0.5%		0.0%		0.0%		0.0%	9	0.4%
C446	Skin of upper limb, including shoulder	1	0.1%	5	0.5%	6	0.3%		0.0%		0.0%		0.0%	6	0.3%

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C447	Skin of lower limb, including hip	1	0.1%	6	0.6%	7	0.4%		0.0%		0.0%		0.0%	7	0.3%
C448	Overlapping lesion of skin	1	0.1%	1	0.1%	2	0.1%		0.0%		0.0%		0.0%	2	0.1%
C449	Malignant neoplasm of skin, unspecified		0.0%	4	0.4%	4	0.2%		0.0%		0.0%		0.0%	4	0.2%
C450	Mesothelioma of pleura		0.0%	1	0.1%	1	0.1%		0.0%		0.0%		0.0%	1	0.0%
C460	Kaposi sarcoma of skin	1	0.1%		0.0%	1	0.1%		0.0%		0.0%		0.0%	1	0.0%
C480	Retroperitoneum	1	0.1%	5	0.5%	6	0.3%		0.0%		0.0%		0.0%	6	0.3%
C482	Peritoneum, unspecified		0.0%	1	0.1%	1	0.1%		0.0%		0.0%		0.0%	1	0.0%
C490	Connective and soft tissue of head, face and neck	3	0.4%	4	0.4%	7	0.4%		0.0%		0.0%		0.0%	7	0.3%
C491	Connective and soft tissue of upper limb, including shoulder		0.0%	4	0.4%	4	0.2%		0.0%		0.0%		0.0%	4	0.2%
C492	Connective and soft tissue of lower limb, including hip	2	0.3%	3	0.3%	5	0.3%	1	0.4%		0.0%	1	0.3%	6	0.3%
C494	Connective and soft tissue of abdomen		0.0%	1	0.1%	1	0.1%	1	0.4%		0.0%	1	0.3%	2	0.1%
C495	Connective and soft tissue of pelvis		0.0%	2	0.2%	2	0.1%		0.0%		0.0%		0.0%	2	0.1%
C496	Connective and soft tissue of trunk, unspecified		0.0%	1	0.1%	1	0.1%		0.0%		0.0%		0.0%	1	0.0%
C500	Nipple and areola		0.0%		0.0%		0.0%	1	0.4%		0.0%	1	0.3%	1	0.0%
C501	Central portion of breast		0.0%		0.0%		0.0%	1	0.4%		0.0%	1	0.3%	1	0.0%
C502	Upper-inner quadrant of breast	10	1.3%		0.0%	10	0.6%	8	3.4%		0.0%	8	2.0%	18	0.8%
C503	Lower-inner quadrant of breast	18	2.3%		0.0%	18	1.0%	5	2.1%		0.0%	5	1.3%	23	1.1%
C504	Upper-outer quadrant of breast	7	0.9%		0.0%	7	0.4%	1	0.4%		0.0%	1	0.3%	8	0.4%
C505	Lower-outer quadrant of breast	98	12.8%	2	0.2%	100	5.8%	31	13.2%		0.0%	31	7.8%	131	6.1%
C506	Axillary tail of breast	19	2.5%	1	0.1%	20	1.2%	4	1.7%		0.0%	4	1.0%	24	1.1%
C508	Overlapping lesion of breast	3	0.4%		0.0%	3	0.2%		0.0%		0.0%		0.0%	3	0.1%
C509	Breast, unspecified	4	0.5%		0.0%	4	0.2%		0.0%		0.0%		0.0%	4	0.2%
C530	Endocervix	101	13.2%	3	0.3%	104	6.0%	30	12.8%	1	0.6%	31	7.8%	135	6.3%
C538	Overlapping lesion of cervix uteri	1	0.1%		0.0%	1	0.1%		0.0%		0.0%		0.0%	1	0.0%
C539	Cervix uteri, unspecified	1	0.1%		0.0%	1	0.1%		0.0%		0.0%		0.0%	1	0.0%
C540	Isthmus uteri	32	4.2%		0.0%	32	1.8%		0.0%		0.0%		0.0%	32	1.5%
C541	Endometrium	1	0.1%		0.0%	1	0.1%		0.0%		0.0%		0.0%	1	0.0%
C55	Malignant neoplasm of uterus, part unspecified	42	5.5%		0.0%	42	2.4%	15	6.4%		0.0%	15	3.8%	57	2.7%
C56	Malignant neoplasm of ovary	5	0.7%		0.0%	5	0.3%	1	0.4%		0.0%	1	0.3%	6	0.3%
C578	Overlapping lesion of female genital organs	29	3.8%		0.0%	29	1.7%	6	2.6%		0.0%	6	1.5%	35	1.6%
C609	Penis, unspecified	1	0.1%		0.0%	1	0.1%		0.0%		0.0%		0.0%	1	0.0%
C61	Malignant neoplasm of prostate		0.0%	3	0.3%	3	0.2%		0.0%		0.0%		0.0%	3	0.1%

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C629	Testis, unspecified		0.0%	88	9.1%	88	5.1%		0.0%	18	10.8%	18	4.5%	106	5.0%
C637	Other specified male genital organs		0.0%	17	1.8%	17	1.0%		0.0%	1	0.6%	1	0.3%	18	0.8%
C64	Malignant neoplasm of kidney, except renal pelvis		0.0%	1	0.1%	1	0.1%		0.0%		0.0%		0.0%	1	0.0%
C65	Malignant neoplasm of renal pelvis	13	1.7%	63	6.5%	76	4.4%	3	1.3%	8	4.8%	11	2.8%	87	4.1%
C66	Malignant neoplasm of ureter	1	0.1%	1	0.1%	2	0.1%		0.0%		0.0%		0.0%	2	0.1%
C670	Trigone of bladder		0.0%	1	0.1%	1	0.1%		0.0%		0.0%		0.0%	1	0.0%
C672	Lateral wall of bladder		0.0%	1	0.1%	1	0.1%		0.0%		0.0%		0.0%	1	0.0%
C674	Posterior wall of bladder	2	0.3%	6	0.6%	8	0.5%		0.0%	2	1.2%	2	0.5%	10	0.5%
C678	Overlapping lesion of bladder	1	0.1%	3	0.3%	4	0.2%		0.0%	2	1.2%	2	0.5%	6	0.3%
C679	Bladder, unspecified		0.0%	1	0.1%	1	0.1%		0.0%		0.0%		0.0%	1	0.0%
C680	Urethra	2	0.3%	12	1.2%	14	0.8%	1	0.4%	2	1.2%	3	0.8%	17	0.8%
C692	Retina		0.0%	1	0.1%	1	0.1%		0.0%		0.0%		0.0%	1	0.0%
C695	Lacrimal gland and duct		0.0%	1	0.1%	1	0.1%		0.0%		0.0%		0.0%	1	0.0%
C696	Orbit	1	0.1%		0.0%	1	0.1%		0.0%		0.0%		0.0%	1	0.0%
C700	Cerebral meninges		0.0%		0.0%		0.0%		0.0%	1	0.6%	1	0.3%	1	0.0%
C709	Meninges, unspecified	1	0.1%		0.0%	1	0.1%	3	1.3%		0.0%	3	0.8%	4	0.2%
C710	Cerebrum, except lobes and ventricles	1	0.1%	2	0.2%	3	0.2%		0.0%		0.0%		0.0%	3	0.1%
C711	Frontal lobe	1	0.1%		0.0%	1	0.1%		0.0%		0.0%		0.0%	1	0.0%
C712	Temporal lobe		0.0%	3	0.3%	3	0.2%		0.0%		0.0%		0.0%	3	0.1%
C716	Cerebellum	1	0.1%	2	0.2%	3	0.2%		0.0%		0.0%		0.0%	3	0.1%
C717	Brain stem	2	0.3%		0.0%	2	0.1%	1	0.4%	1	0.6%	2	0.5%	4	0.2%
C719	Brain, unspecified	2	0.3%		0.0%	2	0.1%		0.0%	1	0.6%	1	0.3%	3	0.1%
C720	Spinal cord	6	0.8%	25	2.6%	31	1.8%	1	0.4%	2	1.2%	3	0.8%	34	1.6%
C725	Other and unspecified cranial nerves		0.0%	1	0.1%	1	0.1%		0.0%		0.0%		0.0%	1	0.0%
C73	Malignant neoplasm of thyroid gland		0.0%	1	0.1%	1	0.1%		0.0%		0.0%		0.0%	1	0.0%
C740	Cortex of adrenal gland	57	7.4%	36	3.7%	93	5.4%	25	10.7%	4	2.4%	29	7.3%	122	5.7%
C749	Adrenal gland, unspecified	1	0.1%		0.0%	1	0.1%	2	0.9%		0.0%	2	0.5%	3	0.1%
C753	Pineal gland	1	0.1%	5	0.5%	6	0.3%		0.0%	1	0.6%	1	0.3%	7	0.3%
C761	Thorax		0.0%	2	0.2%	2	0.1%		0.0%		0.0%		0.0%	2	0.1%
C763	Pelvis		0.0%	1	0.1%	1	0.1%		0.0%		0.0%		0.0%	1	0.0%
C764	Upper limb	1	0.1%		0.0%	1	0.1%		0.0%		0.0%		0.0%	1	0.0%
C770	Lymph nodes of head, face and neck		0.0%	1	0.1%	1	0.1%		0.0%		0.0%		0.0%	1	0.0%
C774	Inguinal and lower limb lymph nodes		0.0%	1	0.1%	1	0.1%		0.0%		0.0%		0.0%	1	0.0%
C809	Malignant neoplasm, primary site unspecified		0.0%	1	0.1%	1	0.1%		0.0%		0.0%		0.0%	1	0.0%
C811	Nodular sclerosis (classical) Hodgkin lymphoma		0.0%	2	0.2%	2	0.1%	1	0.4%		0.0%	1	0.3%	3	0.1%

ICD 10 Code	ICD 10 Description	NON-Qatari						Qatari						Grand Total	
		F		M		Total		F		M		Total			
		N	%	N	%	N	%	N	%	N	%	N	%	N	%
C812	Mixed cellularity (classical) Hodgkin lymphoma	9	1.2%	12	1.2%	21	1.2%	1	0.4%	2	1.2%	3	0.8%	24	1.1%
C814	Lymphocyte-rich (classical) Hodgkin lymphoma	3	0.4%	7	0.7%	10	0.6%		0.0%	2	1.2%	2	0.5%	12	0.6%
C819	Hodgkin lymphoma, unspecified	2	0.3%	1	0.1%	3	0.2%	1	0.4%		0.0%	1	0.3%	4	0.2%
C820	Follicular lymphoma grade I	3	0.4%	3	0.3%	6	0.3%	1	0.4%		0.0%	1	0.3%	7	0.3%
C821	Follicular lymphoma grade II	1	0.1%	1	0.1%	2	0.1%		0.0%		0.0%		0.0%	2	0.1%
C822	Follicular lymphoma grade III, unspecified	1	0.1%	3	0.3%	4	0.2%	1	0.4%		0.0%	1	0.3%	5	0.2%
C829	Follicular lymphoma, unspecified	1	0.1%		0.0%	1	0.1%		0.0%	1	0.6%	1	0.3%	2	0.1%
C830	Small cell B-cell lymphoma	1	0.1%		0.0%	1	0.1%	1	0.4%		0.0%	1	0.3%	2	0.1%
C831	Mantle cell lymphoma		0.0%	2	0.2%	2	0.1%		0.0%		0.0%		0.0%	2	0.1%
C833	Diffuse large B-cell lymphoma	2	0.3%	1	0.1%	3	0.2%		0.0%		0.0%		0.0%	3	0.1%
C835	Lymphoblastic (diffuse) lymphoma	14	1.8%	29	3.0%	43	2.5%	4	1.7%	3	1.8%	7	1.8%	50	2.3%
C837	Burkitt lymphoma		0.0%	3	0.3%	3	0.2%		0.0%	1	0.6%	1	0.3%	4	0.2%
C839	Non-follicular (diffuse) lymphoma, unspecified	2	0.3%	2	0.2%	4	0.2%		0.0%	1	0.6%	1	0.3%	5	0.2%
C844	Peripheral T-cell lymphoma, not elsewhere classified		0.0%		0.0%		0.0%		0.0%	1	0.6%	1	0.3%	1	0.0%
C846	Anaplastic large cell lymphoma, ALK-positive	1	0.1%	2	0.2%	3	0.2%		0.0%	1	0.6%	1	0.3%	4	0.2%
C852	Mediastinal (thymic) large B-cell lymphoma		0.0%	1	0.1%	1	0.1%		0.0%	1	0.6%	1	0.3%	2	0.1%
C859	Non-Hodgkin lymphoma, unspecified		0.0%	1	0.1%	1	0.1%		0.0%		0.0%		0.0%	1	0.0%
C860	Extranodal NK/T-cell lymphoma, nasal type	1	0.1%	2	0.2%	3	0.2%		0.0%		0.0%		0.0%	3	0.1%
C861	Hepatosplenic T-cell lymphoma		0.0%	1	0.1%	1	0.1%		0.0%		0.0%		0.0%	1	0.0%
C865	Angioimmunoblastic T-cell lymphoma	1	0.1%		0.0%	1	0.1%		0.0%		0.0%		0.0%	1	0.0%
C884	Extranodal marginal zone B-cell lymphoma of mucosa-associated lymphoid tissue [MALT-lyphoma]		0.0%	1	0.1%	1	0.1%		0.0%		0.0%		0.0%	1	0.0%
C900	Multiple myeloma	1	0.1%	6	0.6%	7	0.4%	1	0.4%		0.0%	1	0.3%	8	0.4%
C910	Acute lymphoblastic leukemia [ALL]	7	0.9%	14	1.4%	21	1.2%	4	1.7%	3	1.8%	7	1.8%	28	1.3%
C911	Chronic lymphocytic leukemia of B-cell type	6	0.8%	14	1.4%	20	1.2%	4	1.7%	1	0.6%	5	1.3%	25	1.2%
C915	Adult T-cell lymphoma/leukemia [HTLV-1-associated]	5	0.7%	11	1.1%	16	0.9%		0.0%	2	1.2%	2	0.5%	18	0.8%

ICD 10 Code	ICD 10 Description	NON-Qatari						Qatari						Grand Total	
		F		M		Total		F		M		Total			
		N	%	N	%	N	%	N	%	N	%	N	%	N	%
C918	Mature B-cell leukemia Burkitt-type	2	0.3%		0.0%	2	0.1%		0.0%		0.0%		0.0%	2	0.1%
C920	Acute myeloblastic leukemia [AML]	1	0.1%	2	0.2%	3	0.2%		0.0%		0.0%		0.0%	3	0.1%
C921	Chronic myeloid leukemia [CML], BCR/ABL-positive	4	0.5%	17	1.8%	21	1.2%	2	0.9%	3	1.8%	5	1.3%	26	1.2%
C924	Acute promyelocytic leukemia [PML]	3	0.4%	23	2.4%	26	1.5%		0.0%	3	1.8%	3	0.8%	29	1.4%
C927	Other myeloid leukemia		0.0%	13	1.3%	13	0.7%		0.0%		0.0%		0.0%	13	0.6%
C928	Acute myeloid leukemia with multilineage dysplasia		0.0%		0.0%		0.0%	1	0.4%		0.0%	1	0.3%	1	0.0%
C944	Acute panmyelosis with myelofibrosis		0.0%	1	0.1%	1	0.1%		0.0%		0.0%		0.0%	1	0.0%
C959	Leukemia, unspecified		0.0%	2	0.2%	2	0.1%		0.0%		0.0%		0.0%	2	0.1%
D020	Malignant neoplasms of independent (primary) multiple sites		0.0%	1	0.1%	1	0.1%	1	0.4%		0.0%	1	0.3%	2	0.1%
D032	Malignant neoplasms of independent (primary) multiple sites		0.0%	1	0.1%	1	0.1%		0.0%		0.0%		0.0%	1	0.0%
D033	Malignant neoplasms of independent (primary) multiple sites	1	0.1%		0.0%	1	0.1%		0.0%		0.0%		0.0%	1	0.0%
D035	Malignant neoplasms of independent (primary) multiple sites		0.0%	1	0.1%	1	0.1%		0.0%		0.0%		0.0%	1	0.0%
D05	Malignant neoplasms of independent (primary) multiple sites		0.0%	1	0.1%	1	0.1%		0.0%		0.0%		0.0%	1	0.0%
D050	Malignant neoplasms of independent (primary) multiple sites	12	1.6%	2	0.2%	14	0.8%	5	2.1%		0.0%	5	1.3%	19	0.9%
D051	Malignant neoplasms of independent (primary) multiple sites	5	0.7%		0.0%	5	0.3%	1	0.4%		0.0%	1	0.3%	6	0.3%
D057	Malignant neoplasms of independent (primary) multiple sites	1	0.1%		0.0%	1	0.1%	1	0.4%		0.0%	1	0.3%	2	0.1%
D090	Bladder	7	0.9%		0.0%	7	0.4%	2	0.9%		0.0%	2	0.5%	9	0.4%
D430	Brain, supratentorial	5	0.7%	29	3.0%	34	2.0%	2	0.9%	5	3.0%	7	1.8%	41	1.9%
D432	Brain, unspecified		0.0%	1	0.1%	1	0.1%		0.0%		0.0%		0.0%	1	0.0%
D45	Polycythaemia vera	4	0.5%	3	0.3%	7	0.4%		0.0%	1	0.6%	1	0.3%	8	0.4%

ICD 10 Code	ICD 10 Description	NON-Qatari						Qatari						Grand Total	
		F		M		Total		F		M		Total			
		N	%	N	%	N	%	N	%	N	%	N	%	N	%
D469	Myelodysplastic syndrome, unspecified	3	0.4%	3	0.3%	6	0.3%	3	1.3%	2	1.2%	5	1.3%	11	0.5%
D471	Chronic myeloproliferative disease		0.0%		0.0%		0.0%		0.0%	1	0.6%	1	0.3%	1	0.0%
D473	Essential (hemorrhagic) thrombocythemia	2	0.3%	5	0.5%	7	0.4%	1	0.4%		0.0%	1	0.3%	8	0.4%
D474	Osteomyelofibrosis	7	0.9%	6	0.6%	13	0.7%		0.0%	1	0.6%	1	0.3%	14	0.7%
D479	Neoplasm of uncertain or unknown behaviour of lymphoid, haematopoietic and related tissue, unspecified		0.0%	4	0.4%	4	0.2%		0.0%		0.0%		0.0%	4	0.2%
D466	Myelodysplastic syndrome with isolated del(5q) chromosomal abnormality		0.0%	1	0.1%	1	0.1%		0.0%		0.0%		0.0%	1	0.0%
D42	Neoplasm of uncertain or unknown behaviour of meninges		0.0%		0.0%		0.0%	1	0.4%		0.0%	1	0.3%	1	0.0%
C76	Malignant neoplasm of other and ill-defined sites		0.0%	1	0.1%	1	0.1%		0.0%		0.0%		0.0%	1	0.0%
D047	Malignant neoplasms of independent (primary) multiple sites	2	0.3%	3	0.3%	5	0.3%		0.0%		0.0%		0.0%	5	0.2%
D060	Malignant neoplasms of independent (primary) multiple sites		0.0%	1	0.1%	1	0.1%		0.0%		0.0%		0.0%	1	0.0%
D06	Malignant neoplasms of independent (primary) multiple sites	1	0.1%		0.0%	1	0.1%		0.0%		0.0%		0.0%	1	0.0%
D000	Malignant neoplasms of independent (primary) multiple sites	2	0.3%		0.0%	2	0.1%		0.0%		0.0%		0.0%	2	0.1%
D043	Malignant neoplasms of independent (primary) multiple sites	9	1.2%		0.0%	9	0.5%	7	3.0%		0.0%	7	1.8%	16	0.7%
D092	Eye		0.0%	1	0.1%	1	0.1%		0.0%		0.0%		0.0%	1	0.0%
D093	Thyroid and other endocrine glands	1	0.1%		0.0%	1	0.1%		0.0%		0.0%		0.0%	1	0.0%
C49	Malignant neoplasm of other connective and soft tissue		0.0%	1	0.1%	1	0.1%		0.0%		0.0%		0.0%	1	0.0%
C866	Primary cutaneous CD30-positive T-cell proliferations		0.0%	1	0.1%	1	0.1%		0.0%		0.0%		0.0%	1	0.0%

Table 7: Comprehensive table of cancers across all nationalities and gender

MOST COMMON CANCER IN MALES

The most common cancer in males was colorectal cancer with 10.90% of the registered male cancer cases, followed by prostate cancer with 9.31%.

ICD 10 Codes	Primary Site	N	%
C18-C21 / D01	Colorectal	124	10.90%
C61 / D07.5	Prostate	106	9.31%
C91-C95	Leukemia	93	8.17%
C64-C66, C68 / D09.1	Urinary Tract	74	6.50%
C33-C34 / D02.1-D02.2	Trachea, bronchus and lung	74	6.50%
C67 / D09.0	Bladder	63	5.54%
C22 / D01.5	Liver and intrahepatic bile ducts	61	5.36%
C82-C86, C96	Non-Hodgkin Lymphoma	58	5.10%
C44 / D04	Non-Melanoma skin cancer	49	4.31%
C70-C72	Brain & CNS	44	3.87%
C73 / D09.3	Thyroid gland	41	3.60%

Table 8: Most common cancers in males of all nationalities

MOST COMMON CANCER IN FEMALES

Breast cancer was the most common cancer with 35.89% of the registered female cancer cases. Thyroid gland cancer was the second most common with 8.18%

ICD 10 Codes	Primary Site	N	%
C50 / D05	Breast	358	35.80%
C73 / D09.3	Thyroid gland	82	8.20%
C18-C21 / D01	Colorectal	77	7.70%
C54-C55 / D07.0	Uterus	64	6.40%
C53 / D06	Cervix uteri	52	5.20%
C56	Ovary	35	3.50%
C82-C86, C96	Non-Hodgkin Lymphoma	32	3.20%
C91-C95	Leukemia	29	2.90%
C44 / D04	Non-Melanoma skin cancer	26	2.60%
C70-C72	Brain & CNS	23	2.30%

Table 9: Most common cancers in females of all nationalities

DISTRIBUTION BY NATIONALITY

When distributed according to nationality, 400 (18.72%) new cases of cancer were Qataris and 1737 (81.28%) new cases were Non-Qataris.

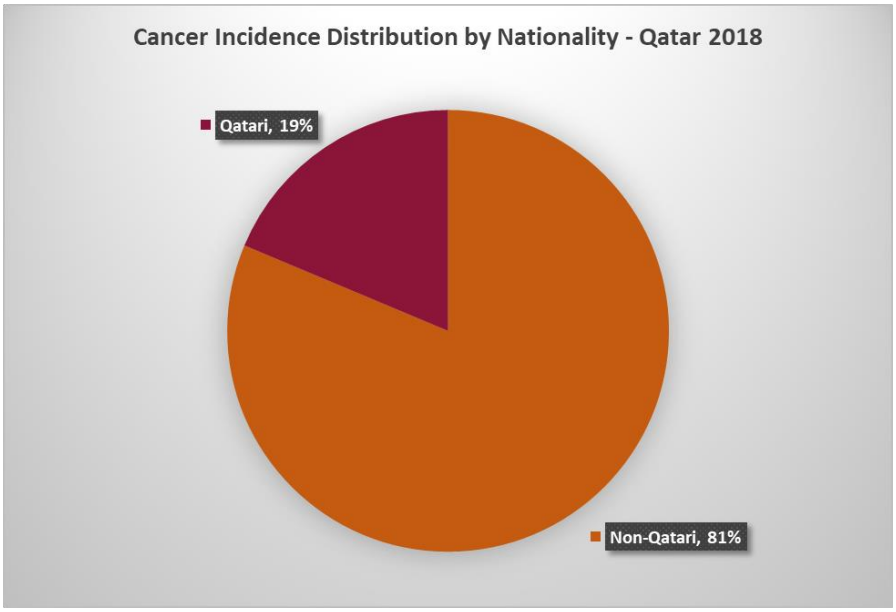

Figure 3: Cancer incidence distribution by nationality

DISTRIBUTION BY GENDER

Across all nationalities, newly registered cancer cases among males were found to be 1137 (53%) cases of total cancer cases, while females accounted for 1000 (47%) new cases.

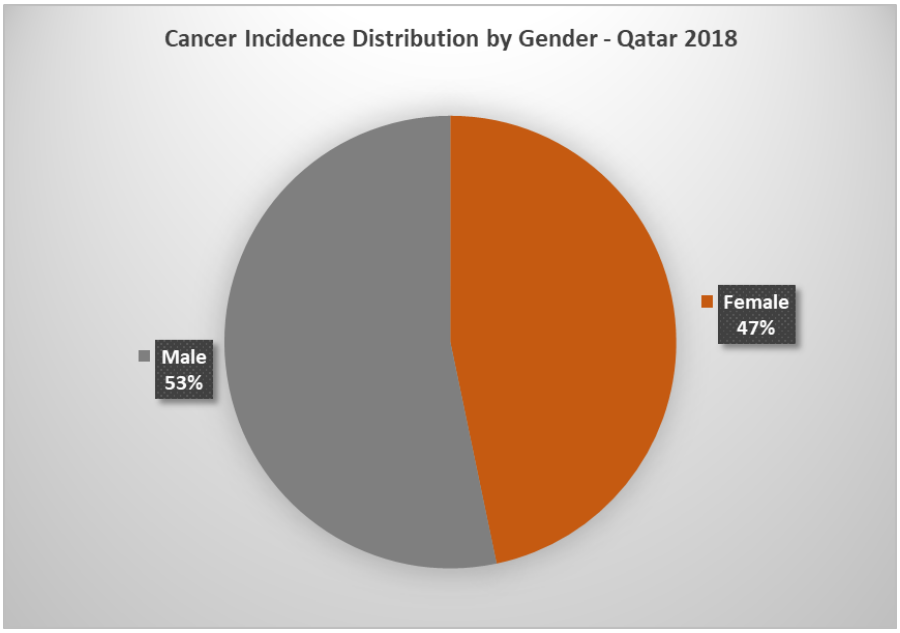

Figure 4: Cancer incidence distribution by gender

AGE STANDARDIZED INCIDENCE RATE ASIR

The Age Standardized Incidence Rate (ASIR) shows an increasing distribution of cancer cases with increased age, which is like the international trend of cancer incidence.

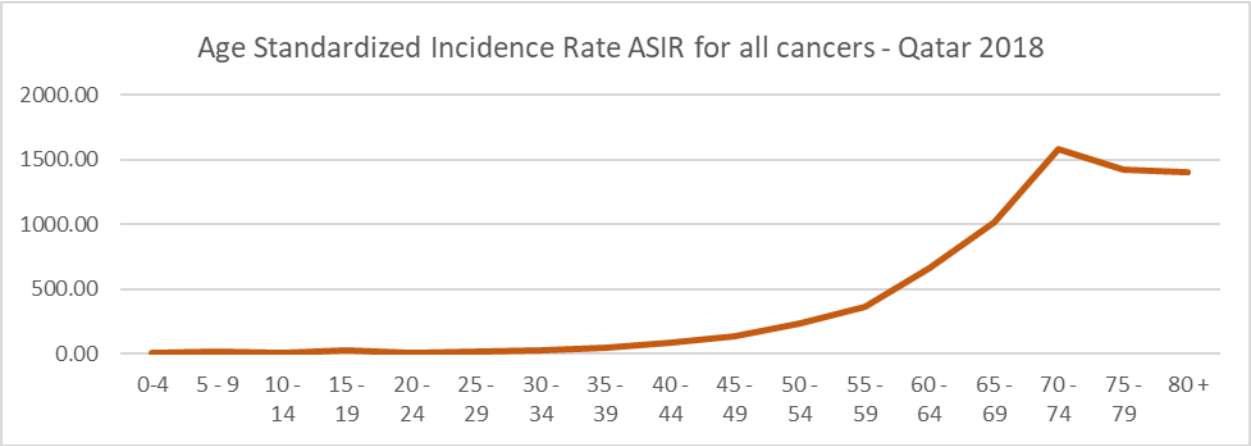

Figure 5: Age Standardized Incidence Rate ASIR for all cancers

CANCER INCIDENCE IN QATARIS

2018

CANCER INCIDENCE AMONGST QATARIS

A total of 400 cancer cases were registered amongst Qataris, which accounted for almost 19% of all cancer cases newly diagnosed during 2018

DISTRIBUTION BY GENDER

During 2018, 234 (58%) new cases were diagnosed in female Qataris, while 166 (41%) new cases were diagnosed in Qatari males.

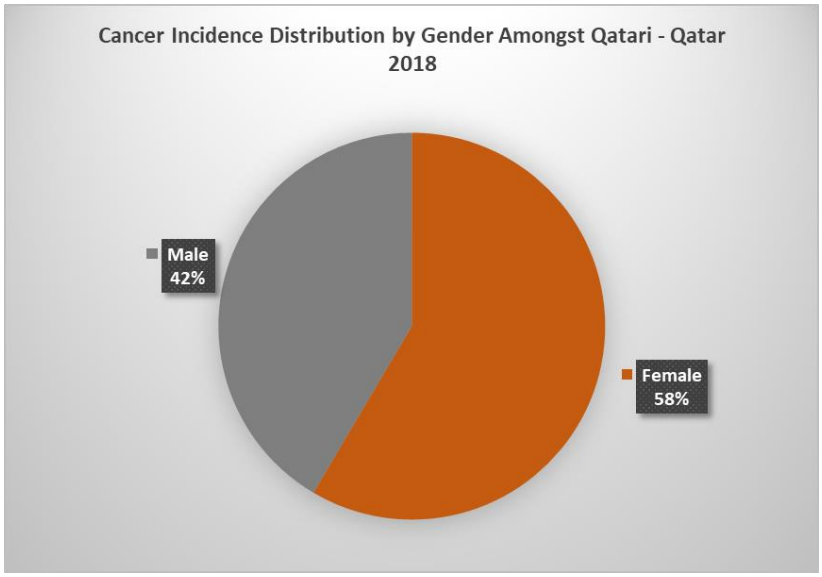

Figure 6: Cancer incidence by gender among Qataris

MOST COMMON CANCERS ACROSS ALL GENDERS OF QATARIS

In the Qatari population, the most common cancers newly diagnosed in 2018 were the breast cancer with 21.70% of all Qatari cancer cases, followed by colorectal cancer with 15.96%.

ICD 10 Codes	Primary Site	N	%
C50 / D05	Breast	87	21.75%
C18-C21 / D01	Colorectal	64	16.00%
C73 / D09.3	Thyroid gland	29	7.25%
C22 / D01.5	Liver and intrahepatic bile ducts	19	4.75%
C61 / D07.5	Prostate	18	4.50%
C91-C95	Leukemia	17	4.25%
C54-C55 / D07.0	Uterus	16	4.00%
C82-C86, C96	Non-Hodgkin Lymphoma	15	3.75%
C33-C34 / D02.1-D02.2	Trachea, bronchus and lung	15	3.75%
C67 / D09.0	Bladder	14	3.50%

Table 10: Most common cancers across all genders of Qataris, 2018

MOST COMMON CANCERS AMONGST MALES QATARIS

Colorectal cancer is the most common amongst male Qatari's which accounts for 36 (21.69%) followed by prostate cancer which accounts for 18 (10.84%).

ICD 10 Codes	Primary Site	N	%
C18-C21 / D01	Colorectal	36	21.69%
C61 / D07.5	Prostate	18	10.84%
C33-C34 / D02.1-D02.2	Trachea, bronchus and lung	14	8.43%
C22 / D01.5	Liver and intrahepatic bile ducts	13	7.83%
C67 / D09.0	Bladder	11	6.63%
C91-C95	Leukemia	9	5.42%
C82-C86, C96	Non-Hodgkin Lymphoma	9	5.42%
C64-C66, C68 / D09.1	Urinary Tract	8	4.82%
C16 / D00.2	Stomach	7	4.22%
C70-C72	Brain & CNS	5	3.01%

Table 11:Most common cancers among male Qataris

MOST COMMON CANCERS AMONGST FEMALES QATARIS

The most common cancer amongst female Qataris was breast cancer with 86 (39.60%) new cases. The second most common was colorectal with 28 (11.91%) new cases.

ICD 10 Codes	Primary Site	N	%
C50 / D05	Breast	86	36.75%
C18-C21 / D01	Colorectal	28	11.97%
C73 / D09.3	Thyroid gland	25	10.68%
C54-C55 / D07.0	Uterus	16	6.84%
C91-C95	Leukemia	8	3.42%
C53 / D06	Cervix uteri	7	2.99%
C56	Ovary	6	2.56%
C22 / D01.5	Liver and intrahepatic bile ducts	6	2.56%
C82-C86, C96	Non-Hodgkin Lymphoma	6	2.56%
C70-C72	Brain & CNS	5	2.14%

Table 12: Most common cancers among female Qataris

DISTRIBUTION BY AGE

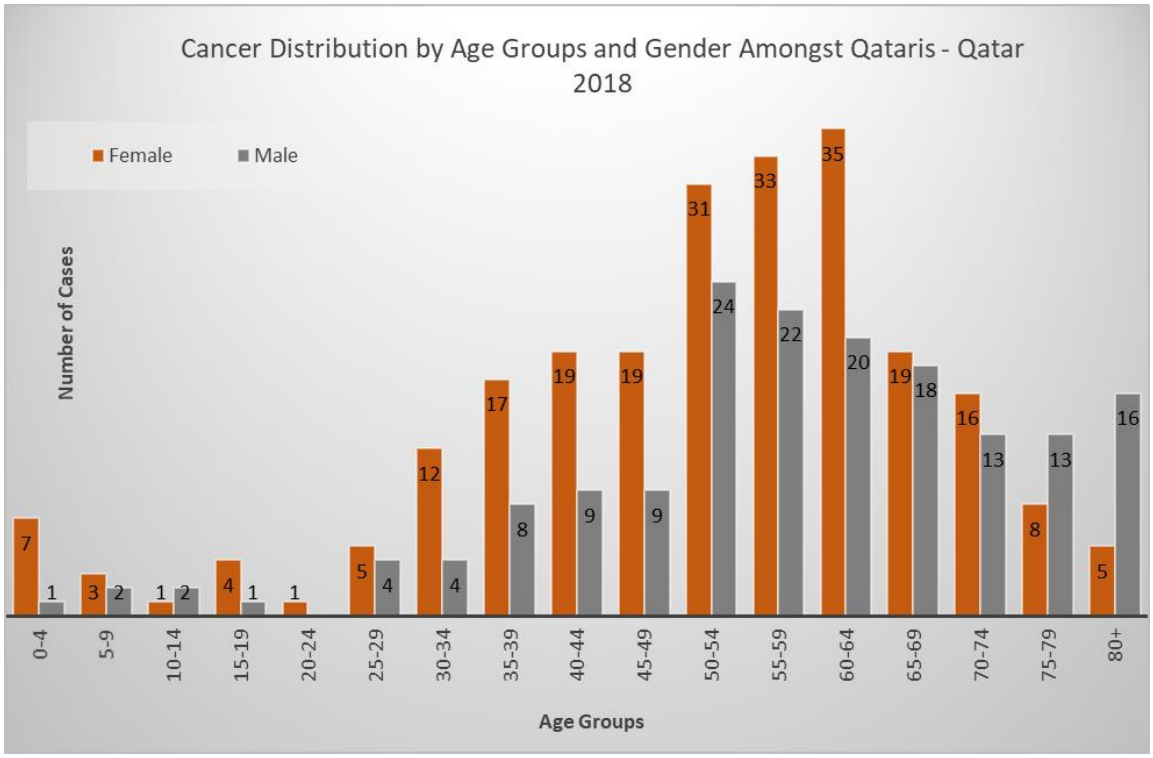

Figure 7: Cancer distribution by age groups amongst Qataris

Crude incidence rate was 130 per 100 000 and Age Standardized Rate ASR was 198 per 100 000 population at risk.

Age-Group (5 year)	Male		Female		Both Genders	
	N	ASIR	N	ASIR	N	ASIR
0-4	1	20721	7	35.41	8	19.76
5-9	2	19621	3	15.58	5	12.86
10-14	2	17718	1	5.83	3	8.60
15-19	1	15130	4	27.46	5	16.84
20-24	0	13747	1	7.38	1	3.66
25-29	4	12542	5	40.34	9	36.09
30-34	4	10502	11	95.84	15	68.25
35-39	8	8703	17	170.12	25	133.72
40-44	9	7288	19	227.41	28	178.99
45-49	9	6637	19	255.72	28	199.05
50-54	24	5608	31	466.38	55	448.80
55-59	22	4542	33	597.29	55	546.34
60-64	20	3424	35	828.79	55	719.24
65-69	18	2153	19	794.31	37	814.08
70-74	13	1258	16	992.56	29	1010.45
75-79	13	1095	8	645.68	21	899.74
80+	16	1031	5	459.56	21	991.03
Total "N"	**400**					
ASR per 100000 (WHO population)	**197.83**					
Crude incidence rate per 100000	**129.71**					
Cumulative Risk of Incidence [0-74]	**19.01**					

Table 13: Summary of cancer burden in Qataris

AGE STANDARDIZED INCIDENCE RATE BY GENDER

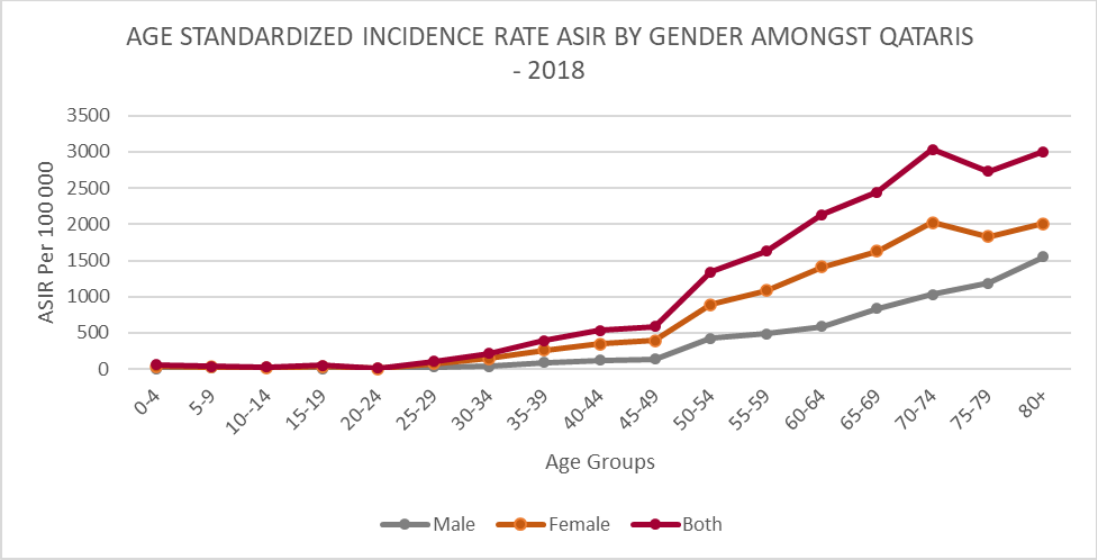

Figure 8: ASIR by gender in Qataris

CANCER INCIDENCE IN NON-QATARIS

2018

CANCER INCIDENCE AMONGST NON-QATARIS

A total of 1746 newly diagnosed cancers were reported during 2018 among the non-Qatari population.

CANCER INCIDENCE BY GENDER AMONGST NON-QATARIS

Cancer presentations were higher in male non-Qataris than in females. During 2018, 978 (56%) cases were newly diagnosed in males, while 768 (44%) new cases were diagnosed in females.

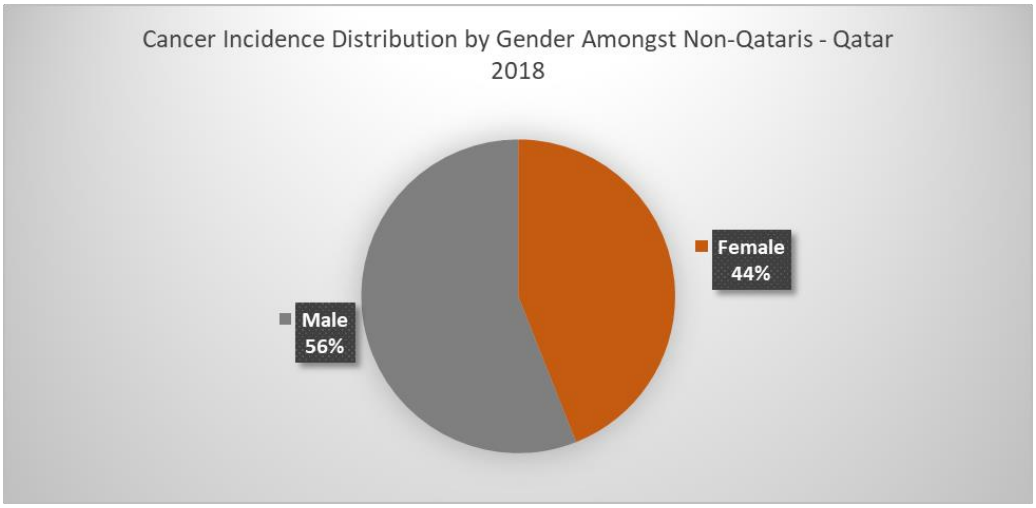

Figure 9: Cancer incidence by gender among non-Qataris

MOST COMMON CANCERS ACROSS ALL GENDERS OF NON-QATARIS

In the Non-Qatari population newly diagnosed with cancer during 2018, breast cancer was the most common with 283 (16.21%) new cases, followed by colorectal with 138 (7.90%) new cases.

ICD 10 Codes	Primary Site	N	%
C50 / D05	Breast	280	16.11%
C18-C21 / D01	Colorectal	137	7.88%
C91-C95	Leukemia	105	6.04%
C73 / D09.3	Thyroid gland	94	5.41%
C61 / D07.5	Prostate	88	5.06%
C64-C66, C68 / D09.1	Urinary Tract	80	4.60%
C82-C86, C96	Non-Hodgkin Lymphoma	75	4.32%
C44 / D04	Non-Melanoma skin cancer	73	4.20%
C33-C34 / D02.1-D02.2	Trachea, bronchus and lung	73	4.20%
C67 / D09.0	Bladder	62	3.57%

Table 14: Most common cancers across all genders of non-Qataris

MOST COMMON CANCERS AMONGST MALES NON-QATARIS

Colorectal cancer was accounted for 89 (9.10%) of the new cases and was the most common amongst non-Qatari males, followed by prostate cancer with 88 (9.00%) new cases.

ICD 10 Codes	Primary Site	N	%
C18-C21 / D01	Colorectal	88	9.05%
C61 / D07.5	Prostate	88	9.05%
C91-C95	Leukemia	84	8.64%
C64-C66, C68 / D09.1	Urinary Tract	66	6.79%
C33-C34 / D02.1-D02.2	Trachea, bronchus and lung	60	6.17%
C67 / D09.0	Bladder	52	5.35%
C82-C86, C96	Non-Hodgkin Lymphoma	49	5.04%
C22 / D01.5	Liver and intrahepatic bile ducts	48	4.94%
C44 / D04	Non-Melanoma skin cancer	47	4.84%
C70-C72	Brain & CNS	39	4.01%

Table 15: Most common cancers among male non-Qataris

MOST COMMON CANCERS AMONGST FEMALES NON-QATARIS

The most common cancer among non-Qatari females was breast cancer with 274 (35.68%) new cases. The second most common was thyroid gland cancer with 57 (7.42%) new cases.

ICD 10 Codes	Primary Site	N	%
C50 / D05	Breast	272	35.51%
C73 / D09.3	Thyroid gland	57	7.44%
C18-C21 / D01	Colorectal	49	6.40%
C54-C55 / D07.0	Uterus	48	6.27%
C53 / D06	Cervix uteri	45	5.87%
C56	Ovary	29	3.79%
C44 / D04	Non-Melanoma skin cancer	26	3.39%
C82-C86, C96	Non-Hodgkin Lymphoma	26	3.39%
C91-C95	Leukemia	21	2.74%
C16 / D00.2	Stomach	19	2.48%

Table 16: Most common cancers among female non-Qataris

DISTRIBUTION BY AGE

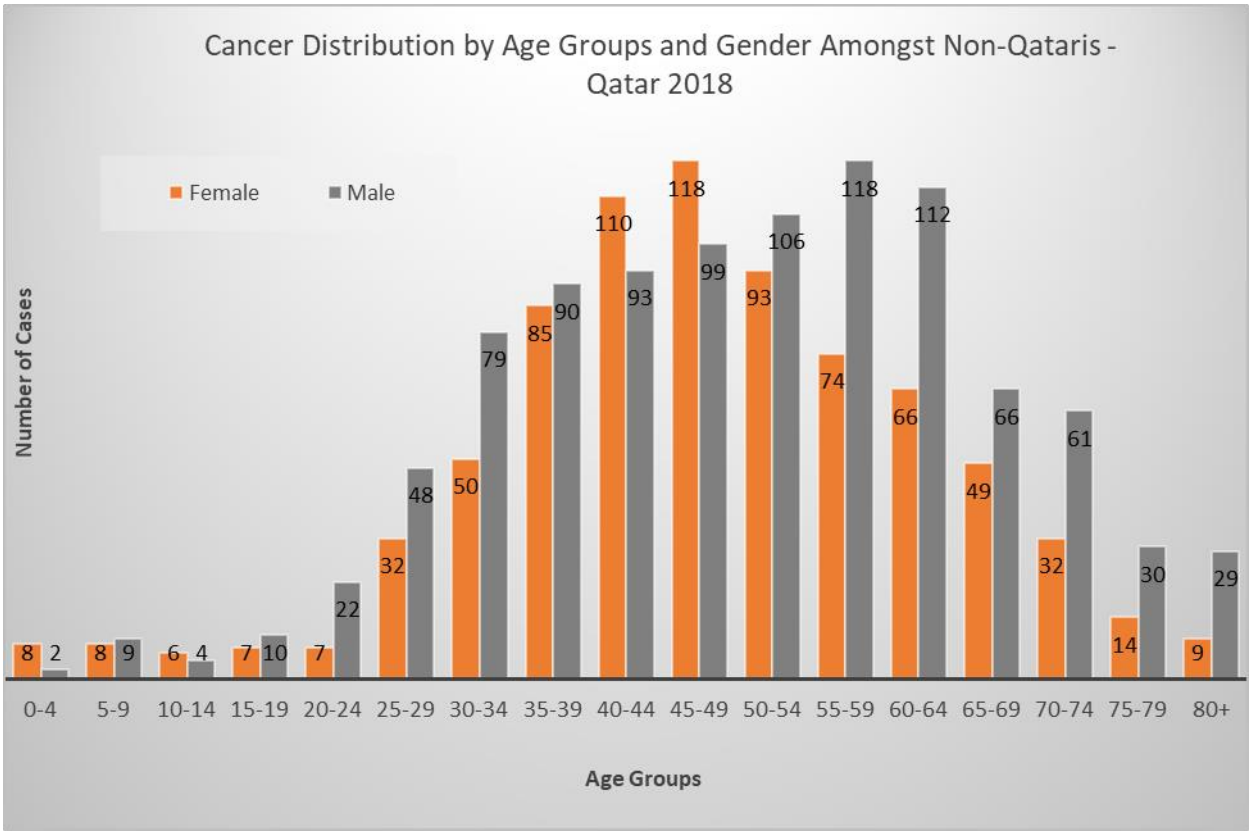

Figure 10: Cancer distribution by age groups amongst non-Qataris

Crude incidence rate was 71.21 per 100 000 and Age Standardized Rate ASR was 211.07 per 100 000 population at risk.

Age-Group (5 year)	Male		Female		Both Genders	
	N	ASIR	N	ASIR	N	ASIR
0-4	2	3.82	8	15.80	10	9.71
5-9	9	18.15	8	16.74	17	17.46
10-14	4	11.07	6	17.41	10	14.16
15-19	10	30.74	7	30.52	17	30.65
20-24	22	10.69	7	22.13	29	12.22
25-29	48	13.68	32	41.02	80	18.66
30-34	79	20.97	50	53.86	129	27.47
35-39	90	29.99	84	110.82	172	45.75
40-44	93	47.52	110	213.22	203	82.09
45-49	99	73.03	117	381.42	216	129.93
50-54	106	135.30	93	522.53	199	206.99
55-59	118	253.12	74	713.05	191	335.11
60-64	112	503.14	66	1280.56	177	645.66
65-69	66	841.41	49	1885.34	114	1091.64
70-74	61	1784.15	32	2228.41	92	1894.95
75-79	30	2025.66	14	1871.66	43	1929.12
80+	29	2305.25	9	1094.89	38	1826.92
Total "N"	**1737**					
ASR per 100000 (WHO population)	**209.34**					
Crude incidence rate per 100000	**70.85**					
Cumulative Risk of Incidence [0-74]	**20.40**					

Table 17: Summary of cancer burden in non-Qataris

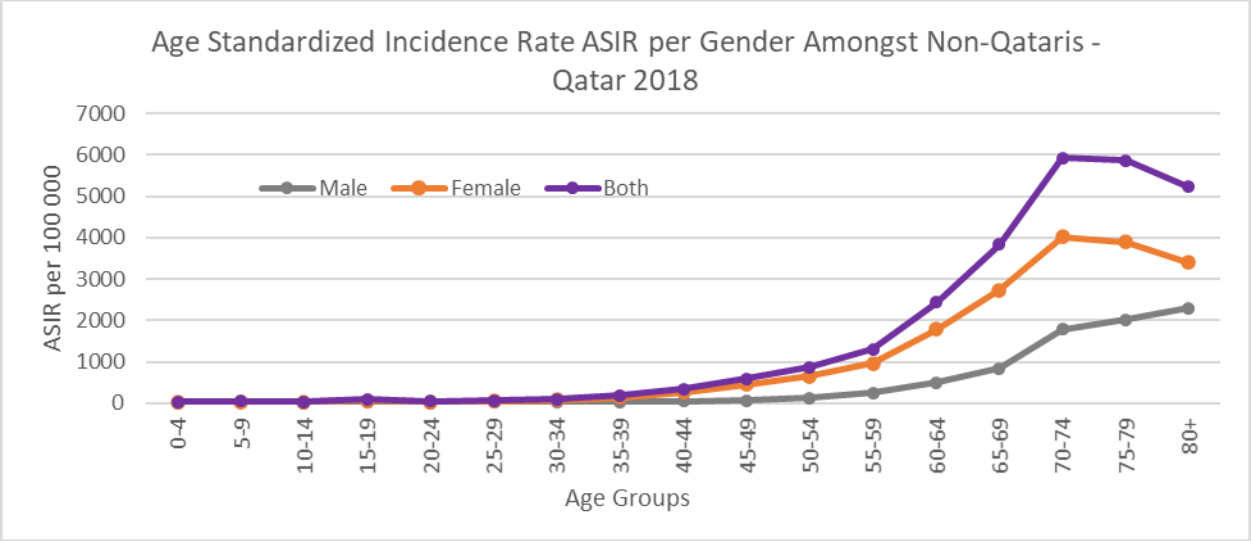

Figure 11: ASIR by gender in non-Qataris

Trends of Cancer 2010-2018

2018

TRENDS OF CANCER 2010-2018

CRUDE RATE AND AGE STANDARDIZED RATE

year	cases	ASR per 100 000 (WHO Population)	Crude Rate per 100 000	Cumulative Risk 0-74
2010	887	173.00	51.72	17.64
2011	1114	216.36	64.29	20.66
2012	1156	200.82	63.07	20.61
2013	1144	187.19	57.09	18.52
2014	1400	218.99	65.46	21.50
2015	1446	148.71	59.32	14.63
2016	1562	133.94	59.44	14.38
2017	2072	191.58	76.05	18.37
2018	2137	189.30	77.42	19.09

Table 18: Summary of crude rate and ASR

TREND OF INCIDENCE [NUMBER OF CASES] 2010-2018

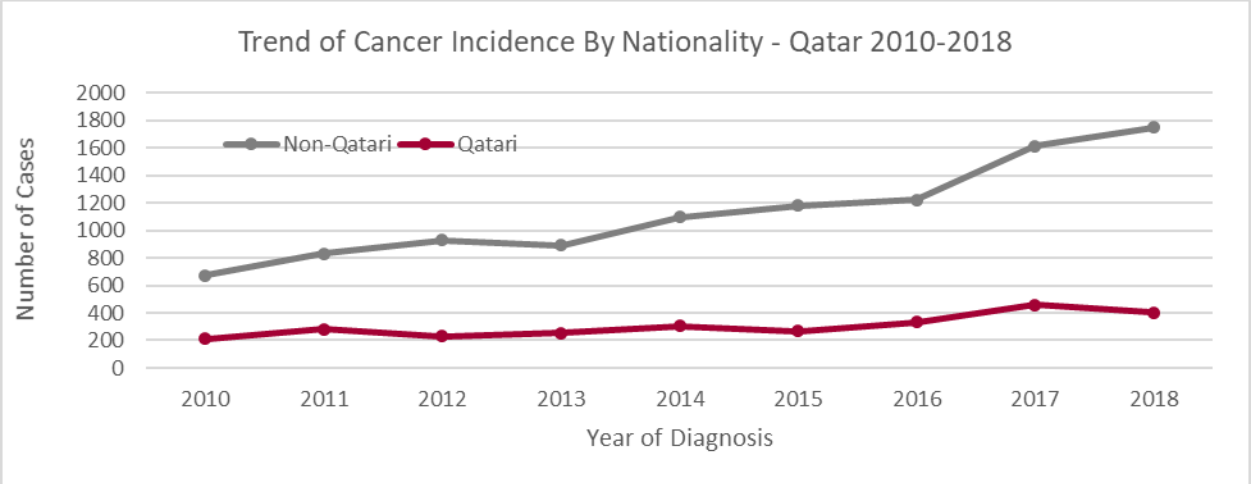

Figure 12: Trend of cancer incidence, number of cases, of all nationalities

TREND OF INCIDENCE BY GENDER 2010-2018

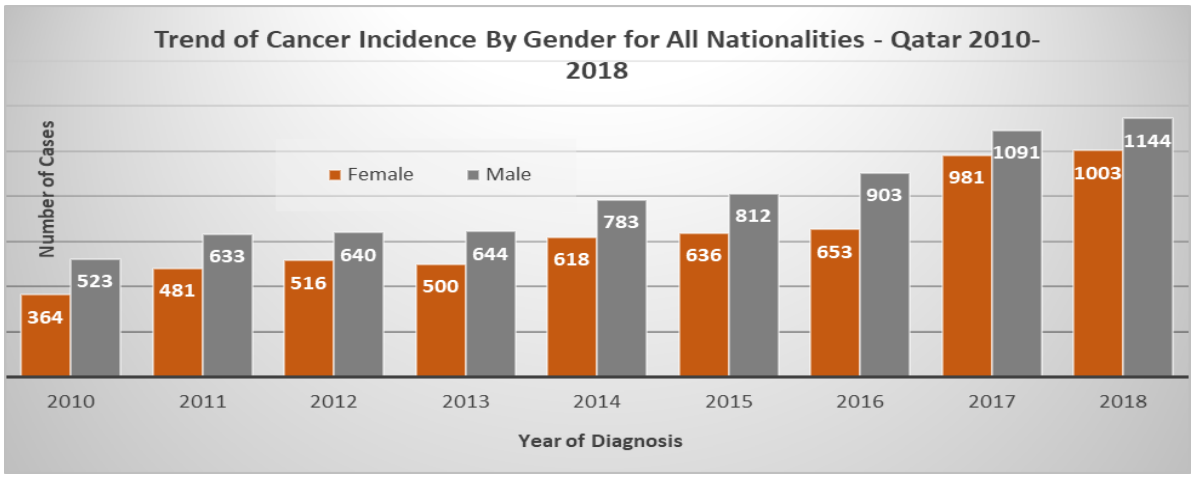

Figure 13: Trend of number of cases, by gender of all nationalities

INTERNATIONAL PERSPECTIVE

Based on data estimates provided by WHO Globocan-2020, the following study helps us benchmark cancer incidence in Qatar with other countries.

CRUDE RATE

Within the Gulf region and the overall of EMRO countries, and based on the estimates of Globocan-2020, Qatar data shows low crude incidence rate

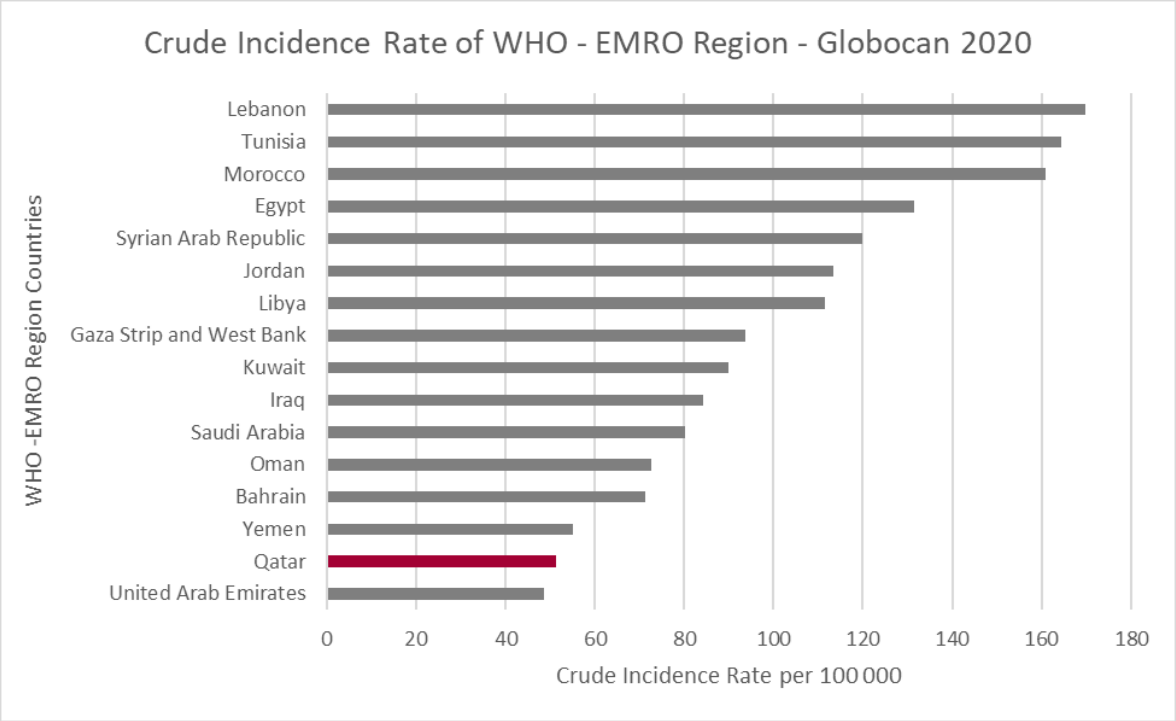

Figure 14: Crude rate of incidence based on Globocan-2020 – EMRO Region

AGE STANDADIZED RATE ASR

Based on the estimates of Globocan-2020 Qatar has very low ASR per 100 000

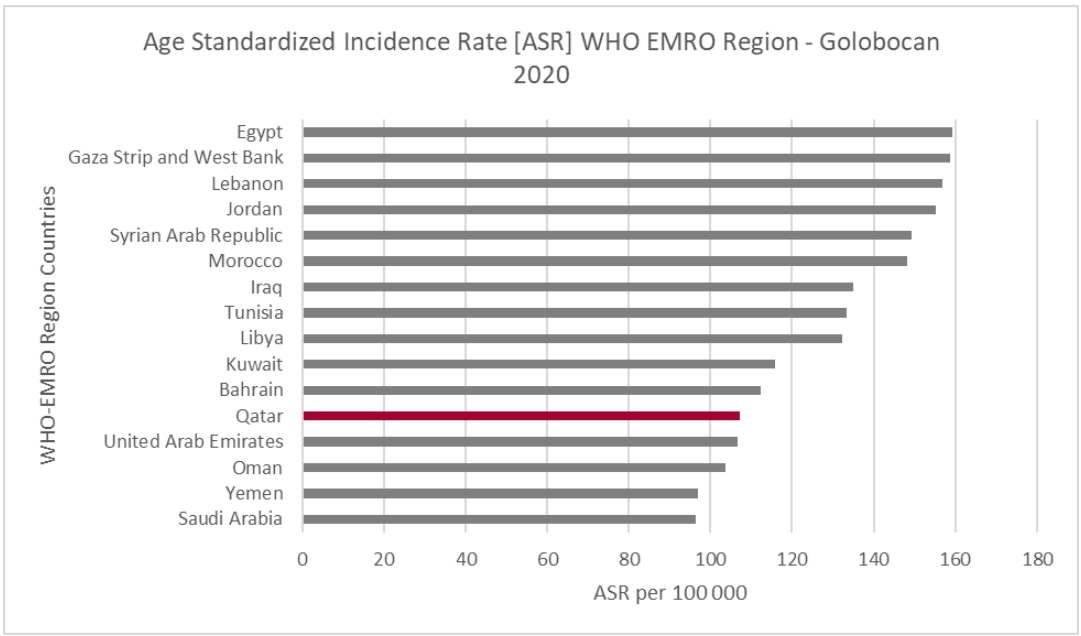

Figure 15: ASR Based on GLOBOCAN 2020 – EMRO Region

PEDIATRIC CANCER INCIDENCE

2018

PEDIATRIC CANCER INCIDENCE

Within the age range of 0-14 years, there were 53 cases newly diagnosed with cancer during 2018.

DISTRIBUTION BY NATIONALITY

When distributed according to nationality, 16 (30.19%) new cases were Qataris, and 37 (69.81%) new cases were non-Qataris.

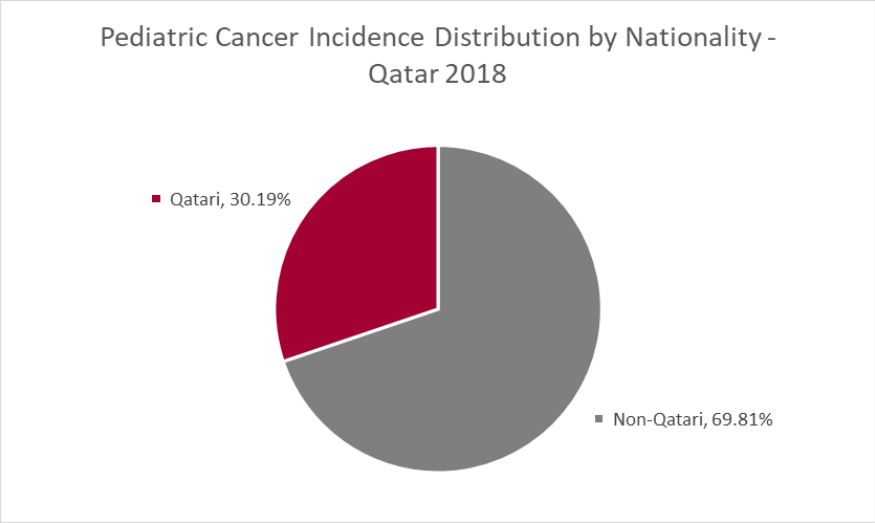

Figure 16: Pediatric cancer incidence distribution by nationality

DISTRIBUTION BY GENDER

Across all nationalities, gender distribution shows 20 (38%) new cases were found in males and 33 (62%) new cases in females.

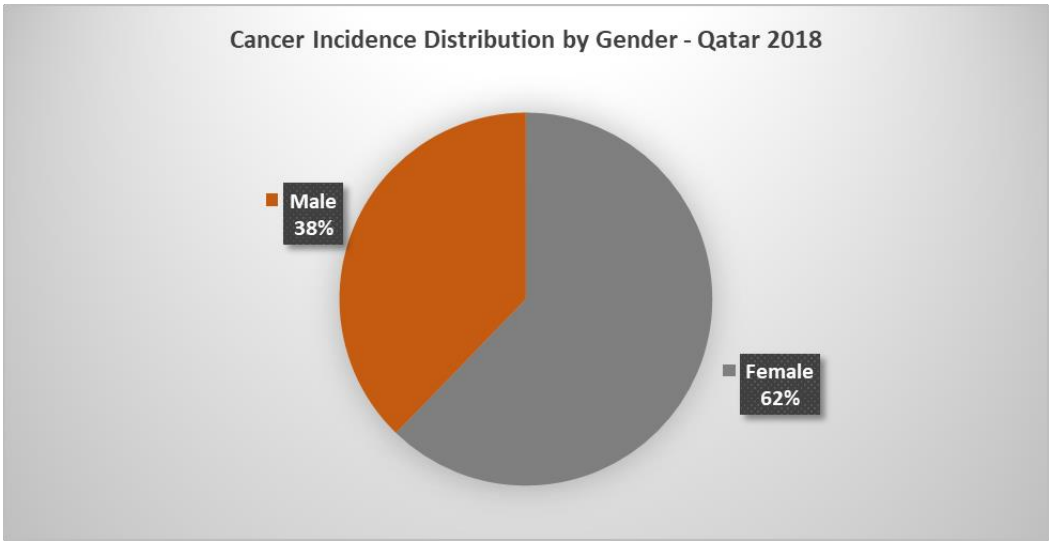

Figure 17: Pediatric cancer incidence distribution by gender

MOST COMMON PEDIATRIC CANCERS

The most common cancer amongst pediatrics was Leukemia with 18 (33.96%) new cases. The second most common was Brain & CNS with 9 (16.98%) new cases.

ICD 10 codes	Primary Site	N	%
C91-C95	Leukemia	18	33.96%
C70-C72	Brain & CNS	8	15.09%
C40-C41	Bone and articular cartilage	5	9.43%
C81	Hodgkin lymphoma	5	9.43%
C82-C86, C96	Non-Hodgkin Lymphoma	5	9.43%
C47+C49	Connective and soft tissue	4	7.55%
C74	Adrenal gland	3	5.66%
C69 / D09.2	Eye and adnexa	1	1.89%

Table 19: Most common cancers among pediatrics

CANCER DEATHS

2018

CANCER DEATH - QATARIS

During the year 2018, there were 207 deaths amongst cancer patients, 165 (80%) non-Qataris and 42 (20%) Qataris

Amongst Qatari population, the Age Standardized Rate ASR for death was 20.59 per 100 000, while the cumulative risk of death within the age range of 0-74 years old was 2.26

Age-Group (5 year)	Qataris	
	N	ASMR
0-4	1	2.47
5-9	2	5.14
10-14	0	0.00
15-19	0	0.00
20-24	0	0.00
25-29	2	8.02
30-34	2	9.10
35-39	2	10.70
40-44	2	12.79
45-49	7	49.76
50-54	5	40.80
55-59	3	29.80
60-64	6	78.46
65-69	2	44.00
70-74	4	139.37
75-79	2	85.69
80+	2	94.38
Total "N"	**42**	
AMR / 100000	**20.21**	
Crude Mortality Rate / 100000	**13.62**	
Cumulative Risk of Mortality [0-74]	**2.13**	

Table 20: Death summary amongst Qatari cancer patients

MOST COMMON CANCER DEATHS - QATARIS

Among Qataris, most of the deaths that occurred during 2018 were breast cancer cases with 22.92% of all deaths amongst Qataris during 2018, followed by colorectal cancer with 12.5%

ICD 10	Primary Site	N	%
C50 / D05	Breast	6	14.29%
C22 / D01.5	Liver and intrahepatic bile ducts	5	11.90%
C70-C72	Brain & CNS	4	9.52%
C18-C21 / D01	Colorectal	4	9.52%
C33-C34 / D02.1-D02.2	Trachea, bronchus and lung	3	7.14%
C91-C95	Leukemia	3	7.14%
C54-C55 / D07.0	Uterus	2	4.76%

Table 21: Most common cancer deaths among Qataris

MOST COMMON CANCER DEATHS AMONGST PEDIATIRC

Amongst pediatric population of the age range 0-14 years old, 12 cases died during the year 2018, 3 of which were Qataris, suffering from cancers in the soft tissues, leukemia and liver cancer.

MORTALITY / INCIDENCE RATIO

The healthcare system is actively working on improving the reporting of causes of death, so at present it is difficult to generate mortality to incidence ratio. However, it is possible to calculate the ratio of adjusted age in death among Qatari cancer patients to the adjusted age of incidence.

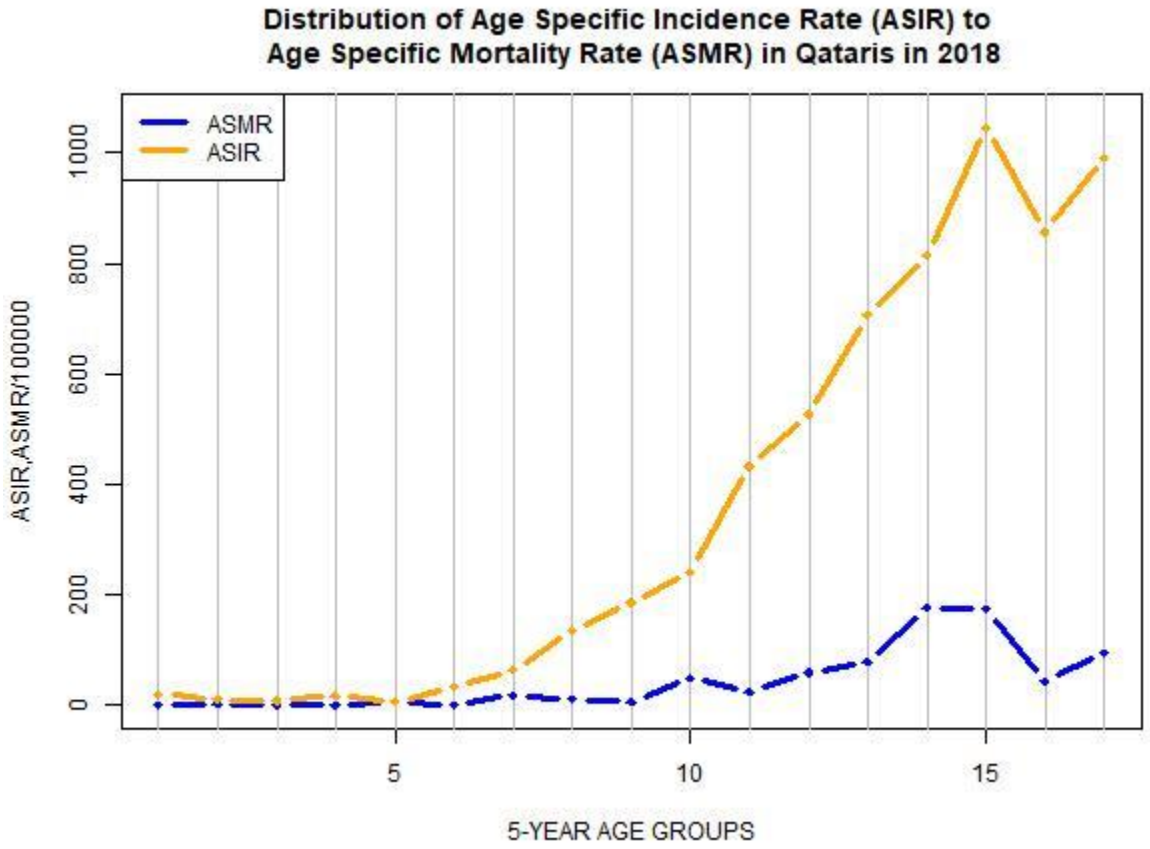

Figure 18: ASIR to ASMR in Qataris

Top 10 Cancers

2018

FEMALE BREAST

ICD 10 CODES

ICD 10 Code	Description
C50	Malignant neoplasm of breast
D05	Carcinoma in situ of breast

Table 22: ICD 10 codes for breast cancer in QNCR

KEY FACTS

In 2018, there were 367 newly diagnosed cases of breast cancer, among which, 358 cases (98%) were in females to 9 cases (2%) in males.

Behavior	Non-Qatari - Female	Qatari - Female	Grand Total
Malignant, primary site (invasive)	260	80	340
Carcinoma in situ	12	6	18
Grand Total	272	86	358

Table 23: Female breast cancer distribution by behavior, and nationality

The Age Standardized Rate (ASR) was found to be 87.07 per 100 000 of female population at risk. The crude incidence rate found to be 50.28 per 100 000.

Age-Group (5 year)	Qataris	
	N	ASMR
0-4	0	2.47
5-9	0	5.14
10-14	0	0.00
15-19	0	0.00
20-24	0	0.00
25-29	8	8.02
30-34	15	9.10
35-39	38	10.70
40-44	57	12.79
45-49	68	49.76
50-54	56	40.80
55-59	33	29.80
60-64	43	78.46
65-69	23	44.00
70-74	11	139.37
75-79	4	85.69
80+	2	94.38
Total "N"	358	
ASR / 100000	87.07	
Crude Incidence Rate / 100000	50.28	
Cumulative Risk of Incidence [0-74]	9.78	

Table 24: Summary of female breast cancer burden

DEMOGRAPHICS

Peak of incidence was in the age group of 45-49, where the youngest age was 25 years old, and the average age was 50 years old.

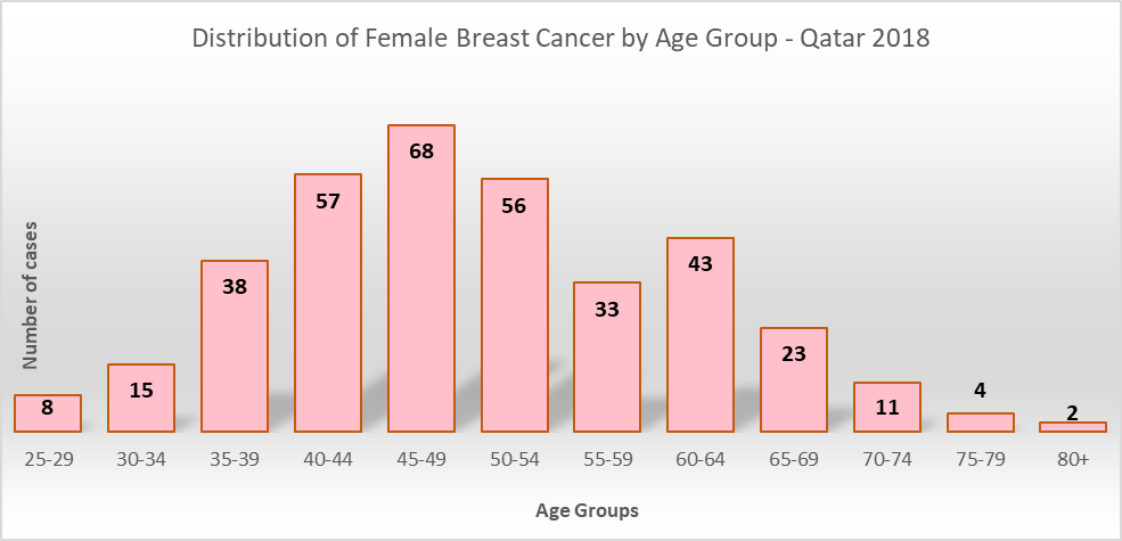

Figure 19: Female breast cancer distribution by age groups

Average of Age	Min (years)	Max (years)
50	25	84

Table 25: Min, max and average age distribution for female breast cancer

PREVALENCE

Amongst the Qatari population registered in the QNCR, there were 894 cases diagnosed with female breast cancer. Of these cases, 195 (22%) have died and 699 (78%) are still alive.

HISTOLOGY

All cases of Histology were reported.

Histology	N	%
Infiltrating duct carcinoma, NOS	288	80.45%
Lobular carcinoma	18	5.03%
Intraductal carcinoma, noninfiltrating	16	4.47%
Carcinoma	6	1.68%
Neoplasm, malignant	5	1.40%
Mucinous adenocarcinoma	5	1.40%
Infiltrating duct and lobular carcinoma	4	1.12%
Papillary carcinoma	3	0.84%
Tubular adenocarcinoma	2	0.56%
Adenocarcinoma	2	0.56%
Noninfiltrating intraductal papillary adenocarcinoma	1	0.28%
Lobular carcinoma in situ	1	0.28%
Infiltrating duct mixed with other types of carcinoma	1	0.28%
Metaplastic carcinoma	1	0.28%
Phyllodes tumor, malignant	1	0.28%
Paget disease, mammary	1	0.28%
Papillary adenocarcinoma	1	0.28%
Cribriform carcinoma	1	0.28%
Malignant tumor, spindle cell type	1	0.28%

Table 26: ICDO-3 Histology distribution of female breast cancer

STAGING

Almost 38 % of the total cases reported in 2018 did not have a reported cTNM stage.

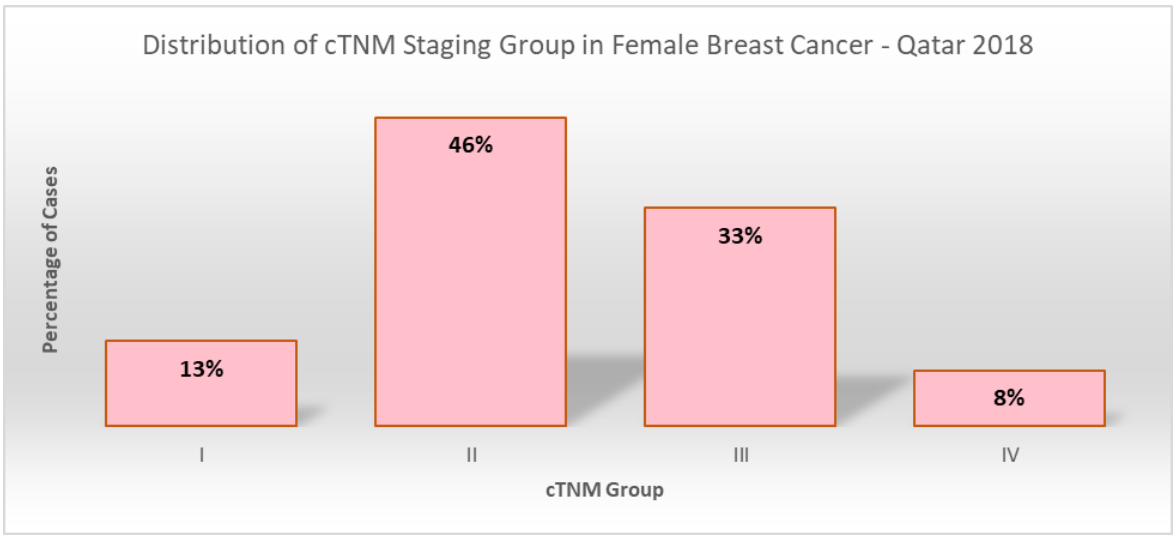

Figure 20: cTNM group staging for female breast cancer

TREATMENT

In 2018, 319 (89%) of total cases were reported with treatment information. The following table shows the treatment types in no particular order. *[PLEASE SEE DISCLAIMER]*

Treatment Modality	%
Chemotherapy / Surgery	23.20%
Surgery	19.12%
Chemotherapy / Radiation Therapy / Surgery	15.67%
Chemotherapy / Hormonal Therapy / Radiation Therapy / Surgery	12.23%
Hormonal Therapy / Radiation Therapy / Surgery	8.78%
Radiation Therapy / Surgery	7.84%
Hormonal Therapy / Surgery	3.13%
Chemotherapy	2.82%
Chemotherapy / Hormonal Therapy / Surgery	1.25%
Hormonal Therapy	1.25%
Chemotherapy / HSCT / Surgery	0.94%
Chemotherapy / Immunotherapy / Surgery	0.94%
Hormonal Therapy / Radiation Therapy	0.63%
Chemotherapy / Radiation Therapy / HSCT / Surgery	0.63%
Immunotherapy / Surgery	0.63%
Chemotherapy / Immunotherapy / Radiation Therapy / Surgery	0.31%
Immunotherapy / Radiation Therapy / Surgery	0.31%
Chemotherapy / Radiation Therapy	0.31%

Table 27: Treatment modalities for female breast cancer

310 (95% of cases with reported treatment) cases reported with surgery as one of the treatment modalities.

Surgery Procedure (SEER)	N	%
Lumpectomy or excisional biopsy	164	53%
Mastectomy, NOS	73	24%
Local excision	32	10%
Modified radical mastectomy, NOS	19	6%
Re-excision of the biopsy site for gross or microscopic residual disease	9	3%
Surgery, NOS	4	1%
Total (simple) mastectomy, NOS	3	1%
Segmental mastectomy (including wedge resection, quadrantectomy, tylectomy)	3	1%
Gross total resection	1	0%
Local tumor excision, NOS; less than a full chain; includes a lymph node biopsy	1	0%
Myomectomy	1	0%
Grand Total	**310**	**100%**

Table 28: Surgery procedures (SEER) for female breast cancer

COLORECTAL

ICD 10 CODES

ICD 10 Code	Description
C18	Malignant neoplasm of colon
C19	Malignant neoplasm of rectosigmoid junction
C20	Malignant neoplasm of rectum
C21	Malignant neoplasm of anus and anal canal
D01	Carcinoma in situ of other and unspecified digestive organs
D010	Colon
D014	Other and unspecified parts of intestine

Table 29: ICD 10 codes for colorectal cancer in QNCR

KEY FACTS

In 2018, there were 201 newly diagnosed cases of malignant colorectal cancer, and of these 124 (62%) cases were in males, and 77 (38%) cases were in females.

Behavior	Qatari - Male	Qatari - Female	Qatari - Total	Non-Qatari - Male	Non-Qatari - Female	Non-Qatari - Total	Grand Total
Malignant	36	28	64	88	49	137	201
Grand Total	36	28	64	8	49	137	201

Table 30: Colorectal cancer distribution by behavior, gender, and nationality

The crude incidence was found to be 7.28 per 100 000 and the Age Standardized Rate ASR to be 21.94 per 100 000.

Age-Group (5 year)	Male		Female		Both Genders	
	N	ASIR	N	ASIR	N	ASIR
0-4	0	0.00	0	0.00	0	0.00
5-9	0	0.00	0	0.00	0	0.00
10-14	0	0.00	0	0.00	0	0.00
15-19	0	0.00	1	2.67	1	1.17
20-24 *	1	0.46	0	0.00	1	0.38
25-29	4	1.10	1	1.11	5	1.10
30-34	7	1.81	0	0.00	7	1.42
35-39	12	3.89	5	5.83	17	4.31
40-44	10	4.93	6	10.01	16	6.09
45-49	11	7.74	8	20.99	19	10.54
50-54	20	23.82	8	32.73	28	25.83
55-59	9	17.59	14	88.03	23	34.30
60-64	18	70.08	12	127.97	30	85.57
65-69	15	150.05	10	200.36	25	166.80
70-74	7	149.67	7	229.66	14	181.23
75-79	5	194.10	4	201.31	9	197.24
80+	5	218.44	1	52.36	6	142.89
Total "N"	**201**					
ASR per 100000 (WHO population)	**21.94**					
Crude incidence rate per 100000	**7.28**					
Cumulative Risk of Incidence [0-74]	**2.56**					

Table 31: Summary of colorectal cancer burden

** One case of "C18.1" Appendix*

DEMOGRAPHICS

Amongst males, the peak age group of colorectal cancer incidence was 50-54 while in females it was 55-59. The youngest age was 19 years old, and the average age was 55.3 years old.

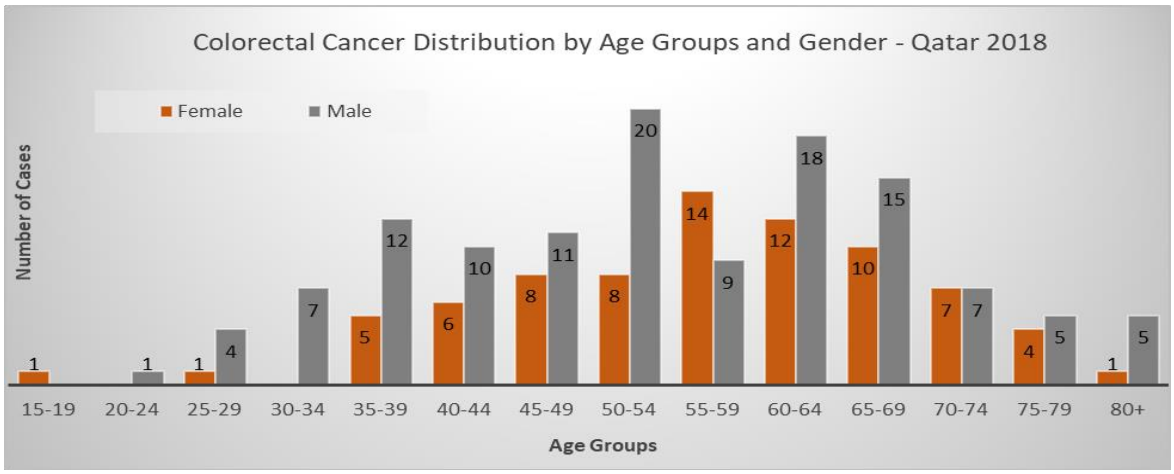

Figure 21: Colorectal cancer distribution by age groups

Average of Age	Min (years)	Max (years)
55.3	19	96

Table 32: Min, max and average age distribution for colorectal cancer

PREVALENCE

Amongst the Qatari population registered in the QNCR, there were 526 cases diagnosed with colorectal cancer. Of these cases, 164 (31.2%) have died and 362 (68.8%) are still alive.

HISTOLOGY

Histology	N	%
Adenocarcinoma, NOS	158	78.61%
Signet ring cell carcinoma	9	4.48%
Neuroendocrine carcinoma, NOS	9	4.48%
Neuroendocrine tumor, NOS	5	2.49%
Mucinous adenocarcinoma	4	1.99%
Squamous cell carcinoma, NOS	4	1.99%
Neoplasm, malignant	3	1.49%
Adenocarcinoma in adenomatous polyp	2	1.00%
Adenocarcinoma in tubolovillous adenoma	2	1.00%
Basaloid squamous cell carcinoma	2	1.00%
Carcinoma, NOS	1	0.50%
Adenocarcinoma in villous adenoma	1	0.50%
Large cell neuroendocrine carcinoma	1	0.50%

Table 33: Histology distribution for colorectal cancer

STAGING

Almost 46% of the total cases reported in 2018 did not have a cTNM stage reported value, 73% were at late stage (III and IV) and 27% were early stage (I and II).

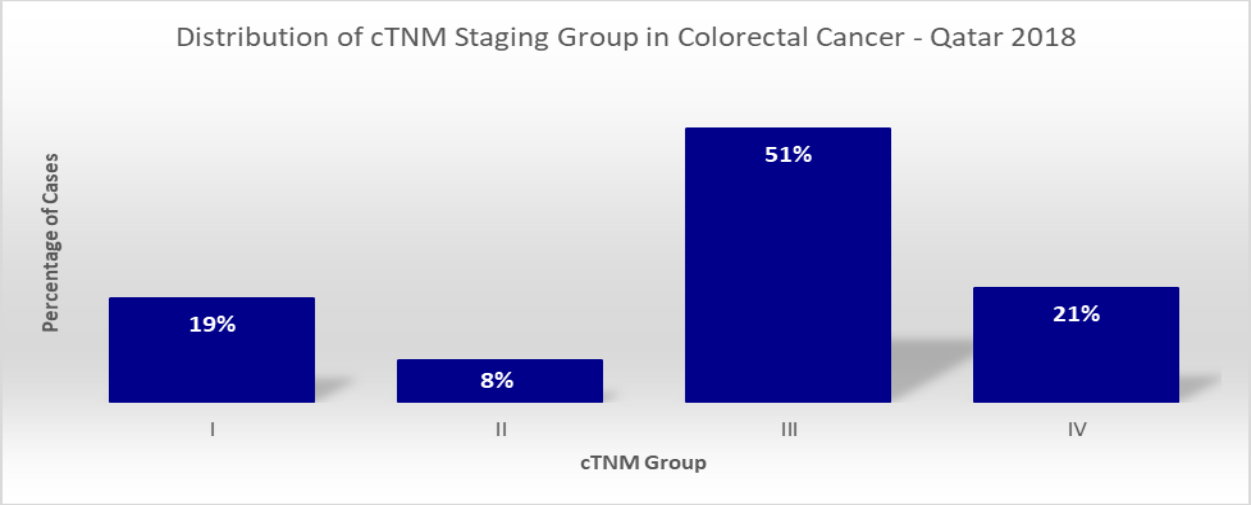

Figure 22: cTNM distribution for colorectal cancer

TREATMENT

In 2018, 89% of total cases were reported with treatment information. The following table shows the treatment types in no particular order. [PLEASE SEE DISCLAIMER]

Treatment Modality	%
Surgery	39.33%
Chemotherapy / Surgery	16.29%
Chemotherapy / Radiation Therapy / Surgery	8.43%
Chemotherapy	8.43%
Radiation Therapy / Surgery	7.30%
Hormonal Therapy / Radiation Therapy / Surgery	5.06%
Chemotherapy / Hormonal Therapy / Radiation Therapy / Surgery	2.81%
Chemotherapy / Hormonal Therapy / Surgery	2.25%
Chemotherapy / Radiation Therapy	2.25%
Hormonal Therapy / Surgery	1.69%
Chemotherapy / Hormonal Therapy / Radiation Therapy	1.12%
Radiation Therapy	1.12%
Immunotherapy / Surgery	0.56%
Chemotherapy / Radiation Therapy / HSCT / Surgery	0.56%
Chemotherapy / Immunotherapy / Radiation Therapy / Surgery	0.56%
Chemotherapy / HSCT / Surgery	0.56%
Chemotherapy / Immunotherapy / Surgery	0.56%
Chemotherapy / Immunotherapy / Radiation Therapy	0.56%
Chemotherapy / Hormonal Therapy	0.56%

Table 34: Treatment modalities for colorectal cancer

LEUKEMIA

ICD 10 CODES

ICD 10 Code	Description
C91	Lymphoid leukemia
C92	Myeloid leukemia
C93	Monocytic leukemia
C94	Other leukemias of specified cell type
C95	Leukemia of unspecified cell type

Table 35: ICD 10 codes for Leukemia in QNCR

KEY FACTS

In 2018, 122 cases were reported with Leukemia, 29 cases (24%) amongst females, and 93 (76%) amongst males. There was a total of 96 cases (85.7%) were in non-Qatari and 16 cases (14.3%) amongst Qataris.

Behavior	Qatari - Male	Qatari - Female	Qatari - Total	Non-Qatari - Male	Non-Qatari - Female	Non-Qatari - Total	Grand Total
Malignant	9	8	17	84	21	105	122
Grand Total	9	8	17	84	21	105	122

Table 36: Distribution of leukemia by gender and nationality

The crude incidence was found to be 0.37 per 100 000 and the Age Standardized Rate ASR to be 0.66 per 100 000.

Age-Group (5 year)	Male		Female		Both Genders	
	N	ASIR	N	ASIR	N	ASIR
0-4	0	0.00	8	11.36	8	5.58
5-9	6	8.67	3	4.47	9	6.60
10-14	1	1.86	0	0.00	1	0.95
15-19	1	2.10	1	2.67	2	2.35
20-24	7	3.19	1	2.21	8	3.02
25-29	12	3.30	0	0.00	12	2.64
30-34	12	3.10	1	0.96	13	2.64
35-39	7	2.27	3	3.50	10	2.53
40-44	13	6.40	1	1.67	14	5.32
45-49	9	6.33	1	2.62	10	5.55
50-54	4	4.76	0	0.00	4	3.69
55-59	5	9.77	4	25.15	9	13.42
60-64	6	23.36	2	21.33	8	22.82
65-69	4	40.01	1	20.04	5	33.36
70-74	4	85.52	2	65.62	6	77.67
75-79	1	38.82	1	50.33	2	43.83
80+	1	43.69	0	0.00	1	23.82
Total "N"	**122**					
ASR per 100000 (WHO population)	**8.27**					
Crude incidence rate per 100000	**4.42**					
Cumulative Risk of Incidence [0-74]	**0.94**					

Table 37: Summary of leukemia burden

DEMOGRAPHICS

Amongst males, the peak age group of leukemia incidence was 40-44, while it was 0-4 amongst females. The youngest age was less than 1 year old, and the average age was 38 years old.

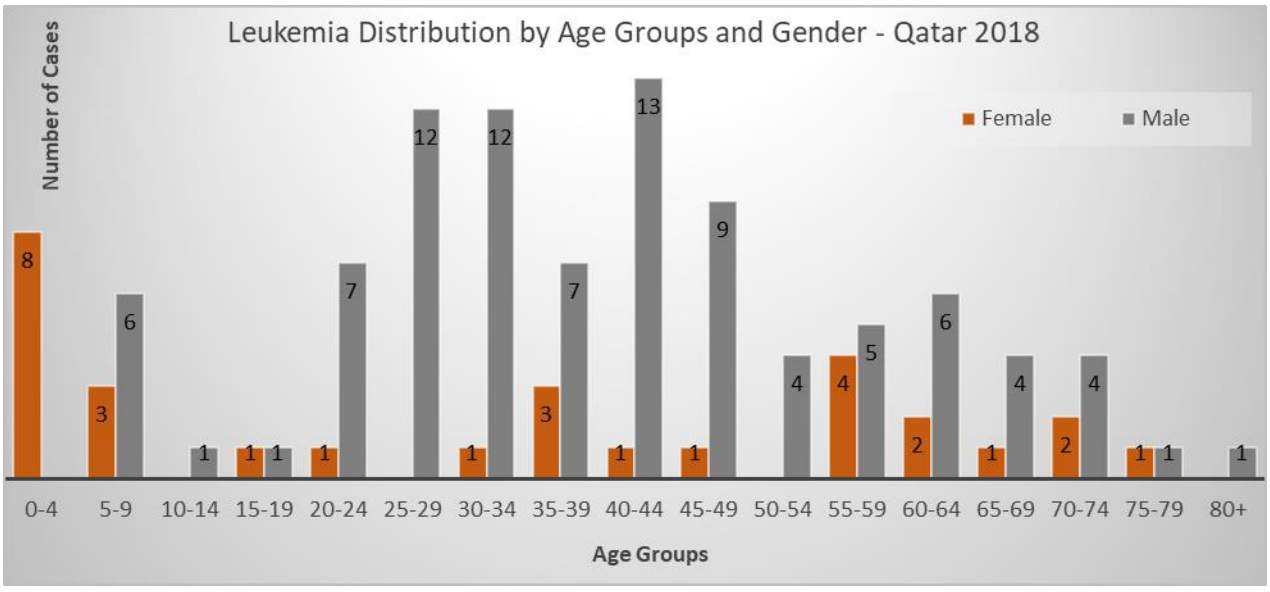

Figure 23: Distribution of leukemia by age groups

Average of Age	Min (years)	Max (years)
38.18	0	81

Table 38: Min, max and average age distribution for leukemia cancers

PREVALENCE

Amongst the Qatari population registered in the QNCR, there were 227 newly diagnosed cases with leukemia. Of these cases, 69 (30.4%) have died and 158 (69.6%) are still alive.

HISTOLOGY

Histology	N	%
Acute Myeloid Leukemia, NOS	26	21.31%
Chronic Myeloid Leukemia, NOS	25	20.49%
B-cell chronic lymphocytic leukemia/small lymphocytic lymphoma	18	14.75%
Precursor B-cell lymphoblastic leukemia	17	13.93%
Acute Promyelocytic Leukemia, t(15 ;17)(q22;q11-12)	13	10.66%
Precursor cell lymphoblastic leukemia, NOS	6	4.92%
Burkitt cell leukemia	3	2.46%
Chronic Myeloid Leukemia, BCR/ABL positive	3	2.46%
Acute panmyelosis with myelofibrosis	2	1.64%
Adult T-cell leukemia/lymphoma (HTLV-1 positive) (includes all variants)	2	1.64%
Precursor T-cell lymphoblastic leukemia	2	1.64%
Chronic Myelomonocytic Leukemia, NOS	1	0.82%
Neoplasm, malignant	1	0.82%
Chronic eosinophilic leukemia	1	0.82%
Therapy related myeloid neoplasm	1	0.82%

Table 39: Histology distribution for leukemia

TREATMENT

In 2018, only 42% of total cases were reported with treatment information. The following table shows the treatment types in no particular order. [PLEASE SEE DISCLAIMER]

Treatment Modality	%
Chemotherapy	52.94%
Chemotherapy / Surgery	13.73%
Chemotherapy / Radiation Therapy	11.76%
Radiation Therapy / Surgery	5.88%
Surgery	3.92%
Chemotherapy / Hormonal Therapy / Radiation Therapy	3.92%
Hormonal Therapy / Radiation Therapy	1.96%
Chemotherapy / Immunotherapy / Radiation Therapy	1.96%
Radiation Therapy	1.96%
Hormonal Therapy	1.96%

Table 40: Treatment modalities for leukemia cancer

THYROID GLAND

ICD 10 CODES

ICD 10 Code	Description
C73	Malignant neoplasm of thyroid gland
D093	Thyroid and other endocrine glands

Table 41: ICD 10 codes for thyroid cancer in QNCR

KEY FACTS

In 2018, 123 cases were newly diagnosed with malignant thyroid cancer, 29 (23.6%) of which were Qataris and 94 (76.4%) cases non-Qataris. Of the total cases 82 (66.7%) were amongst female, while 41 (33.3%) were in males.

Behavior	Qatari - Male	Qatari - Female	Qatari - Total	Non-Qatari - Male	Non-Qatari - Female	Non-Qatari - Total	Grand Total
In Situ				1		1	1
Malignant	4	25	29	36	57	93	122
Grand Total	**4**	**25**	**29**	**37**	**57**	**94**	**123**

Table 42: Distribution of thyroid cancer by gender and nationality

The crude incidence was found to be 0.9 per 100 000 and the Age Standardized Rate ASR to be 1.04 per 100 000.

Age-Group (5 year)	Male		Female		Both Genders	
	N	ASIR	N	ASIR	N	ASIR
0-4	0	0.00	0	0.00	0	0.00
5-9	0	0.00	0	0.00	0	0.00
10-14	0	0.00	0	0.00	0	0.00
15-19	0	0.00	3	8.00	3	3.52
20-24	0	0.00	2	4.43	2	0.76
25-29	4	1.10	8	8.85	12	2.64
30-34	5	1.29	14	13.42	19	3.86
35-39	8	2.59	15	17.48	23	5.83
40-44	8	3.94	16	26.69	24	9.13
45-49	5	3.52	9	23.62	14	7.76
50-54	2	2.38	7	28.64	9	8.30
55-59	3	5.86	2	12.58	5	7.46
60-64	4	15.57	2	21.33	6	17.11
65-69	0	0.00	2	40.07	2	13.34
70-74	1	21.38	0	0.00	1	12.94
75-79	1	38.82	1	50.33	2	43.83
80+	0	0.00	1	52.36	1	23.82
Total "N"	**123**					
ASR per 100000 (WHO population)	**5.49**					
Crude incidence rate per 100000	**4.46**					
Cumulative Risk of Incidence [0-74]	**0.46**					

Table 43: Summary of thyroid cancer burden

DEMOGRAPHICS

Amongst females, the peak age group of Thyroid cancer incidence was 40-44, while it was 35-44 amongst males. The youngest age was 16 years old, and the average age was 41 years old.

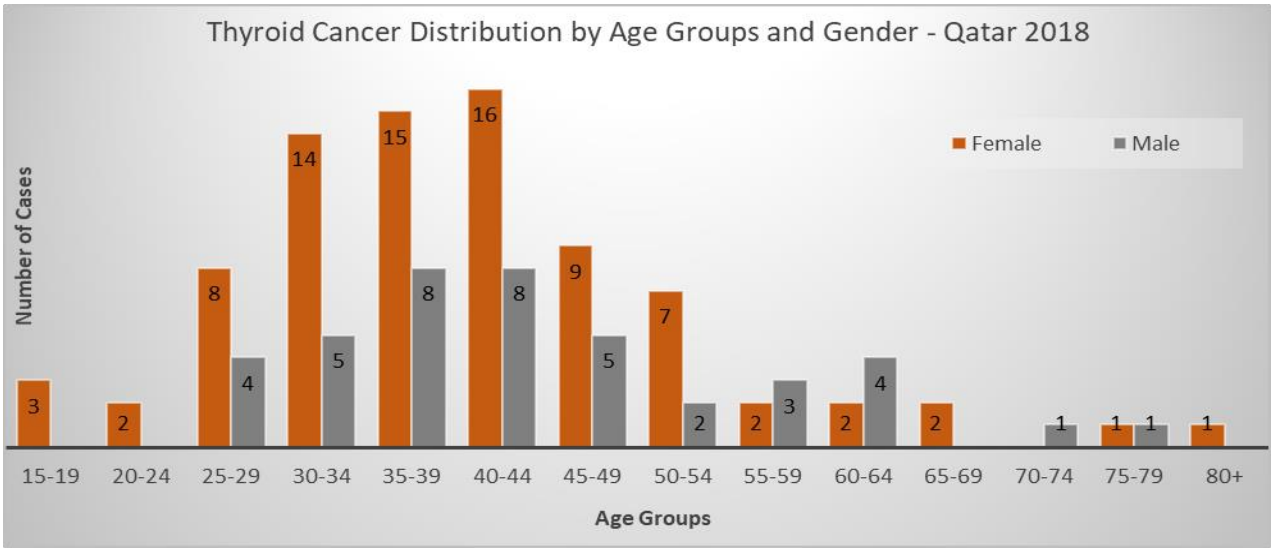

Figure 24: Distribution of thyroid gland cancer by age groups

Average of Age	Min (years)	Max (years)
41.8	16	82

Table 44: Min, max and average age distribution for thyroid cancer

PREVALENCE

Amongst the Qatari population registered in the QNCR, there were 257 cases diagnosed with thyroid cancer. Of these cases, 24 (9.3%) have died and 233 (90.7%) are still alive.

HISTOLOGY

All cases of histology were reported.

Histology	N	%
Papillary adenocarcinoma, NOS	95	77.24%
Papillary microcarcinoma	9	7.32%
Papillary carcinoma, NOS	4	3.25%
Papillary carcinoma, follicular variant	3	2.44%
Follicular carcinoma, NOS	3	2.44%
Neoplasm, malignant	2	1.63%
Follicular carcinoma, minimally invasive	2	1.63%
Carcinoma, anaplastic, NOS	2	1.63%
Medullary carcinoma, NOS	2	1.63%
Papillary carcinoma in situ	1	0.81%

Table 45: Histology distribution for thyroid gland cancer

STAGING

Almost 55.81% of the total cases reported in 2018 did not have cTNM stage reported values. Of those cases that did report a cTNM stage, 43% were late stage (lll and IV) and 57% were early stage (I and ll). *[PLEASE SEE DISCLAIMER]*

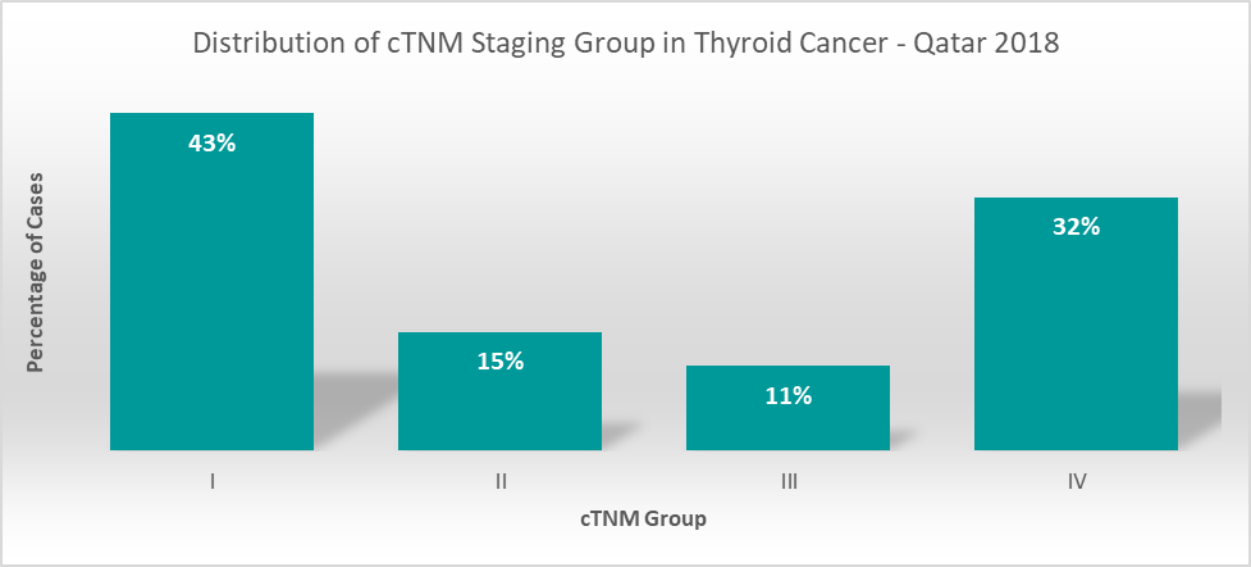

Figure 25: cTNM Distribution for thyroid cancer

TREATMENT

In 2018, 94% of cases of thyroid gland cancer was reported with treatment information. The following table shows the treatment types in no particular order. [PLEASE SEE DISCLAIMER]

Treatment Modality	%
Surgery	38.79%
Chemotherapy / Surgery	19.83%
Radiation Therapy / Surgery	12.07%
Chemotherapy / Radiation Therapy / Surgery	10.34%
Hormonal Therapy / Radiation Therapy / Surgery	6.90%
Chemotherapy / Hormonal Therapy / Radiation Therapy / Surgery	3.45%
Hormonal Therapy / Surgery	2.59%
Chemotherapy / Immunotherapy / Radiation Therapy / Surgery	1.72%
Chemotherapy	1.72%
Chemotherapy / HSCT / Surgery	0.86%
Radiation Therapy	0.86%
Hormonal Therapy / Radiation Therapy	0.86%

Table 46: Treatment modalities for thyroid cancer

PROSTATE

ICD 10 CODES

ICD 10 Code	Description
C61	Malignant neoplasm of prostate
D075	Prostate

Table 47: ICD 10 codes for prostate in QNCR

KEY FACTS

In 2018, there were 106 newly diagnosed cases of prostate cancer, 18 (17%) of which were Qataris and 88 (83%) were non-Qataris.

Behavior	Qatari	Non-Qatari	Grand Total
Malignant	18	88	106
Grand Total	18	88	106

Table 48: Distribution of prostate cancer by nationality

The cumulative risk, or the chance of a male getting prostate cancer between the ages of 0-74, is 2.41.
Age Standardized Rate (ASR) was found to be 26.08 per 100 000 of population at risk.

Age-Group (5 year)	Qataris	
	N	ASMR
0-4	0	0.00
5-9	0	0.00
10-14	0	0.00
15-19	0	0.00
20-24	0	0.00
25-29	0	0.00
30-34	0	0.00
35-39	0	0.00
40-44	0	0.00
45-49	2	1.41
50-54	5	5.96
55-59	24	46.91
60-64	26	101.23
65-69	18	180.05
70-74	10	213.81
75-79	8	310.56
80+	13	567.93
Total "N"	**106**	
ASR / 100000	**29.84**	
Crude Incidence Rate / 100000	**5.18**	
Cumulative Risk of Incidence [0-74]	**2.71**	

Table 49: Summary of prostate cancer burden

DEMOGRAPHICS

The peak of incidence of prostate cancer is in the age group 60-64. The youngest age was 45 years old and the average age was 65.8 years old.

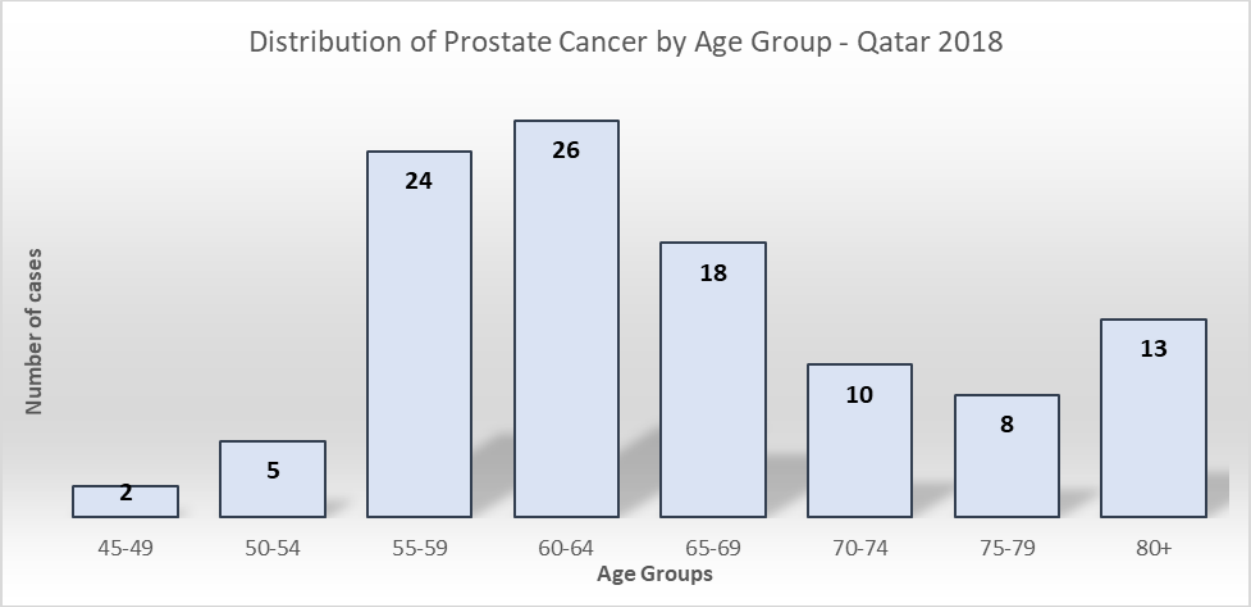

Figure 26: Distribution of prostate cancer by age groups

Average of Age	Min (years)	Max (years)
65.8	45	93

Table 50: Min, Max and Average Age Distribution for Prostate Cancer

PREVALENCE

Amongst the Qatari population registered in the QNCR, there were 216 cases diagnosed with prostate cancer. Of these cases, 63 (29%) have died and 153 (71%) are still alive.

HISTOLOGY

All cases of histology were reported.

Histology	N	%
Acinar cell carcinoma	79	74.53%
Adenocarcinoma, NOS	20	18.87%
Neoplasm, malignant	5	4.72%
Embryonal rhabdomyosarcoma, NOS	1	0.94%
Carcinoma, NOS	1	0.94%

Table 51: Histology distribution for prostate cancer

STAGING

Almost 22% of the total cases reported in 2018 did not have a known cTNM stage. Of those cases that did report a cTNM stage, more than 59% were late stages (III and IIV) and 41% were early stage (I and II). *[PLEASE SEE DISCLAIMER]*

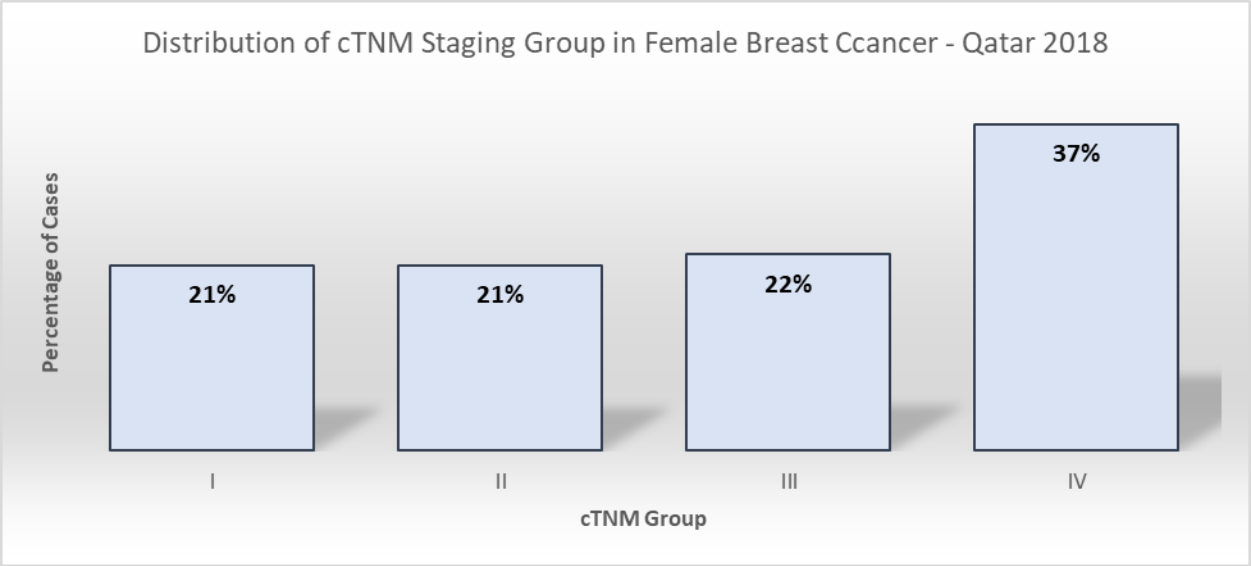

Figure 27: cTNM Distribution for prostate cancer

TREATMENT

In 2018, only 43.56% of total cases were reported with treatment information. The following table shows the treatment types in no particular order. *[PLEASE SEE DISCLAIMER]*

Treatment Modality	%
Surgery	21.28%
Chemotherapy / Surgery	17.02%
Chemotherapy / Hormonal Therapy / Radiation Therapy / Surgery	10.64%
Chemotherapy / Radiation Therapy / Surgery	8.51%
Chemotherapy	7.45%
Hormonal Therapy / Radiation Therapy / Surgery	6.38%
Chemotherapy / Radiation Therapy	5.32%
Radiation Therapy / Surgery	4.26%
Hormonal Therapy / Radiation Therapy	3.19%
Chemotherapy / Hormonal Therapy / Radiation Therapy	3.19%
Hormonal Therapy	3.19%
Chemotherapy / Hormonal Therapy	2.13%
Hormonal Therapy / Surgery	2.13%
Chemotherapy / Hormonal Therapy / Surgery	1.06%
Radiation Therapy	1.06%
Chemotherapy / Immunotherapy / Radiation Therapy / Surgery	1.06%
Chemotherapy / HSCT / Surgery	1.06%
Immunotherapy / Surgery	1.06%

Table 52: Treatment modalities for prostate cancer

NON-HODGKIN LYMPHOMA NHL

ICD 10 CODES

ICD 10 Code	Description
C82	Follicular lymphoma
C83	Non-follicular lymphoma
C84	Mature T/NK-cell lymphomas
C85	Other and unspecified types of non-Hodgkin lymphoma
C96	Other and unspecified malignant neoplasms of lymphoid

Table 53: ICD 10 codes for Non-Hodgkin Lymphoma cancer in QNCR

KEY FACTS

In 2018, there were 84 newly diagnosed cases of malignant Non-Hodgkin Lymphoma, 15 (17.9%) cases of which were Qataris and 69 (82.1%) cases Non-Qataris.

Behavior	Qatari - Male	Qatari - Female	Qatari - Total	Non-Qatari - Male	Non-Qatari - Female	Non-Qatari - Total	Grand Total
Malignant	9	6	15	49	26	75	90
Grand Total	9	6	15	49	26	75	90

Table 54: Non-Hodgkin Lymphoma distribution by gender and nationality

The cumulative risk, or the chance of any person getting a Non-Hodgkin Lymphoma between the ages of 0-74, is 0.4. The Age Standardized Rate (ASR) was found to be 4.8 per 100 000 of population at risk.

Age-Group (5 year)	Male		Female		Both Genders	
	N	ASIR	N	ASIR	N	ASIR
0-4	2	2.74	2	2.84	0	0.00
5-9	0	0.00	0	0.00	4	2.94
10-14	1	1.86	0	0.00	1	0.95
15-19	2	4.20	0	0.00	2	2.35
20-24	4	1.82	2	4.43	6	2.27
25-29	2	0.55	2	2.21	4	0.88
30-34	7	1.81	3	2.88	10	2.03
35-39	6	1.94	4	4.66	10	2.53
40-44	6	2.96	1	1.67	7	2.66
45-49	3	2.11	1	2.62	4	2.22
50-54	7	8.34	2	8.18	9	8.30
55-59	6	11.73	5	31.44	11	16.40
60-64	4	15.57	2	21.33	6	17.11
65-69	2	20.01	3	60.11	5	33.36
70-74	5	106.91	4	131.23	9	116.50
75-79	0	0.00	0	0.00	0	0.00
80+	1	43.69	1	52.36	2	47.63
Total "N"	**90**					
ASR per 100000 (WHO population)	**7.56**					
Crude incidence rate per 100000	**3.26**					
Cumulative Risk of Incidence [0-74]	**1.05**					

Table 55: Summary of Non-Hodgkin Lymphoma burden

DEMOGRAPHICS

Amongst males, peak of incidence of Non-Hodgkin Lymphoma was in the age group 50-54. The youngest age was 5 years old and the average age was 46 years old.

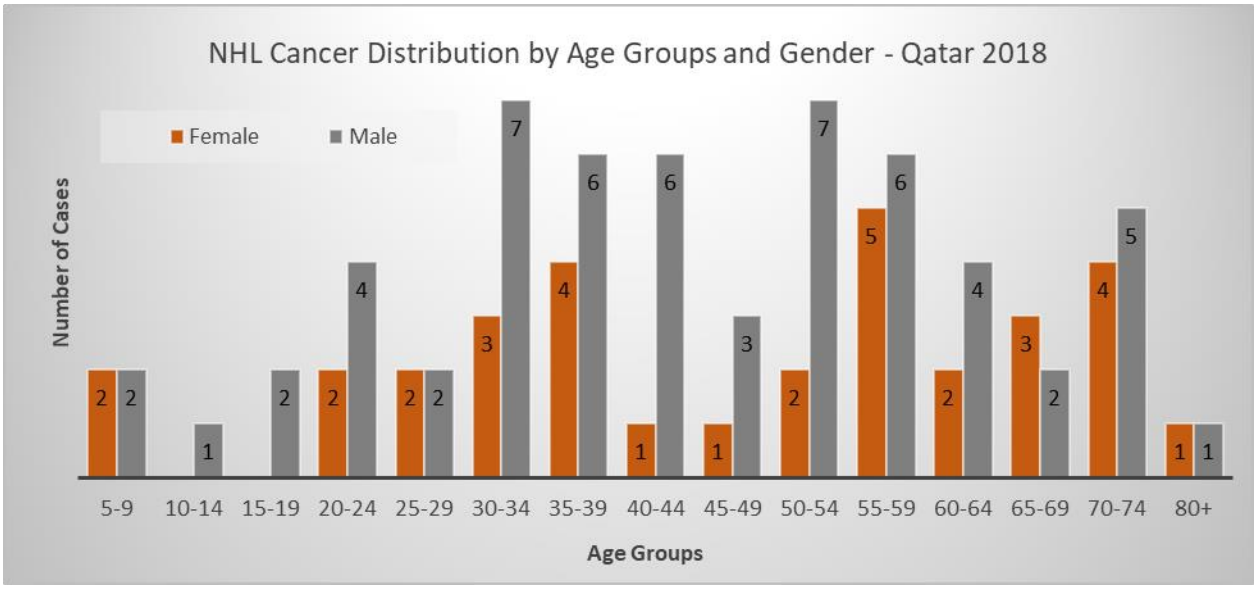

Figure 28: Distribution of Non-Hodgkin Lymphoma by age groups

Average of Age	Min (years)	Max (years)
46	5	83

Table 56: Min, max and average age distribution for NHL cancer

PREVALENCE

Amongst the Qatari population registered in the QNCR, there were 219 cases diagnosed with Non-Hodgkin Lymphoma. Of these cases, 56 (25.6%) have died and 163 (74.4%) are still alive.

HISTOLOGY

All cases of histology were reported.

Histology	N	%
Diffuse large B-cell lymphoma, NOS	50	55.56%
Follicular lymphoma, grade 2	5	5.56%
Burkitt lymphoma, NOS	5	5.56%
Mature T-cell lymphoma, NOS	4	4.44%
Malignant lymphoma, non-Hodgkin, NOS	3	3.33%
Mantle cell lymphoma (Includes all variants: blastic, pleomorphic, small cell)	3	3.33%
Precursor T-cell lymphoblastic lymphoma	3	3.33%
Anaplastic large cell lymphoma, T cell and Null cell type	2	2.22%
Follicular lymphoma, NOS	2	2.22%
Follicular lymphoma, grade 1	2	2.22%
Follicular lymphoma, grade 3	2	2.22%
Primary cutaneous CD30+ T-cell lymphoproliferative disorder	1	1.11%
NK/T-cell lymphoma, nasal and nasal-type	1	1.11%
Malignant lymphoma, small B lymphocytic, NOS	1	1.11%
Precursor cell lymphoblastic lymphoma, NOS	1	1.11%
Hepatosplenic (gamma delta) cell lymphoma	1	1.11%
Angioimmunoblastic T-cell lymphoma	1	1.11%
Mediastinal large B-cell lymphoma	1	1.11%
Malignant lymphoma, NOS	1	1.11%
Splenic marginal zone B-cell lymphoma	1	1.11%

Table 57: Histology distribution for Non-Hodgkin Lymphoma

STAGING

Almost 66.3% of the total cases reported in 2018 did not have a reported cTNM stage. Of those cases that did report a cTNM stage, more than 72.52% were late stages (III and IIV) and 34.48% were early stage (0, I and II). *[PLEASE SEE DISCLAIMER]*

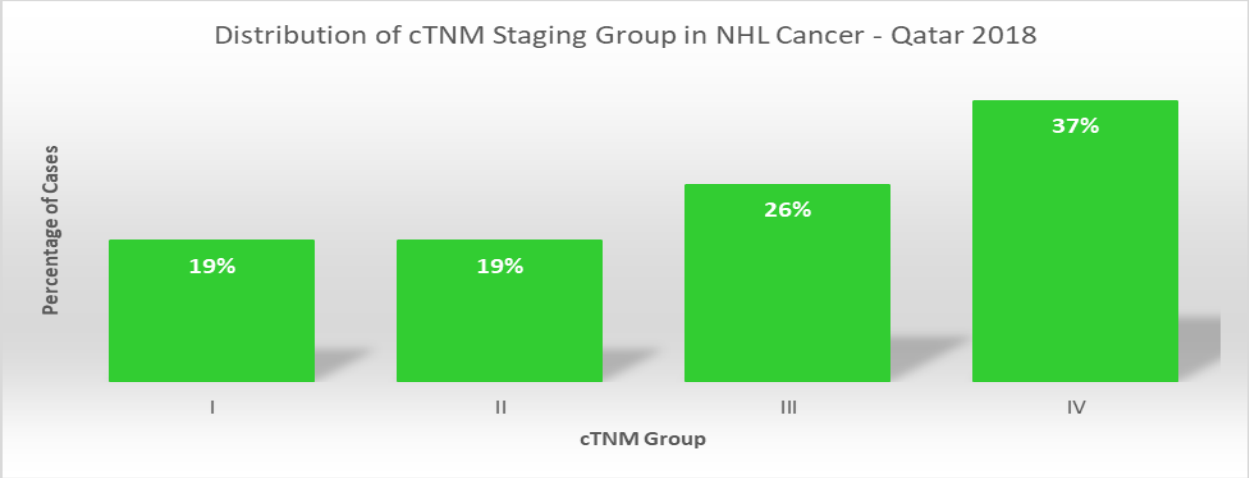

Figure 29: cTNM Distribution for prostate cancer

TREATMENT

In 2018, 76% of total cases were reported with treatment information. The following table shows the treatment types in no particular order. *[PLEASE SEE DISCLAIMER]*

Treatment Modality	%
Chemotherapy	33.82%
Surgery	16.18%
Chemotherapy / Radiation Therapy	10.29%
Radiation Therapy	7.35%
Radiation Therapy / Surgery	4.41%
Chemotherapy / Hormonal Therapy / Radiation Therapy	4.41%
Hormonal Therapy / Radiation Therapy	4.41%
Chemotherapy / Surgery	4.41%
Chemotherapy / Hormonal Therapy / Radiation Therapy / Surgery	2.94%
Chemotherapy / Radiation Therapy / Surgery	2.94%
Hormonal Therapy / Radiation Therapy / Surgery	2.94%
Hormonal Therapy	1.47%
Chemotherapy / Immunotherapy	1.47%
Chemotherapy / Hormonal Therapy	1.47%
Hormonal Therapy / Surgery	1.47%

Table 58: Treatment modalities for Non-Hodgkin Lymphoma

LIVER AND INTRAHEPATIC BILE DUCTS

ICD 10 CODES

ICD 10 Code	Description
C22	Malignant neoplasm of liver and intrahepatic bile ducts
C24	Malignant neoplasm of other and unspecified parts of biliary tract
D015	Carcinoma in situ of liver, gallbladder and bile ducts

Table 59: ICD 10 codes for liver cancer in QNCR

KEY FACTS

Behavior	Qatari - Male	Qatari - Female	Qatari - Total	Non-Qatari - Male	Non-Qatari - Female	Non-Qatari - Total	Grand Total
Malignant	13	6	19	48	6	54	73
Grand Total	13	6	19	48	6	54	73

Table 60: Distribution of liver cancer by gender and nationality

In 2016, 52 cases were newly diagnosed with liver cancer, 12(23%) of which were Qataris and 40(77%) Non-Qataris. The cumulative risk is 0.6, that relates to the chance of a person to get liver cancer during the age of 0-74. The Age Standardized Rate ASR was found to be 5.9 per 100 000 of population at risk.

Age-Group (5 year)	Male		Female		Both Genders	
	N	ASIR	N	ASIR	N	ASIR
0-4	0	0.00	0	0.00	0	0.00
5-9	0	0.00	0	0.00	0	0.00
10-14	0	0.00	0	0.00	0	0.00
15-19	1	2.10	0	0.00	1	1.17
20-24	1	0.46	0	0.00	1	0.38
25-29	2	0.55	0	0.00	2	0.44
30-34	1	0.26	1	0.96	2	0.41
35-39	1	0.32	0	0.00	1	0.25
40-44	2	0.99	1	1.67	3	1.14
45-49	4	2.81	0	0.00	4	2.22
50-54	12	14.29	1	4.09	13	11.99
55-59	11	21.50	1	6.29	12	17.89
60-64	7	27.25	2	21.33	9	25.67
65-69	10	100.03	1	20.04	11	73.39
70-74	2	42.76	2	65.62	4	51.78
75-79	2	77.64	1	50.33	3	65.75
80+	5	218.44	2	104.71	7	166.71
Total "N"	**73**					
ASR per 100000 (WHO population)	**9.73**					
Crude incidence rate per 100000	**2.64**					
Cumulative Risk of Incidence [0-74]	**0.93**					

Table 61: Summary of liver cancer burden

DEMOGRAPHY

In male patients, the peak age group was 50-54, with min age of 19 for both genders and median age of incidence is 58.6

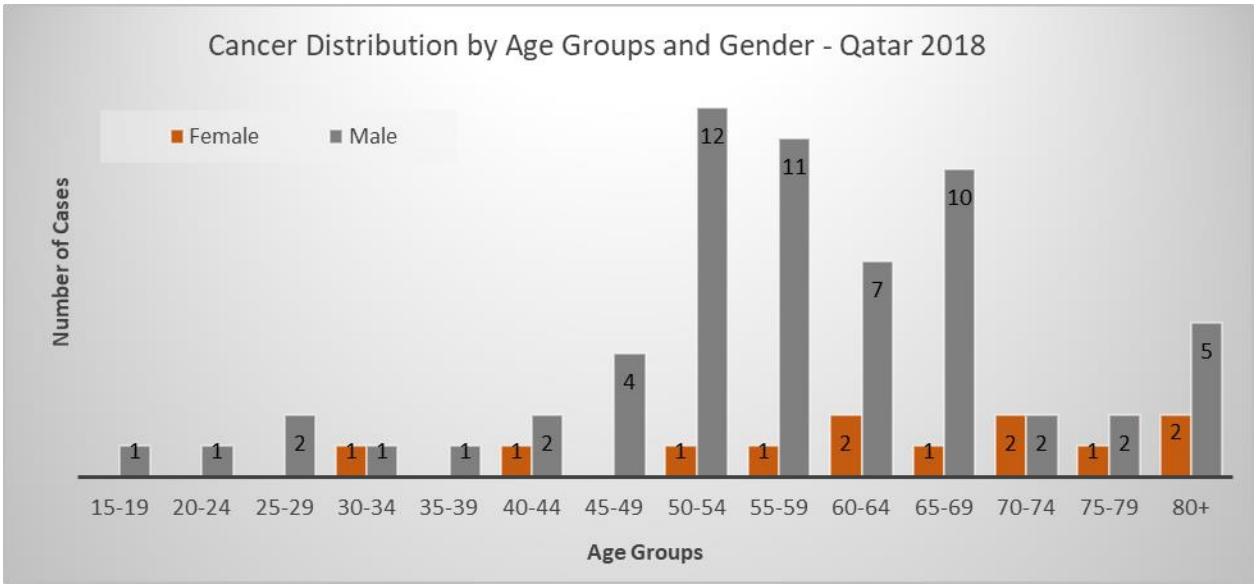

Figure 30: Distribution of liver cancer by age groups

Average of Age	Min (years)	Max (years)
58.6	19	84

Table 62: Min, Max and Average Age Distribution for Liver Cancer

PREVALENCE

Amongst the Qatari population registered in the QNCR, there were 215 cases diagnosed with liver cancer. Of these cases, 146 (68%) have died and 69 (32%) are still alive.

HISTOLOGY

Histology	%
Hepatocellular carcinoma, NOS	87.67%
Combined hepatocellular carcinoma and cholangiocarcinoma	2.74%
Neoplasm, malignant	2.74%
Cholangiocarcinoma	2.74%
Yolk sac tumor	1.37%
Epithelioid hemangioendothelioma, NOS	1.37%
Hepatocellular carcinoma, spindle cell variant	1.37%

Table 63: Histology distribution for liver cancer

STAGING

Almost 9% of the total cases reported in 2018 did not have a known cTNM stage. Of those cases that did report a cTNM stage, more than 60% were late stages III and IV. *[PLEASE SEE DISCLAIMER]*

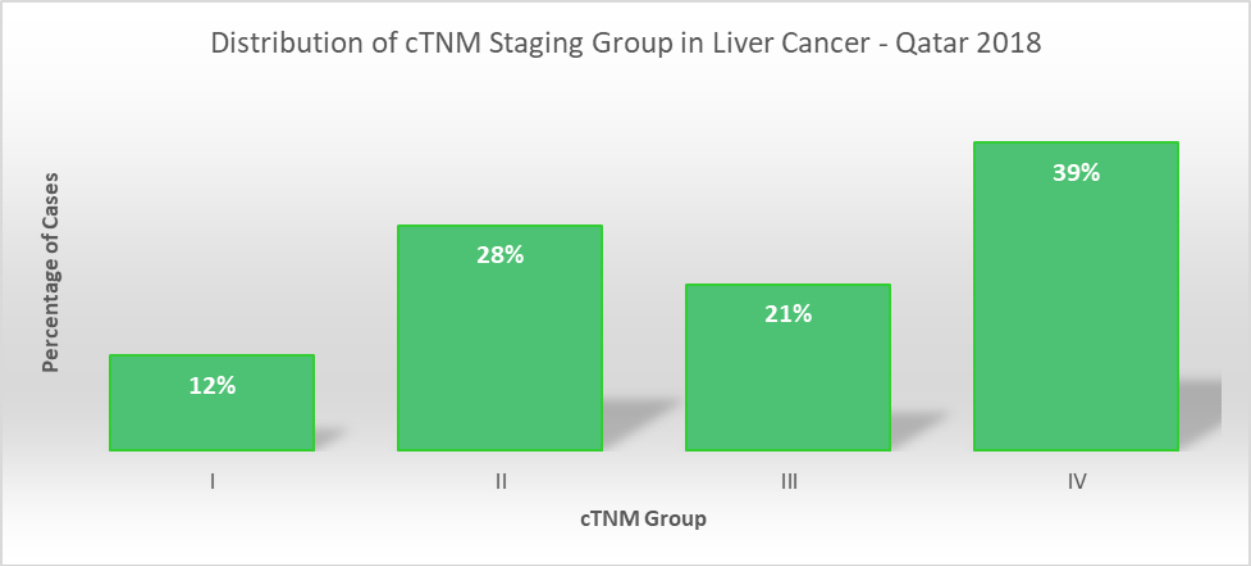

Figure 31: cTNM distribution for liver cancer

TREATMENT

In 2018, only 56% of total cases were reported with treatment information. The following table shows the treatment types in no particular order. *[PLEASE SEE DISCLAIMER]*

Treatment Modality	%
Chemotherapy	34.15%
Surgery	12.20%
Chemotherapy / Radiation Therapy	12.20%
Chemotherapy / Surgery	9.76%
Chemotherapy / Hormonal Therapy / Radiation Therapy	7.32%
Radiation Therapy	4.88%
Hormonal Therapy	4.88%
Chemotherapy / Radiation Therapy / Surgery	4.88%
Chemotherapy / HSCT	2.44%
Chemotherapy / Immunotherapy / HSCT / Surgery	2.44%
Chemotherapy / Immunotherapy / Radiation Therapy	2.44%
Chemotherapy / Hormonal Therapy	2.44%

Table 64: Treatment modalities for liver cancer

TRACHEA, BRONCHUS AND LUNG

ICD 10 CODES

ICD 10 Code	Description
C33	Malignant neoplasm of trachea
C34	Malignant neoplasm of bronchus and lung
D021	Trachea

Table 65: ICD 10 codes for lung cancer in QNCR

KEY FACTS

In 2018, 71 cases were newly diagnosed with lung cancer, 15 (21.1%) of which were Qataris and 56 (78.9%) were non-Qataris.

Behavior	Qatari - Male	Qatari - Female	Qatari - Total	Non-Qatari - Male	Non-Qatari - Female	Non-Qatari - Total	Grand Total
Malignant	14	1	15	60	13	73	88
Grand Total	14	1	15	60	13	73	88

Table 66: Distribution of lung cancer by gender and nationality

The cumulative risk is 0.7, that relates to the chance of a person to get malignant Lung cancer during the age of 0-74. The Age Standardized Rate ASR was found to be 6.6 per 100 000 of population at risk

Age-Group (5 year)	Male		Female		Both Genders	
	N	ASIR	N	ASIR	N	ASIR
0-4	0	0.00	0	0.00	0	0.00
5-9	0	0.00	0	0.00	0	0.00
10-14	0	0.00	0	0.00	0	0.00
15-19	0	0.00	0	0.00	0	0.00
20-24	0	0.00	0	0.00	0	0.00
25-29	1	0.28	0	0.00	1	0.22
30-34	3	0.77	0	0.00	3	0.61
35-39	3	0.97	1	1.17	4	1.01
40-44	7	3.45	1	1.67	8	3.04
45-49	13	9.14	1	2.62	14	7.76
50-54	8	9.53	2	8.18	10	9.23
55-59	13	25.41	2	12.58	15	22.37
60-64	8	31.15	0	0.00	8	22.82
65-69	4	40.01	2	40.07	6	40.03
70-74	7	149.67	1	32.81	8	103.56
75-79	4	155.28	2	100.65	6	131.49
80+	3	131.06	2	104.71	5	119.08
Total "N"	**88**					
ASR per 100000 (WHO population)	**10.48**					
Crude incidence rate per 100000	**3.19**					
Cumulative Risk of Incidence [0-74]	**1.05**					

Table 67: Summary of lung cancer burden

DEMOGRAPHY

In comparison to female, male have a much peak of incidence of Lung cancer at 45-49 and 55-59. The youngest age was 25 years, and the average age was 56.5 years old.

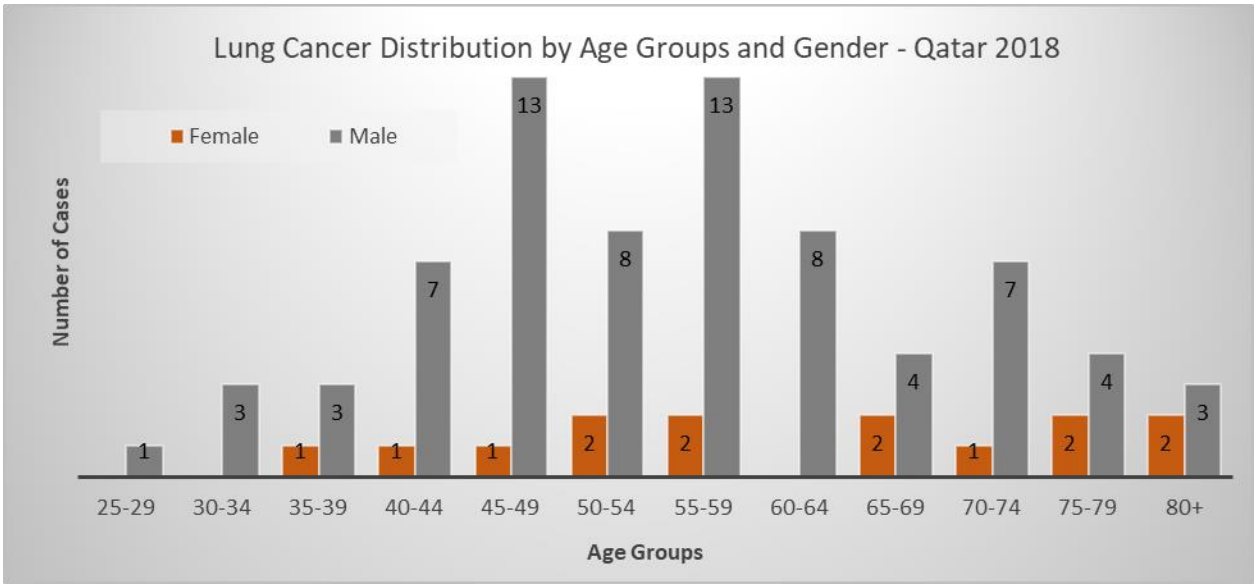

Figure 32: Distribution of lung cancer by age groups

Average of Age	Min (years)	Max (years)
56.5	25	86

Table 68: Min, max and average age distribution for lung cancer

PREVALENCE

Amongst the Qatari population registered in the QNCR, there were 262 cases diagnosed with lung cancer. Of these cases, 192 (73.3%) have died and 70 (26.7%) are still alive.

HISTOLOGY

Histology	N	%
Adenocarcinoma, NOS	43	48.86%
Squamous cell carcinoma, NOS	11	12.50%
Acinar cell carcinoma	9	10.23%
Small cell carcinoma, NOS	4	4.55%
Neuroendocrine tumor, NOS	3	3.41%
Neuroendocrine carcinoma, NOS	3	3.41%
Neoplasm, malignant	3	3.41%
Adenosquamous carcinoma	2	2.27%
Mucinous adenocarcinoma	2	2.27%
Non-small cell carcinoma	2	2.27%
Epithelioid mesothelioma, malignant	1	1.14%
Large cell neuroendocrine carcinoma	1	1.14%
Neuroendocrine tumor, grade 2	1	1.14%
Carcinoma, NOS	1	1.14%
Squamous cell carcinoma, keratinizing, NOS	1	1.14%
Large cell carcinoma, NOS	1	1.14%

Table 69: Histology distribution for lung cancer

STAGING

Almost 18% of the total cases reported in 2018 did not have a known cTNM stage. Of those cases that did report a cTNM stage, 76 %were late stage (lll and IV) and 24% were early stage (I and ll). *[PLEASE SEE DISCLAIMER]*

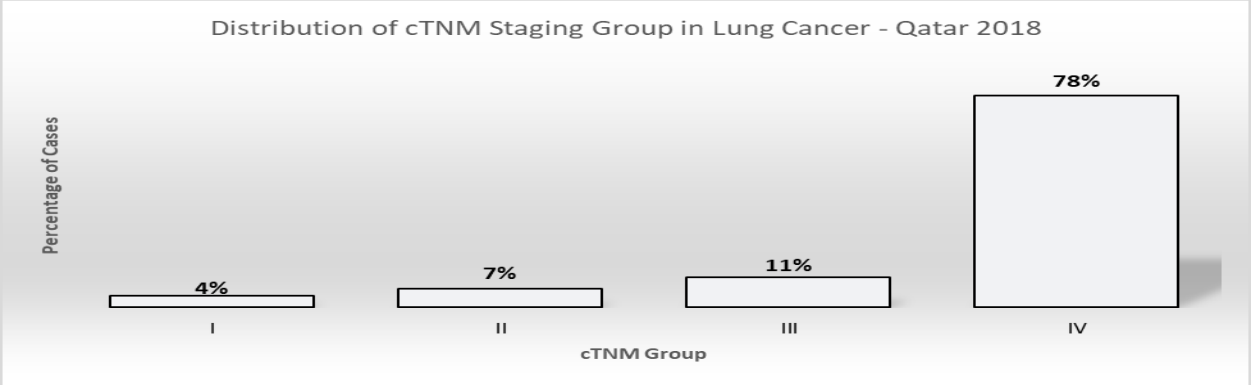

Figure 33: cTNM Distribution for lung cancer

TREATMENT

In 2018, 64% of total cases were reported with treatment information. The following table shows the treatment types in no particular order. *[PLEASE SEE DISCLAIMER]*

Treatment Modality	%
Surgery	19.64%
Chemotherapy	17.86%
Chemotherapy / Surgery	14.29%
Radiation Therapy	10.71%
Chemotherapy / Radiation Therapy / Surgery	10.71%
Chemotherapy / Radiation Therapy	7.14%
Hormonal Therapy / Radiation Therapy / Surgery	5.36%
Chemotherapy / Hormonal Therapy / Radiation Therapy	3.57%
Chemotherapy / HSCT	1.79%
Hormonal Therapy / Surgery	1.79%
Chemotherapy / Immunotherapy / Radiation Therapy	1.79%
Chemotherapy / Immunotherapy	1.79%
Chemotherapy / Hormonal Therapy / Radiation Therapy / Surgery	1.79%
Hormonal Therapy	1.79%

Table 70: Treatment modalities for lung cancer

URINARY TRACT

ICD 10 CODES

ICD 10 Code	Description
C64	Malignant neoplasm of kidney
C65	Malignant neoplasm of renal pelvis
C66	Malignant neoplasm of ureter
C68	Malignant neoplasm of other and unspecified urinary organs
D091	Other and unspecified urinary organs

Table 71: ICD 10 codes for urinary tract in QNCR

KEY FACTS

In 2018, 86 cases were newly diagnosed with kidney cancer, 11(12.8%) of which were Qataris and 75(87.2%) non-Qataris.

Behavior	Qatari - Male	Qatari - Female	Qatari - Total	Non-Qatari - Male	Non-Qatari - Female	Non-Qatari - Total	Grand Total
In Situ	0	0	0	0	0	0	0
Malignant	8	3	11	66	14	80	91
Grand Total	8	3	11	66	14	80	91

Table 72: Distribution of urinary tract cancer by gender and nationality

The cumulative risk is 0.52 that relates to the chance of a person to get kidney cancer during the age of 0-74. The Age Standardized Rate ASR was found to be 1.13 per 100 000 of population at risk.

Age-Group (5 year)	Male		Female		Both Genders	
	N	ASIR	N	ASIR	N	ASIR
0-4	0	0.00	0	0.00	0	0.00
5-9	0	0.00	1	1.49	1	0.73
10-14	0	0.00	0	0.00	0	0.00
15-19	0	0.00	0	0.00	0	0.00
20-24	0	0.00	0	0.00	0	0.00
25-29	2	0.55	0	0.00	2	0.44
30-34	3	0.77	1	0.96	4	0.81
35-39	8	2.59	2	2.33	10	2.53
40-44	7	3.45	2	3.34	9	3.42
45-49	14	9.85	1	2.62	15	8.32
50-54	9	10.72	5	20.45	14	12.92
55-59	7	13.68	2	12.58	9	13.42
60-64	12	46.72	0	0.00	12	34.23
65-69	3	30.01	2	40.07	5	33.36
70-74	8	171.05	0	0.00	8	103.56
75-79	1	38.82	1	50.33	2	43.83
80+	0	0.00	0	0.00	0	0.00
Total "N"	**91**					
ASR per 100000 (WHO population)	**7.58**					
Crude incidence rate per 100000	**3.30**					
Cumulative Risk of Incidence [0-74]	**1.06**					

Table 73: Summary of urinary tract cancer burden

DEMOGRAPHY

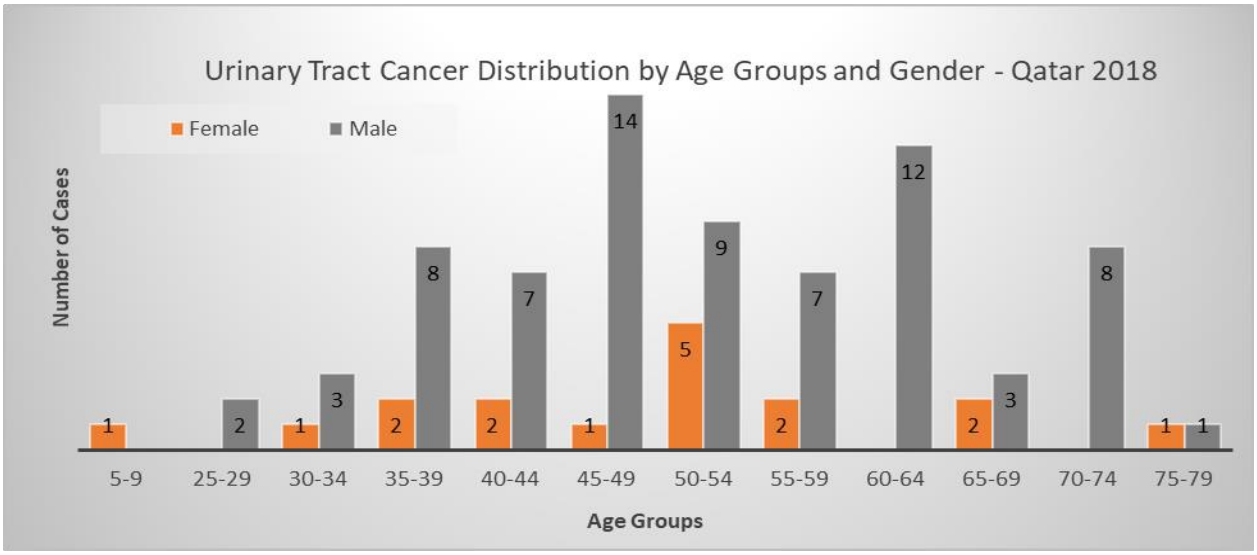

Figure 34: Distribution of urinary tract cancer by age groups

Average of Age	Min (years)	Max (years)
51.86	6	79

Table 74: Min, max and average age distribution for urinary tract cancer

PREVALENCE

Amongst the Qatari population registered in the QNCR, there were 118 cases diagnosed with kidney cancer. Of these cases, 35 (30%) have died and 83 (70%) are still alive.

HISTOLOGY

Histology	N	%
Renal cell carcinoma, NOS (C64.9)	59	64.84%
Neoplasm, malignant	11	12.09%
Papillary adenocarcinoma, NOS	7	7.69%
Renal cell carcinoma, Chromophobe type (C64.9)	5	5.49%
Transitional cell carcinoma, NOS	2	2.20%
Leiomyosarcoma, NOS	1	1.10%
Squamous cell carcinoma, spindle cell	1	1.10%
Mesenchymal chondrosarcoma	1	1.10%
Papillary transitional cell carcinoma (C67)	1	1.10%
Nephroblastoma, NOS (C64.9)	1	1.10%
Squamous cell carcinoma, NOS	1	1.10%
Pseudosarcomatous carcinoma	1	1.10%

Table 75: Histology distribution for urinary tract cancer

STAGING

Almost 46% of the total cases reported in 2018 did not have a known cTNM stage. Of those cases that did report a cTNM stage, 35% were late stage (lll and IV) and 65% were early stage (l and ll). *[PLEASE SEE DISCLAIMER]*

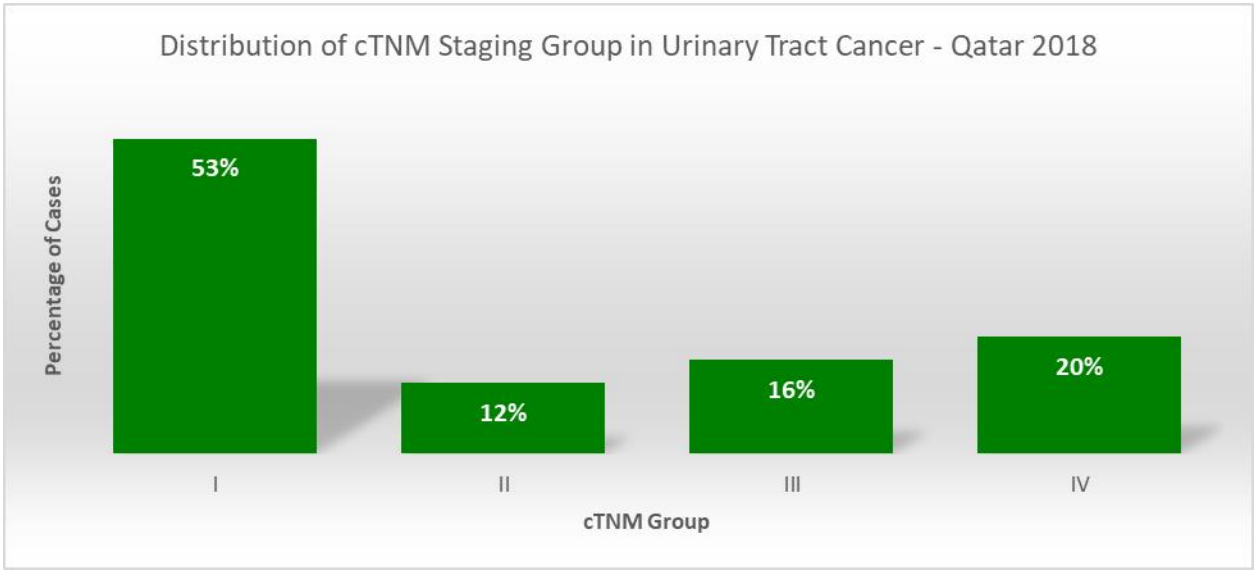

Figure 35: cTNM Distribution for urinary tract cancer

TREATMENT

In 2018, 92% of total cases were reported with treatment information. The following table shows the treatment types in no particular order. *[PLEASE SEE DISCLAIMER]*

Treatment Modality	%
Surgery	59.21%
Chemotherapy / Surgery	17.11%
Chemotherapy / Radiation Therapy / Surgery	10.53%
Radiation Therapy / Surgery	2.63%
Hormonal Therapy / Surgery	2.63%
Chemotherapy	1.32%
Chemotherapy / Immunotherapy / Radiation Therapy / Surgery	1.32%
Chemotherapy / Radiation Therapy	1.32%
Chemotherapy / Hormonal Therapy / Radiation Therapy / Surgery	1.32%
Chemotherapy / Immunotherapy / Surgery	1.32%
Immunotherapy	1.32%

Table 76: Treatment modalities for urinary tract cancer

2018
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وزارة الصحة العامة
صندوق بريد 42 الدوحة، قطر
www.qcic.moph.gov.qa
qncr@moph.gov.qa
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