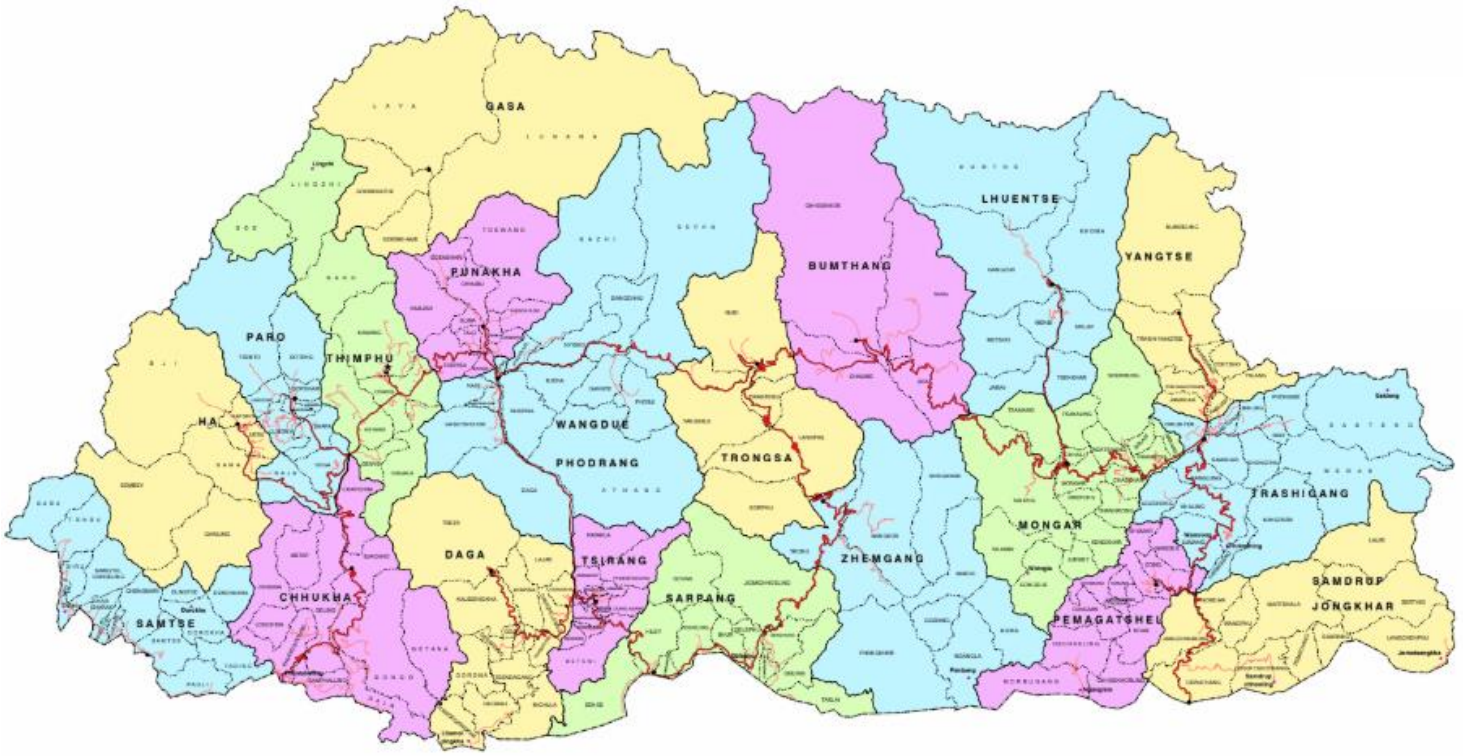
Cancer Incidence and Mortality in Bhutan: 2014 – 2018

Report of the Population Based Cancer Registry Bhutan



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Population Based Cancer Registry Bhutan

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1. Executive Summary

a. Background

Cancer incidence has been rising over the years and a need for cancer control plan was felt. We had no reliable data and data from various sources were used. Having no radiation or medical oncologists, majority of patients were referred for treatment to India. Cancer was the most common disease for referral till 2017. Population based cancer registry (PBCR) was needed to understand the true burden of cancer in the country. Otherwise, scarce resources of a country will be spent on wrong priorities. Population based cancer registry registered new cancer case occurring in a defined population in a specified time period. Bhutan has a small population and decision was taken to cover the whole population. The first report is being published for the 5 years period of 2014-2018. Subsequent reports will be published every two years.

b. Country and Population

Bhutan is located in the Himalayas and is surrounded by Indian states on 3 sides and by China in the north. It has an area of 38,394 square km and comprise of mostly mountains that are inhabitable. It has a population of 727145 (NSB 2017) with a population density of 19.3 per square km. It is mostly agrarian. 62.2% of people live in rural areas.

For calculation of the incidence rate we have used estimated population for the year 2016. The population of 2016 is presented in Table 1.

Table 1: Estimated population by age group and sex as on 1st July 2016: Bhutan

Age Group	Male		Female		Total	
	Number	%	Number	%	Number	%
0-4	29411	7.8	28576	8.3	57994.82	8.1
5-9	32368	8.6	31326	9.1	63702.6	8.9
10-14	35036	9.3	34681	10.1	69726.31	9.7
15-19	34964	9.3	34001	9.9	68974.29	9.6
20-24	41074	10.9	34054	9.9	75138.91	10.4
25-29	41779	11.1	35531	10.4	77321.1	10.8
30-34	33930	9.0	29120	8.5	63059.02	8.8
35-39	28907	7.7	25095	7.3	54009.68	7.5
40-44	21707	5.8	18744	5.5	40456.77	5.6
45-49	18528	4.9	16334	4.8	34866.92	4.8
50-54	15135	4.0	13546	4.0	28685.02	4.0
55-59	12048	3.2	11152	3.3	23203.2	3.2
60-64	10232	2.7	9918	2.9	20152.72	2.8
65-69	7451	2.0	6922	2.0	14374.98	2.0
70-74	5756	1.5	5476	1.6	11233.53	1.6
75-79	7984	2.1	8195	2.4	16181.12	2.3
Total	376310	100.0	342671	100.0	719081	100.0

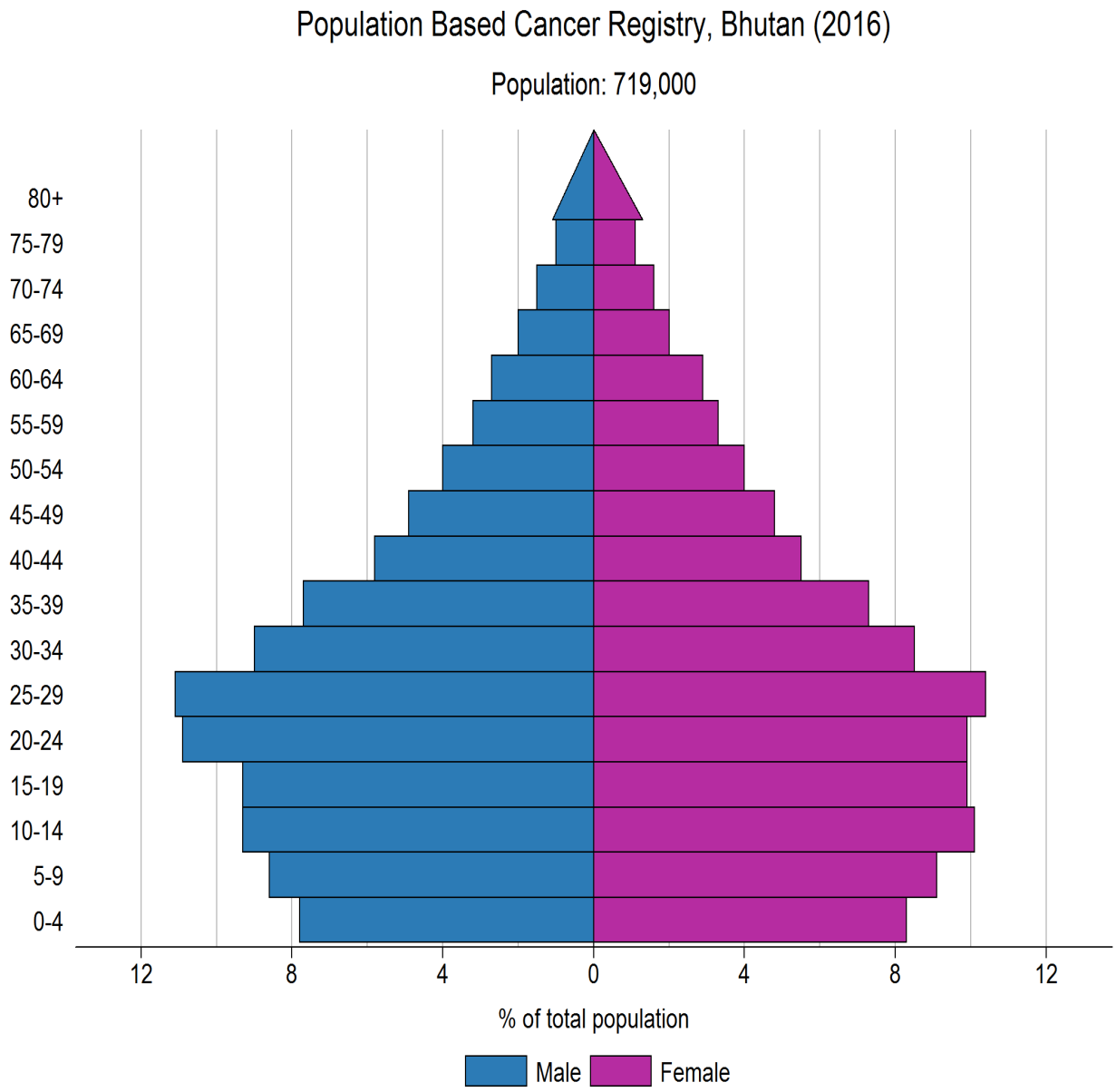


Figure 1: Population pyramid of Bhutan: 2016

c. Risk factors

Majority of Bhutanese population is rural and mainly agrarian. Sale of tobacco products are banned in Bhutan since 2010. In the past, tobacco in all forms, were readily available. Chewing of betel nuts and drinking alcohol are socially acceptable even in religious ceremonies with 56.8 % chewing betel nut and 42.9% of the population drinking alcohol as per the STEPS NCD Risk Factor survey, 2019. Unlike some other cultures, betel nut is not mixed with tobacco which indeed has even an additive carcinogenic effect. However betel nut alone is a proven carcinogen for oral cavity cancer.

Eating dried meat and salted fish are common. Drinking salted butter tea is also practiced in the colder regions of the country. Firewood was used for both heating and cooking which led to prolonged exposure to indoor smoke It has now decreased due to rural electrifications and availability of gas for cooking but still 33.3 % of the rural households use wood as a source of energy for cooking and 25.2% of the households still use bukhari (iron stove using firewood for fuel) for heating homes. Many households in urban areas use kerosene heater for heating purpose in winter months.

A study by WHO in 2018 revealed zero prevalence of Hepatitis B of 5.4% amongst women availing ANC service and about 2% in the general population. H.pylori infection in the population is stated to be 86% which is lower compared to neighboring countries, but gastric cancer is higher in the Bhutanese people which may explain other dietary risk factors prevalent in the population. Studies on H.pylori in Bhutan showed cage positive prevalence to be high which may explain high incidence of gastric cancer in Bhutan. Fruits and vegetables are seasonal and expensive; as a result, eating fruits as part of diet is not very common in Bhutan. The WHO STEPS survey 2019 indicated 86.4 percent of the population not consuming adequate fruits and vegetables.

Early marriage and early childbirth, along with multiple childbirths are common cultural practice in rural Bhutan. A study in 2012 showed Infection with high risk HPV to be very high in Bhutanese women, fourth highest among countries studied by IARC. Screening with Pap smear is in place since 2006. Latest survey showed coverage of 66.1%. In addition, HPV vaccination was introduced since 2010. After a catch-up vaccination of 12-18 years old girls in 2010, grade VI girls are being vaccinated with 2 doses of Gardasil, the quadric valent vaccine.

d. Establishment of PBCR

In 2011, delegates in the Annual Health Conference were appraised on the importance of cancer registry and its establishment was endorsed by the highest body in the Ministry of Health of Bhutan. In March 2013, Dr. Freddie Bray from IARC and Dr. Rajesh Dikshit from CCE TMC, Mumbai, visited Bhutan. Their mission was to propose setting up of a Population Based Cancer Registry in the country. In June 2014, two Hospital staff from JDWNRH got trained in data abstraction in CCE TMC, Mumbai. At the end of their two-week training, a team of three people comprising of oncologists and an Assistant Program Officer of Life Style Related Disease Program (LSRD) visited TMH and worked on types of variables to be included or modified in CanReg5 to suit Bhutanese situation

e. Brief history of previous reports and GLOBOCAN

Data of neighboring countries were used to represent cancer situation of Bhutan till 2012. In 2009, an effort was made to establish Cancer Registry in the country. Cancer data were extracted from Hospital records for the year 2004 to 2008 and results published in GLOBOCAN 2012. This was done in collaboration with National Cancer Institute (NCI), Bangkok and IARC. Due to lack of support, registry could not be sustained. In 2014, WHO sponsored a study to see cancer situation in Bhutan. Data for the years 2008 to 2014 were collected from the hospitals across the country and the report was published in 2015.

f. Health infrastructure

Bhutan has 27 hospitals, 23 Grade I BHUS, 186 Grade II BHUs and 53 sub posts. Hospitals are diagnostic and curative centers whereas BHUs function mainly as preventive centers carrying out immunization, antenatal care, family planning and Pap smears. At the sub posts, follow up and dispensing of drugs to chronic patients like TB, hypertension and diabetes are carried out too besides routine functions. Analgesics like opioids for palliative care are available only in the 3 Referral Hospitals. Other health centers procure them through Form3 and relatives come to collect them. At the community level, we have Village Health Workers who form linkage between heath centers and the community.

There are 6 health centers that have surgical facilities (only Gyne Obstetrics services in 2 hospitals) and 4 more centers where biopsies are done in Endoscopy and Colposcopy clinics. There are also 2 private clinics in the capital where UGIE is done. Besides, endoscopy and colposcopy camps are regularly carried out by a Mobile Kidu Unit under the Royal Command of His Majesty, the Fifth King of Bhutan.

All surgical and biopsy specimens are transported to JDWNRH, the only Hospital with Pathology services, including IHC and frozen section even though there are many cytology centers across the country for reading Pap smears. Tumor markers are done only in JDW till date. CT/MRI facility was available only in JDW till 2018 whereas ultrasound is available in all other hospitals and grade I BHUs. CT/MRI is now established in two other Regional Hospitals.

JDW is the tertiary hospital with oncology services and all cancer patients are referred here for treatment. Till the end of 2017, all patients needing radiation were referred out to Kolkata. From 2018, radiation therapy service is made available in JDWNRH. Patients with hematological cancers and those needing radioactive Iodine ablations are still referred mostly to Kolkata and some to CMC Vellore. Since volume of cervical cancer patients requiring brachy therapy is small, women are referred for that service to Kolkata after completion of external beam therapy in Bhutan.

Cancer treatment is free of cost to the patients even when they are referred to centers outside Bhutan. This is a great advantage for people living in Bhutan where most cannot afford cancer treatment if it were to be out of pocket expenditure. However, some people do go abroad on their expenses for cancer treatment.

In JDWNRH, home based palliative care is offered and palliative care, especially in the form of pain management is available throughout the country. The Ministry of Health tries to keep opioid drugs (Morphine) in stock most of the time.

We also have Traditional Medicine which is used by people with cancers as an alternative therapy.

2. Registration method

a. Data collection

There are four people working for the registry which is located in JDNRH premises. Data abstraction is done by 3 staff from different sources in the Hospital. One data assistant enters data into *CanReg5* software. Since the data abstracters were all working hospital staff, they work for the Registry only on Wednesdays whereas data entry is done daily. In 2014, all prevalent cancers were included if they were diagnosed from January 2014 onwards. Cancer deaths were also included if they occurred in the period 2014-2018 regardless of when cancers were diagnosed. The cases diagnosed before 2014 were excluded from analysis of incidence, but were included in analysis of mortality. Mortality data is also collected from Royal Insurance Corporation of Bhutan (RICB) from death claims.

Every 6 months, data abstractors had to travel the whole country to collect data from other health centers till 2016. From 2017 onwards, data from Central and Eastern Regions are being collected by 2 surgeons, who are posted in Eastern and Central Regional Referral Hospitals. They were trained in cancer registry in Mumbai in November 2016. These two centers send their data to JDWNRH annually where it is checked and entered. Data from western and northern regions are still being collected by Registry staff in JDWNRH. This helps in collecting mortality data and covers patients that do not come for cancer diagnosis or treatment to JDWNRH.

b. Method of data collection

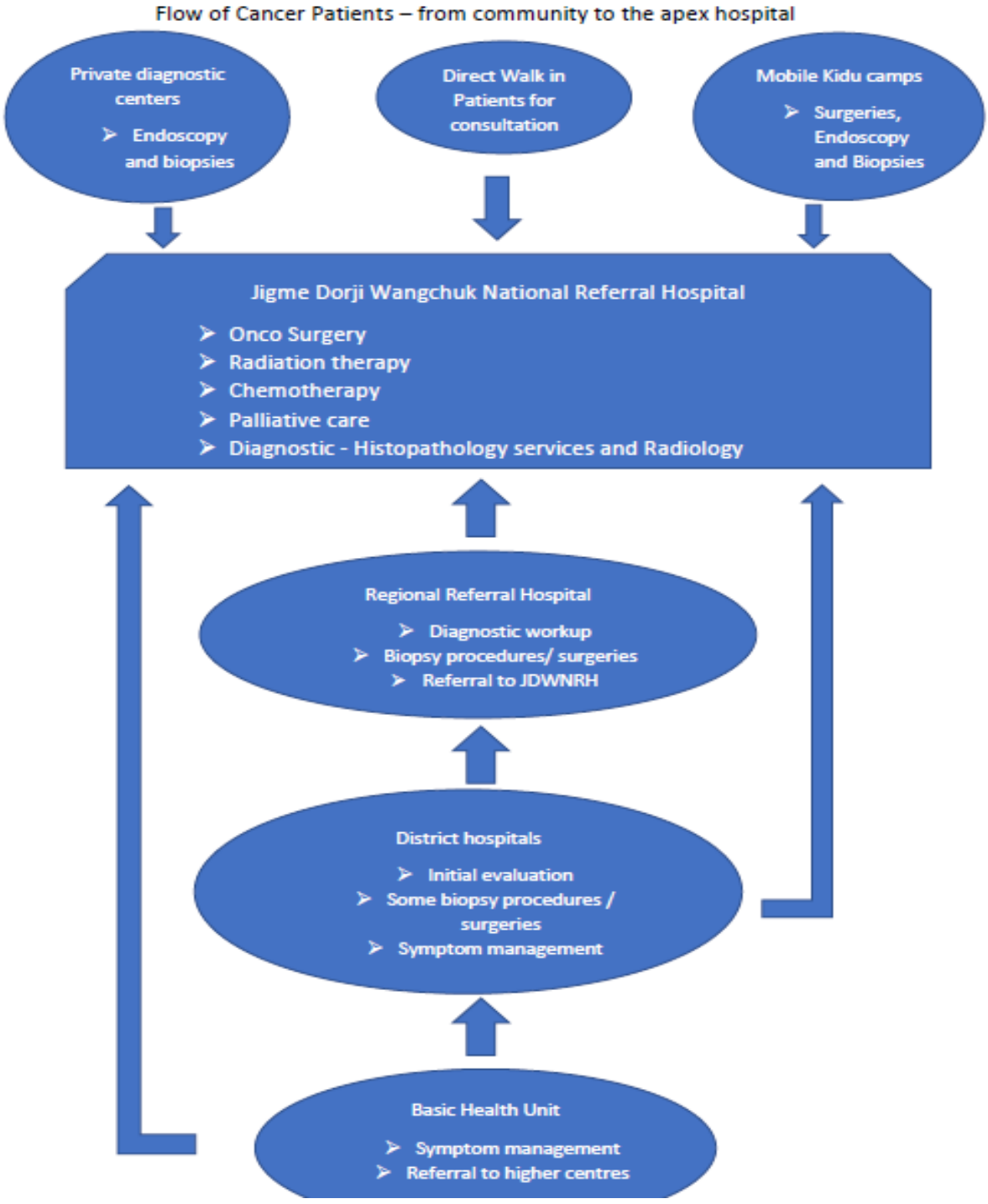


Figure 2: Method of data collection

c. Data sources

Following are the sources in the JDWNRH: -Medical records unit, indoor/wards, referral section, Oncology/Chemotherapy ward, Pathology, cytology, hematology, Radiology (CT/MRI), Endoscopy and Colposcopy.

Other sources:

Data was also collected from other health centers of Bhutan and from referral centers in Kolkata and CMC Vellore. Staging and treatment data were mainly abstracted from centers in Kolkata and Vellore, but could not be reflected as source since these centers were not included in CanReg5 software. However, follow up and mortality data was mainly abstracted from other health centers. Only 497 deaths out of 941 (52%) had occurred in JDW. Flow of cancer patients in Bhutan is shown in Fig.2

Table 2: Other hospitals and health centers of Bhutan (Source of cancer registration)

Sr. No.	District	Hospitals	Grade I BHUs
1	Bumthang	1	0
2.	Chukha	3	2
3.	Dagana	1	2
4	Gasa	0	1
5	Haa	1	0
6	Lhuntse	1	0
7	Monggar	1	1
8	Paro	1	0
9	Pemagatshel	1	1
10	Punakha	1	0
11	Sarpang	2	1
12	Samtse	2	2
13	SamdrupJongkhar	2	3
14	Tashigang	2	5
15	Thimphu	3	1
16	Trongsar	1	0
17	Tsirang	1	0
18	TashiYangtse	1	1
19	WangduePhodrang	1	1
20	Zhemgang	1	2
Total		**27**	**23**

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d. Classification and coding

ICD-10 was used for coding the sites and ICD-O3 for topography and morphological classification. ICD-O3 contains morphology, behavior and grade of tumor Basis of diagnosis

98.1 % cases were microscopically verified (histology/cytology). Only in some cases of lung, liver and brain, diagnosis was based on other methods.

e. Data base

Data was entered in CanReg5 software. It has 3 parts to store information for each patient including 'patient', 'tumor' and 'source'. It also has modules for data entry, quality control, consistency checks and basic analysis of the data. We can also modify existing variables. *CanReg5* also helps to check and to analyze cancer registry data.

f. Confidentiality

Unauthorized people have no access to registry data. Rooms with cancer files and computer are kept locked.

g. Data analysis

Our data was analyzed by using CanReg5 software. We used 2016 population for calculating different rates. All the graphs were generated by CanReg5. Age specific rate was calculated by number of cases divided by population in that age group and expressed in 100,000. Age standardized rate is calculated by using world standard population and expressed as per 100,000. Cumulative risk is the probability or risk of getting cancer during a specified period.

h. Quality control

All doubtful cases were cleared by Principle Investigator after verifying with available documents and by telephonic conversation with concerned patients. Many duplicates were thus removed. Re-abstraction was not done by external people but external quality control was done by TMC group after data was sent to Mumbai. Data cleaning took nearly a month before we could do analysis.

3. Results

a. Cancer incidence in Bhutan

A total of 2744 new cancer cases were registered in the last 5 years (2014 to 2018), 1205 males and 1539 female cases. Number of cancer cases registered per year remained constant except for 2014 where registry was started only at the end of July. Despite including prevalent cases diagnosed from January 2014, there may have been under registration. Number of cancer cases are more in females due to high rates of cervical, thyroid, breast and ovarian cancers (see Table 12). Top 10 cancers in male and female are presented in Fig. 6 and 7 respectively. Cumulative risk of getting cancer among Bhutanese population is 1/9 (11%) among females and 1/11(9%) among males.

There were 78 pediatric cancer cases (age 0 to 14 years), 42 in boys and 36 in girls. Majority of them were leukemia (44% in boys and 54% in girls). Number of unspecified site or primary site unknown (PSU) were 70 in males and 63 in females (5.9% and 4.6% of total cancers respectively in male and females). Many of these cases are metastatic cancers in lymph nodes, skin, peritoneum and lungs or liver indicating late detection and poor access to cancer diagnosis. There were 11 cases that had dual primary, either at the same time (synchronous) or at different dates (metachronous).

Out of the total of 2744 cases, 1711 cases (62%) were referred out of the country mainly for part or whole of treatment and sometimes for confirmation of diagnosis. In the absence of radiotherapy in Bhutan, many patients received radiation or chemo radiation in India after surgery in Bhutan.

Table 3: Cancer incidence rate in Bhutan

	Male	Female
Number of cancer cases	**1205**	**1539**
Crude Rate (CR) per 100,000	**64.0**	**89.8**
Age Adjusted Rate (AAR)	**76.4**	**101.7**
Truncated Rate (TR)	**118.4**	**195.0**

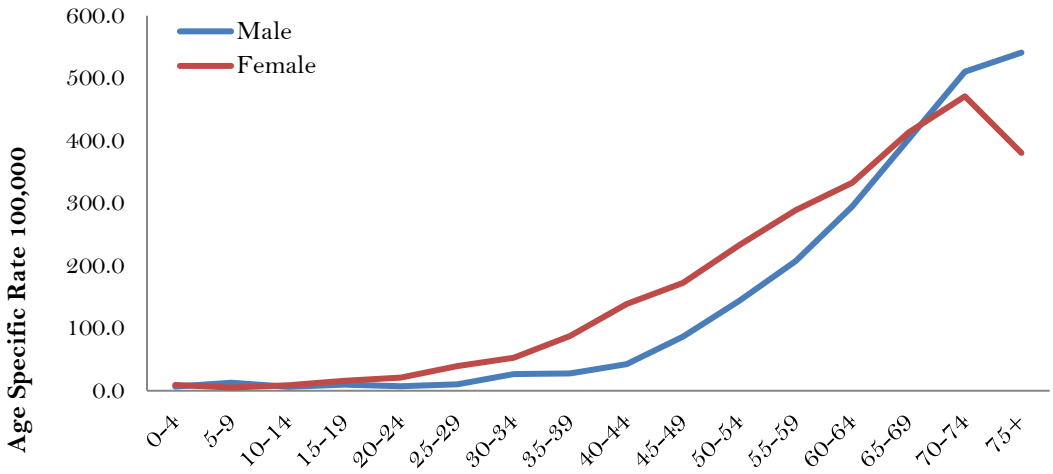


Figure 3: Age Specific Incidence Rate of all cancer sites

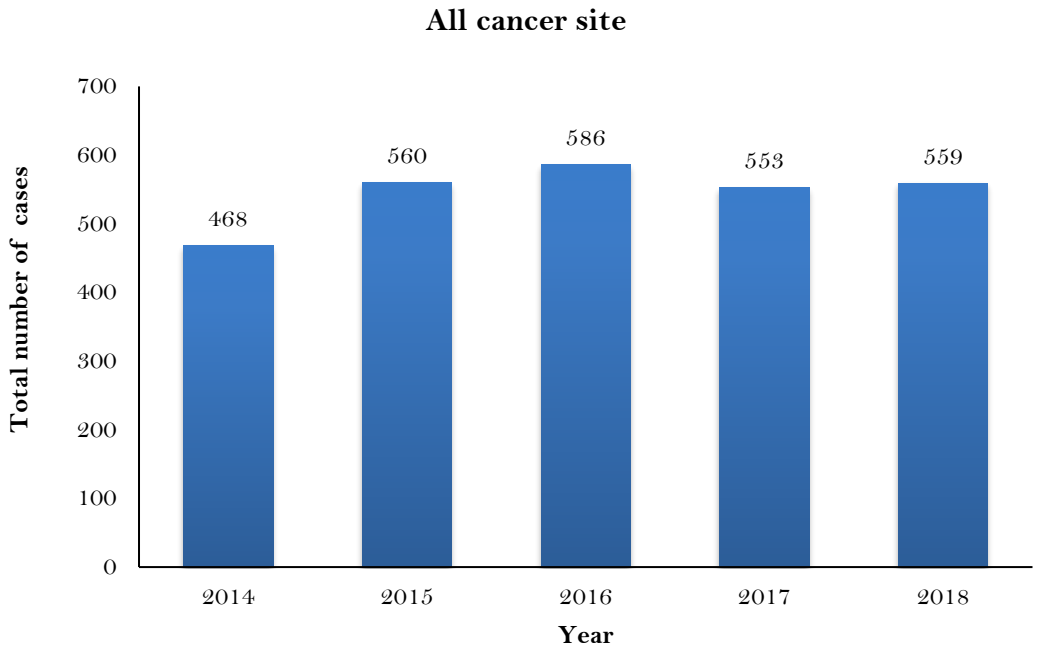


Figure 4: Number of new cancers registered annually both sex

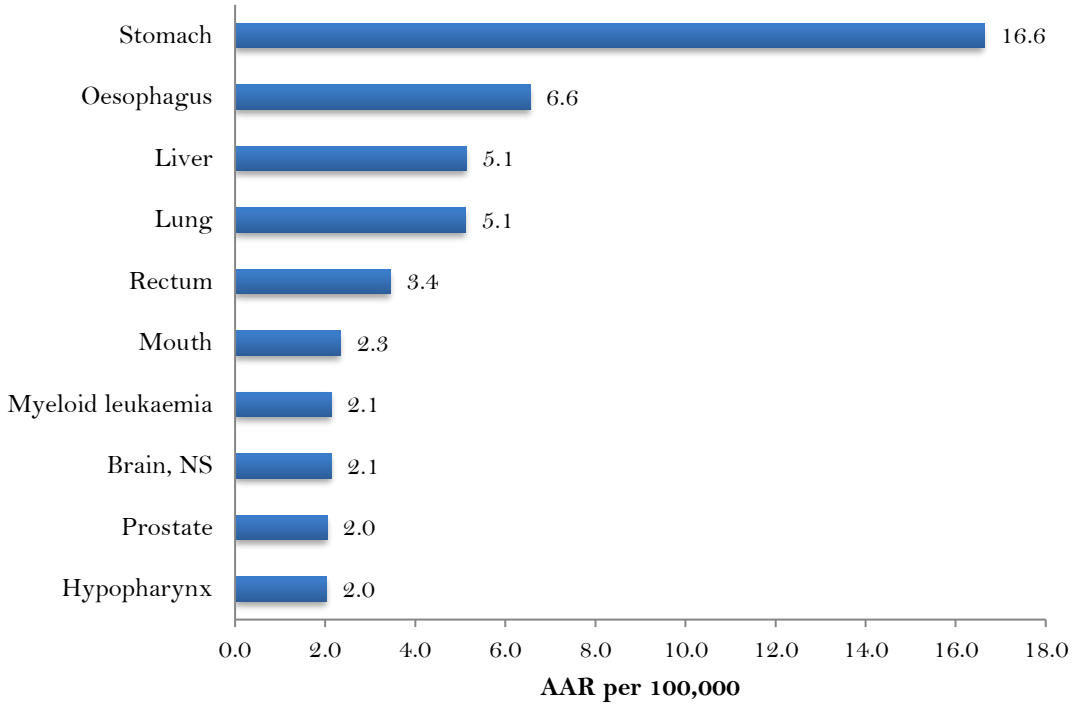


Figure 5: Top 10 leading cancer sites in male

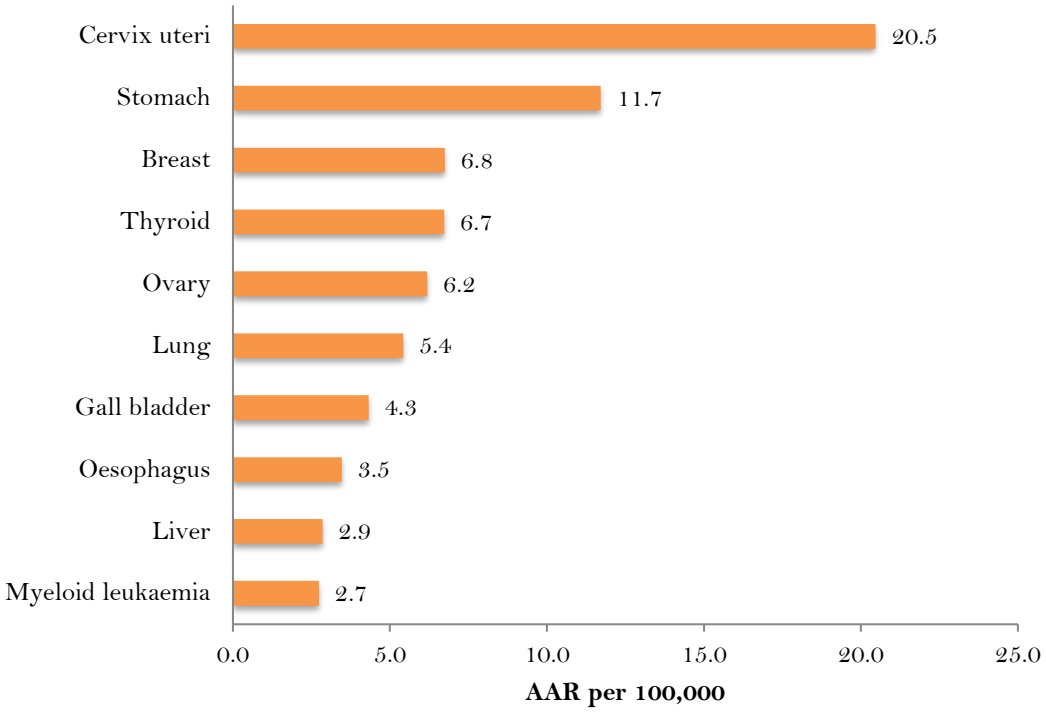


Figure 6: Top 10 leading cancer sites in female

Leading 5 cancer sites in both sexes are stomach, cervix, mouth and pharynx, lung and esophagus. Among males, stomach, esophagus, lung and CRC/liver are the most common cancers whereas female, are cervix, stomach, thyroid, breast and ovary (see fig. 8 and 9) are more common.

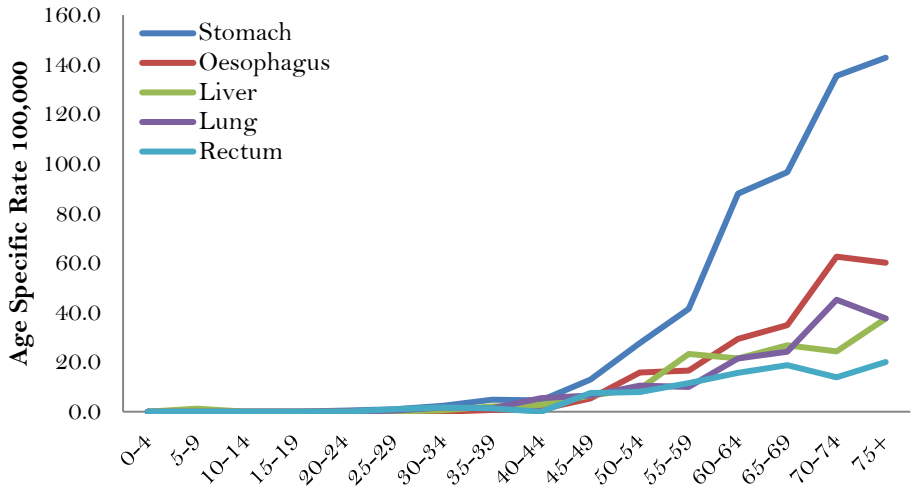


Figure 7: Leading cancer site in male

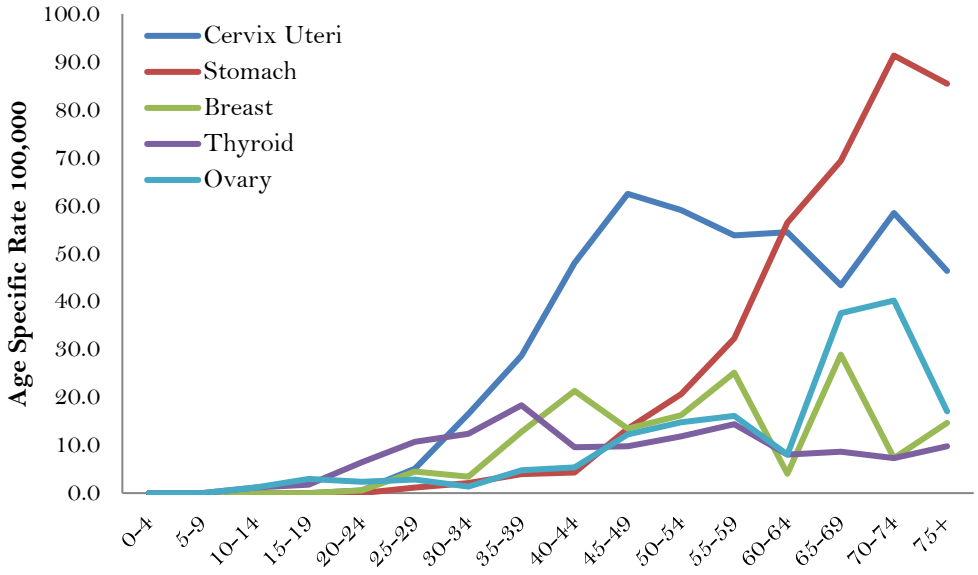


Figure 8: Leading cancer site in female

b. Ethnicity

Officially, Bhutan is divided into 3 major ethnic groups; Ngalops who speak Dzongkha, the official language of the country (Dzongkha) and residing west of Pelela mountain range, Sharchops who speak other languages and residing east of Pelela and Lhotsampas who reside in the southern zone and speak Nepali.

The 2 former groups are largely Buddhists and culturally similar whereas Lhotshampas are mainly Hindus and have different culture and dietary habits.

Among what is officially known as Sharchops, there are 3 districts in the Central region where a different language is spoken. They are culturally and by religion similar to Ngalops and Sharchops. In our Registry they have been assigned as "others".

Upper aerodigestive cancers, i.e. head and neck and esophagus along with stomach cancers are more common in Ngalops. Dzongkha and Sharchop speaking people settled in other areas were registered as Ngalops and Sharchokpas. Among risk factors, betel nut chewing, eating dried meat and drinking salted butter tea are some of the dietary differences compared to other groups.

Cervical and thyroid cancers are more common among the Sharchokpas residing in the 6 eastern districts. Risk factors for thyroid cancers are yet known. Cervical cancer may be more common in the east due to poor coverage by screening and also could be due lower socio-economy leading to earlier marriage and multiple childbirths. Besides, access to cervical precancer treatment is also poor in the east with only one Hospital with that facility.

Lung and breast cancers are more common among the Lhothsampas. Compared to northern people, smoking used to be more prevalent in this group in the past. Regarding breast cancer, there are no known risk factors that are more prevalent in in this group in comparison to women residing in the northern regions.

Table 4: Common cancers in different ethnic groups of Bhutan

Sl.No.	Ethnic group	Common cancers	Risk factors (presumed/assumed)
1.	Ngalops (7 western districts)	Stomach, esophagus, mouth and pharynx	Betel nut chewing, eating dried meat or vegetables and drinking butter tea
2.	Sharchokpas (6 eastern districts)	Cervix and thyroid	Cervix: Poor screening coverage and poor access to precancer treatment (?). Low socio-economy? Thyroid: unknown
3.	Lhotshampas (predominantly Hindus)	Breast and lung	Lung: Higher prevalence of smoking among the population Breast: unknown

c. District wise distribution of 5 most common cancers in Bhutan

This is very important for cancer control activities. Districts with high cancer rate of a particular site must make more effort in preventive activities. Epidemiological studies can be carried out to ascertain prevalent risk factors.

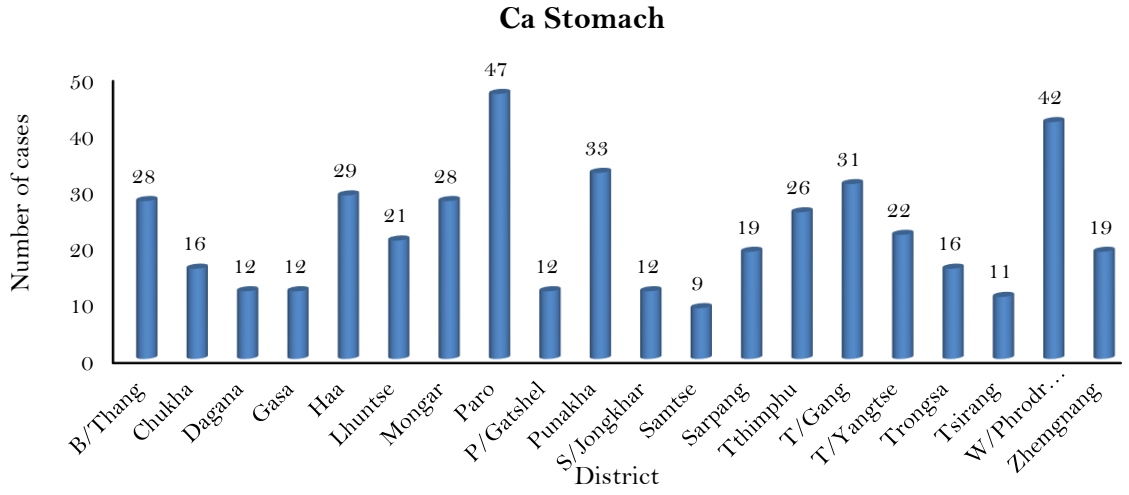


Figure 9: District wise distribution of 5 leading cancer sites – Stomach

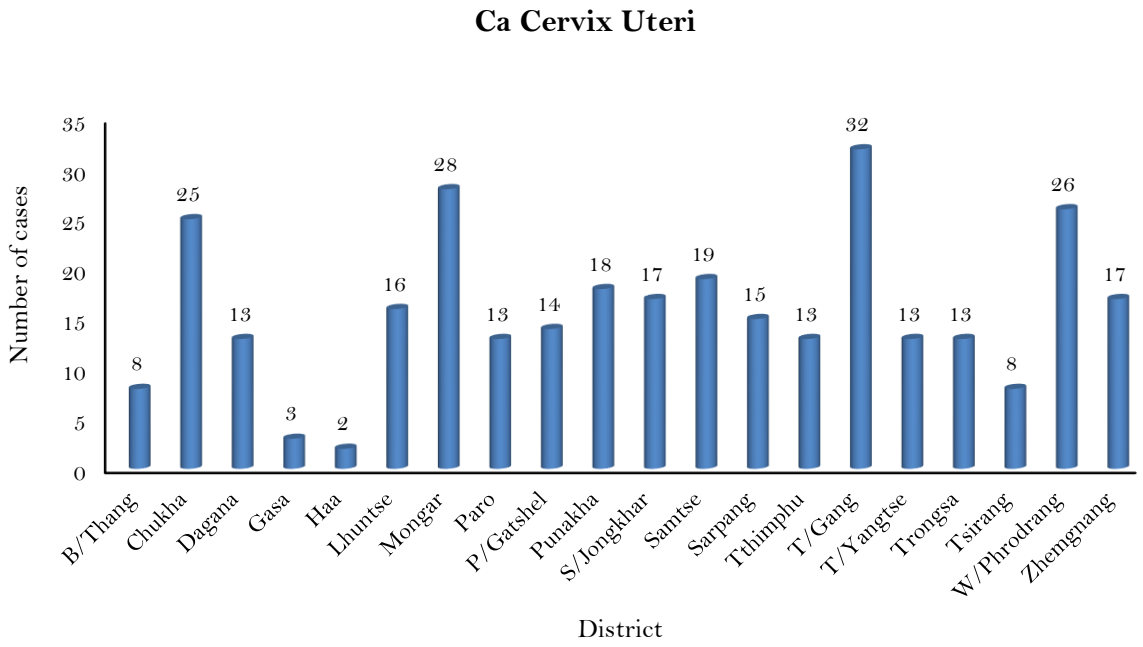


Figure 10: District wise distribution of 5 leading cancer sites – Cervix Uteri

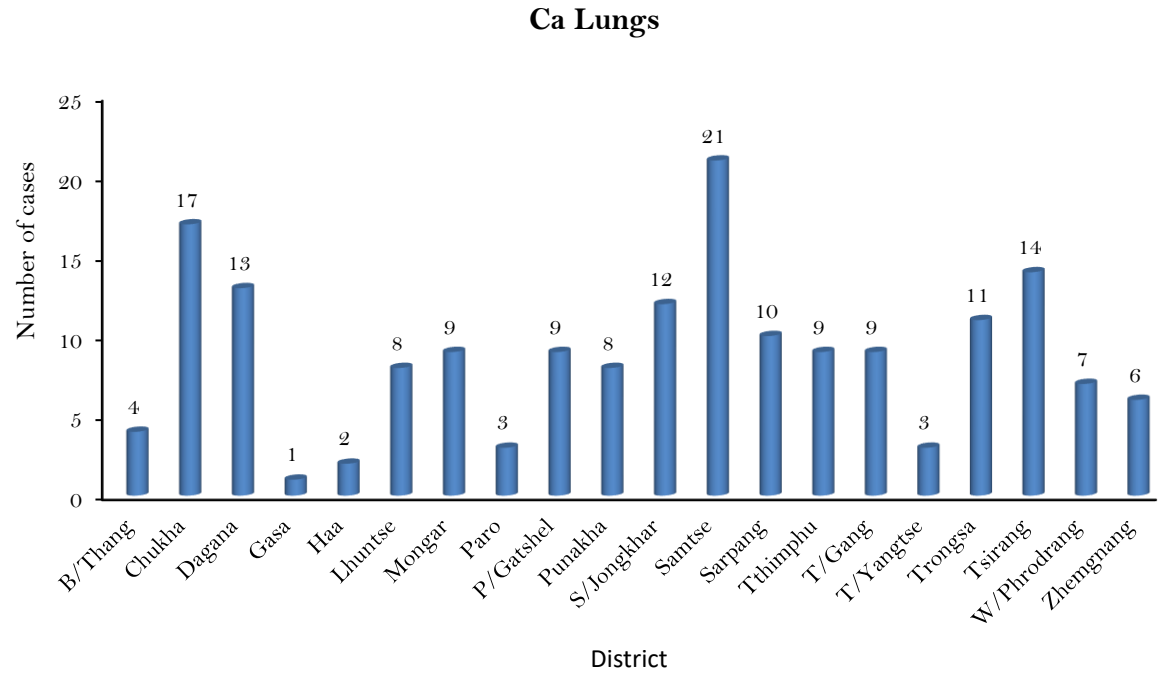


Figure 11: District wise distribution of 5 leading cancer sites – Lung

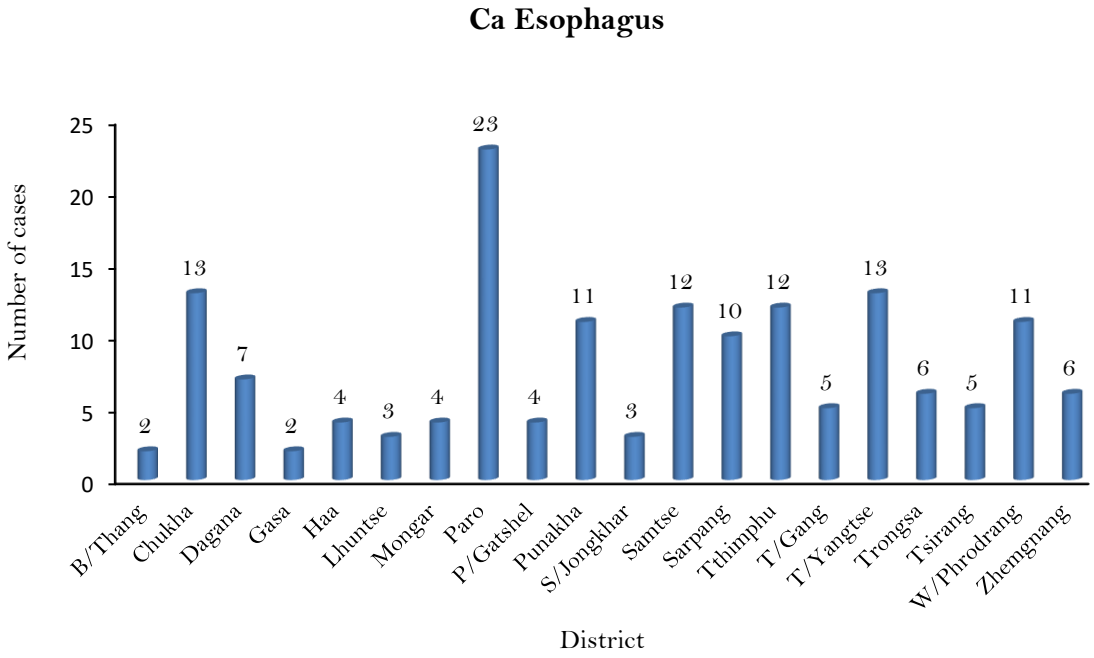


Figure 12: District wise distribution of 5 leading cancer sites – esophagus

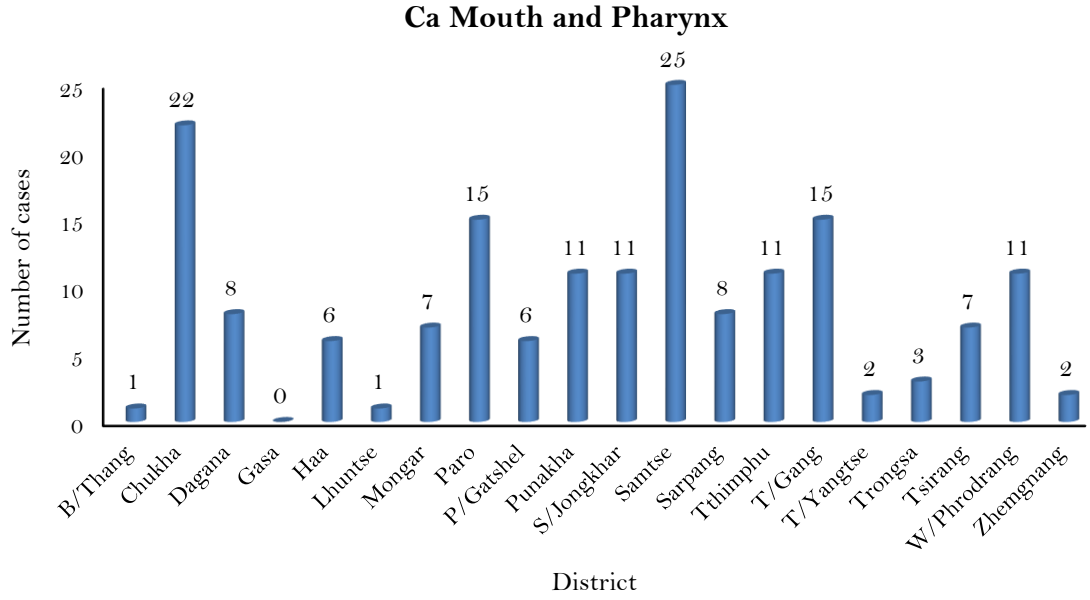


Figure 13: District wise distribution of 5 leading cancer sites – Mouth and Pharynx

d. Comparison with other registries

Comparison with other registries was made to see reliability of our registry data. We compared with neighboring states of India (2012-2014), India and the world. We made comparison with people who are genetically similar and have similar culture and dietary habits as we are also

exposed to similar risk factors. Data for India and World are from GLOBOCAN 2018 whereas the others were registered almost around same time

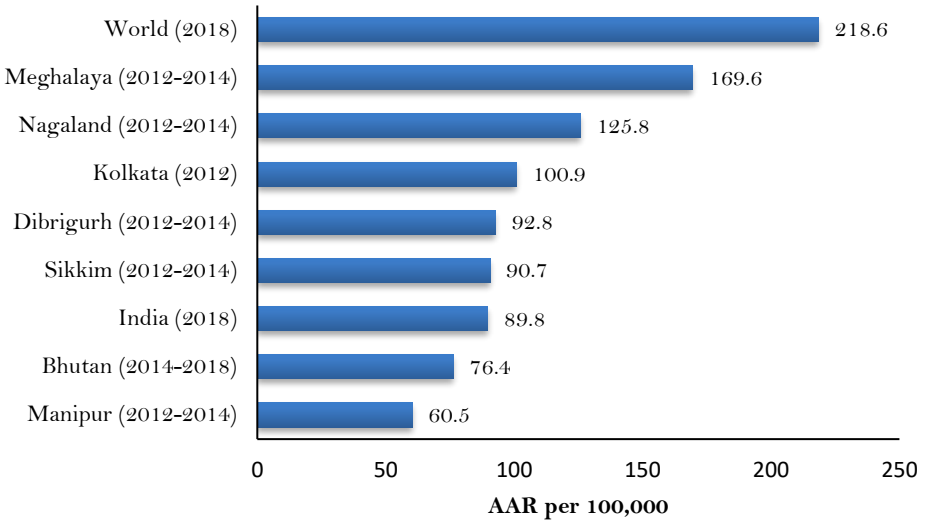


Figure 14: Comparison with global data, India and neighboring Indian States (all sites): male

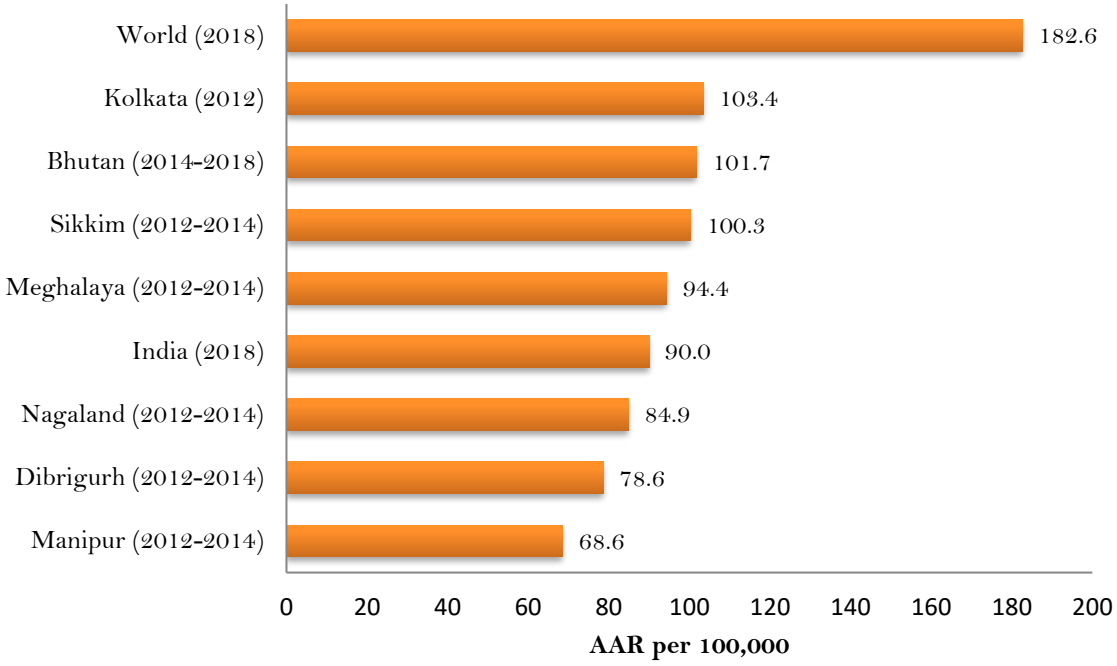


Figure 15: Comparison with global data, India and neighboring Indian States (all sites): female

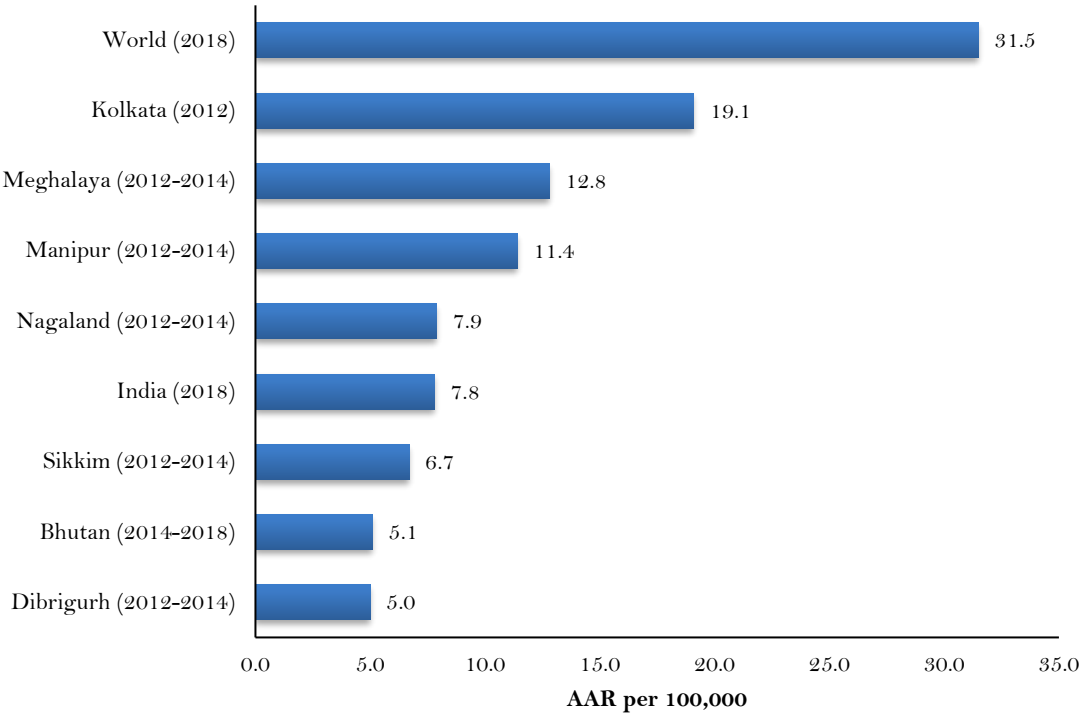


Figure 16: Comparison with global data, India and neighboring Indian States (Lung): male

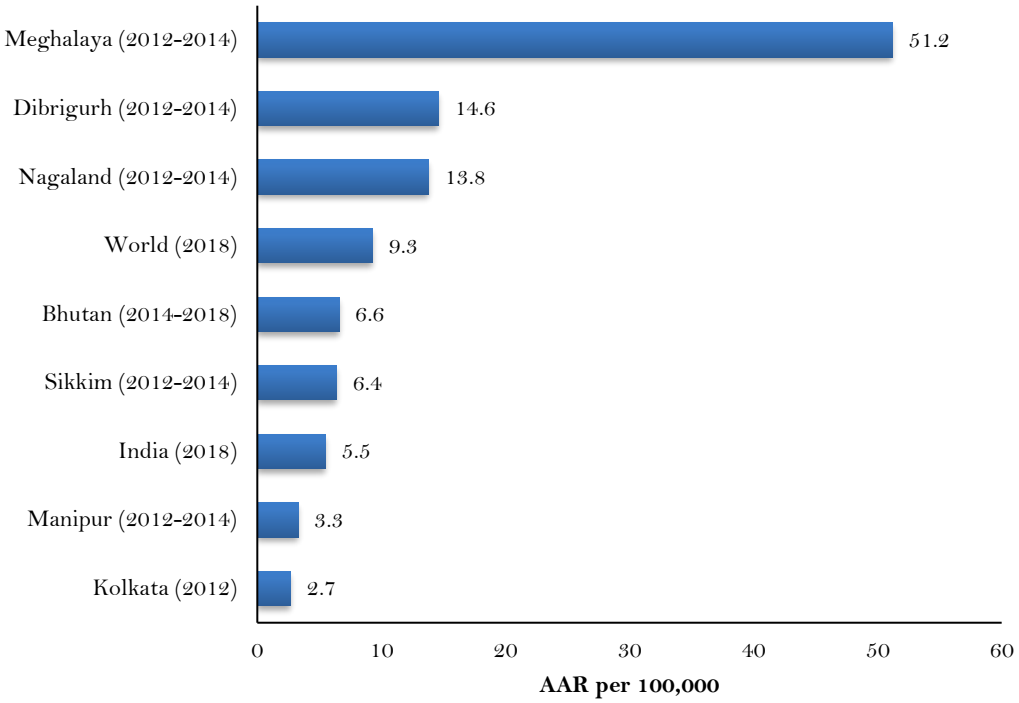


Figure 17: Comparison with global data, India and neighboring Indian States (Esophagus): male

e. Missed cases/under registration

Those people who can afford cancer treatment go out and some of them never come in contact with formal health care system of Bhutan. These patients are not included in the registry. Some of these people may sometimes report for either continuation of treatment, follow up or palliative care. Another group of people report too late for diagnosis and treatment and die within few days. These are also missed since death registration in Bhutan is also very poor as in other developing countries.

f. Cancer mortality in Bhutan

There were 925 deaths registered, 477 among males and 464 among females. Stomach cancer is by far the most common cause of cancer deaths in Bhutan; this may be due to advanced stage at diagnosis. Death rate is also more among males due to following cancers: esophagus, stomach, liver and lung cancers that are more in males though cancer incidence is higher in women. Mortality to incidence ratio is 0.4 in males and 0.3 in females.

Liver is the third most common cause of cancer deaths in both sexes. Some of these cancers may be metastatic cancers as some of them were diagnose through imaging and had no histopathology reports.

The mortality rates and five leading cancer deaths in males and females are given Tables 6, 7 and 8.

Table 5: Cancer mortality in Bhutan

Rates (per 100,000)	Male	Female
Number of cancer deaths	477	464
Crude Rate (CR)	24.8	26.7
Age Adjusted Rate (AAR)	30.7	31.5
Truncated Rate (TR)	49.0	57.6

Table 6: Leading cancer deaths in males

Sites	ICD-10	AAR
Stomach	C16	8.3
Esophagus	C15	3.9
Liver	C22	3.7
Lung	C33 – C34	2.1
Gall Bladder	C23 – C24	1.5

Table 7: Leading cancer deaths in females

Sites	ICD-10	AAR
Cervix Uteri	C53	5.3
Stomach	C16	5.2
Lung	C33 – C34	2.5
Ovary	C56	2.5
Liver	C22	2.3

g. Cervical cancer

A special mention is made on cervical cancer since our Ministry of Health has pledged for its elimination. Cervical cancer is the most common cancer among women of Bhutan, being second most common cancer in the population after stomach cancer. Till date, it is also the most common cause of cancer deaths in women.

Bhutan has a screening program for cervical cancer with conventional cytology at 3 yearly intervals for women 25 to 65 years of age. After piloting in 3 districts, it was made available nationwide since 2006. It is an organized program with linkage between screening and treatment centers. Pre-cancer cases are treated with simple OPD procedures like LEEP, cryotherapy and cold coagulation. The STEPS 2019 showed Pap smear coverage of 60.4% among the target population (women 25-65 years).

Incidence is high presently due to many early cancers being picked up by screening. From the treatment information, we find more than one third of patients were treated with surgery indicating Stage I at diagnosis. Women with carcinoma in situ were not included though registered separately. There were 225 cases diagnosed in the Colposcopy Clinic of JDWNRH alone. We did not collect from other health centers.

Bhutan also has a National HPV Vaccination Program for girls since 2010. It is a school-based program with a coverage of >90% with 2-3 doses of vaccine. Gardasil or the Quadrivalent vaccine (against HPV types 16,18,6 and 11) is given in 2 doses to grade VI girls regardless of their age (adopted 2 doses since 2016). This vaccine will prevent at least 70% of cervical cancers and 90% genital warts.

Though ASR of incidence is very high at 20.5 per 100,000 women, ASR of mortality is only5.3 per 100,000. Our AAR is higher than world estimates.

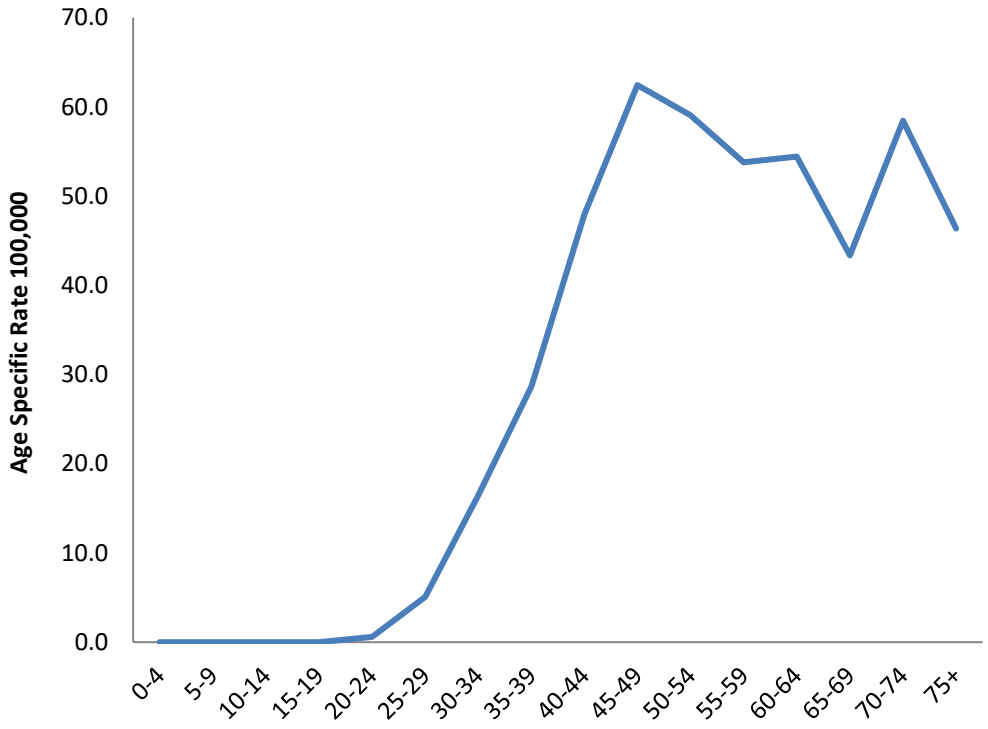


Figure 18: Age specific incidence rate of cervical cancer

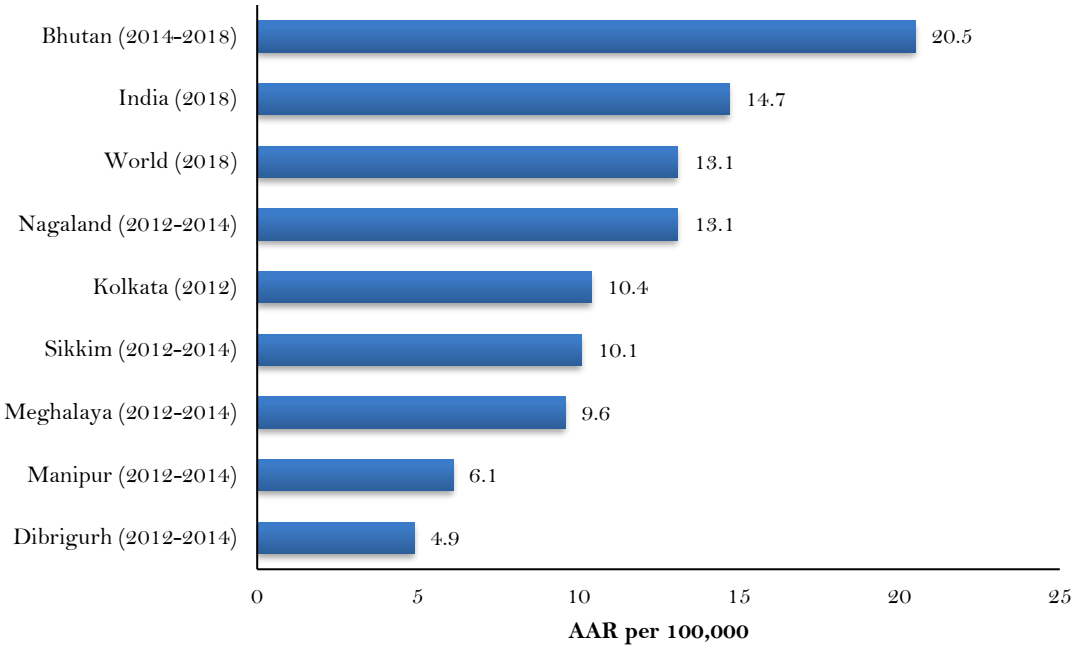


Figure 19: Cervical cancer worldwide, India and neighboring states of India

4. Standard registry table

Table 8: Number of Incidence Cancer by Five Year Age Group and Site (ICD 10): 2014-2018 in males

% = Relative proportion of Cancer of All Sites

ICD 10	Sites	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75+	Total	%
C00	Lip	-	-	-	-	-	-	-	-	1	-	1	1	-	1	1	1	**6**	**0.5**
C01-02	Tongue	-	-	-	-	-	-	1	1	1	-	3	2	2	1	1	2	**14**	**1.2**
C03-06	Mouth	-	-	-	1	-	-	3	1	3	2	3	6	3	5	6	4	**37**	**3.1**
C07-C08	Salivary Glands	-	-	-	-	-	-	-	-	-	1	-	-	1	-	1	2	**5**	**0.4**
C09	Tonsil	-	-	-	-	-	-	-	-	-	1	1	3	-	3	-	1	**9**	**0.7**
C10	Other Oropharynx	-	-	-	-	-	-	-	-	-	2	-	1	1	2	-	-	**6**	**0.5**
C11	Nasopharynx	-	1	1	1	-	1	2	2	-	2	5	3	-	3	1	-	**22**	**1.8**
C12-C13	Hypopharynx	-	-	-	-	-	-	-	-	2	3	2	2	5	6	7	2	**29**	**2.4**
C14	Pharynx Unspecified	-	-	-	-	-	1	-	-	-	-	-	-	-	-	1	-	**2**	**0.2**
C15	Oesophagus	-	-	-	-	-	-	-	1	1	5	12	10	15	13	18	24	**99**	**8.2**
C16	Stomach	-	-	-	-	1	2	4	7	5	12	21	25	45	36	39	57	**254**	**21.1**
C17	Small Intestine	-	-	-	-	-	-	-	-	1	-	-	-	1	-	-	-	**2**	**0.2**
C18	Colon	-	-	-	-	-	1	-	1	3	1	4	1	1	7	-	7	**26**	**2.2**
C19-C20	Rectum	-	-	-	-	-	2	3	2	-	7	6	7	8	7	4	8	**54**	**4.5**
C21	Anus & Anal Canal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C22	Liver	-	2	-	-	-	-	1	3	3	6	7	14	11	10	7	15	**79**	**6.6**
C23-24	Gall Bladder etc.	-	-	-	-	-	-	-	-	3	-	3	2	4	7	3	8	**30**	**2.5**
C25	Pancreas	-	-	-	-	-	-	-	1	-	2	1	1	5	1	4	3	**18**	**1.5**
C30-C31	Nose, Sinuses etc.	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	1	**3**	**0.2**
C32	Larynx	-	-	-	-	-	-	-	-	-	2	1	5	3	2	3	6	**22**	**1.8**
C33-C34	Lung etc.	-	-	-	-	-	1	3	2	6	6	8	6	11	9	13	15	**80**	**6.6**
C37-C38	Other Thoracic organ	-	-	-	-	-	-	-	-	-	-	1	-	-	-	1	-	**2**	**0.2**
C40-C41	Bone	-	2	-	4	3	-	2	-	2	2	1	5	3	-	3	3	**30**	**2.5**
C43	Melanoma of skin	1	1	-	-	-	-	-	-	-	2	3	1	1	2	-	3	**14**	**1.2**
C44	Other skin	-	-	-	1	-	-	2	1	1	1	1	-	1	1	4	1	**14**	**1.2**
C45	Mesothelioma	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	**1**	**0.1**
C46	Kaposi sarcoma	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C47-C49	Conn. & Soft tissue	1	1	-	-	-	-	3	1	1	-	-	2	-	2	1	1	**13**	**1.1**
C50	Breast	-	-	-	-	-	1	3	-	-	-	1	1	1	1	-	1	**9**	**0.7**
C60	Penis	-	-	-	-	1	-	-	-	1	-	-	1	-	1	-	1	**5**	**0.4**
C61	Prostate	-	-	-	-	-	-	1	-	-	-	-	2	4	3	6	18	**34**	**2.8**
C62	Testis	1	-	-	-	2	1	2	-	2	-	-	1	-	-	-	1	**10**	**0.8**
C63	Oth Male Genital	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C64	Kidney etc.	-	-	-	-	-	1	-	-	-	2	1	1	3	4	2	1	**15**	**1.2**
C65	Renal Pelvis	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**1**	**0.1**
C66	Ureter	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C67	Bladder	-	-	-	-	-	-	-	-	2	2	4	1	2	1	5	4	**21**	**1.7**
C68	Uns. Urinary Organs	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C69	Eye	2	2	-	-	-	-	-	-	-	-	-	2	-	-	1	1	**8**	**0.7**
C70-C72	Brain, NS	2	-	1	3	1	2	-	4	3	3	3	4	2	2	2	4	**36**	**3.0**
C73	Thyroid	-	-	-	-	1	3	4	3	-	5	-	2	4	3	1	5	**31**	**2.6**
C74	Adrenal gland	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	**1**	**0.1**
C75	Other Endocrine	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C81	Hodkings Disease	-	1	-	1	-	1	-	-	-	-	2	-	4	-	-	1	**10**	**0.8**
C82-C85,C96	NHL	-	1	1	-	1	2	2	1	-	2	2	-	-	-	3	3	**18**	**1.5**
C88	Imm. Disease	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C90	Multiple Myeloma	-	-	-	-	-	-	-	-	-	-	-	2	1	3	2	2	**10**	**0.8**
C91	Lymphoid Leukemia	1	4	2	1	-	-	-	-	-	1	-	-	-	-	-	1	**10**	**0.8**
C92-C94	Myeloid Leukemia	1	3	4	3	4	1	2	5	-	1	1	3	-	6	1	3	**38**	**3.2**
C95	Leukemia Unspecified	-	2	1	-	-	-	1	-	-	-	1	-	1	-	-	-	**6**	**0.5**
MPD	Myel. disorders	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MDS	Myel. syndromes	-	-	-	-	-	-	-	1	-	-	1	-	-	1	-	-	**3**	**0.2**
Other & Unspecified*		-	-	1	1	1	1	6	3	5	7	8	7	8	7	6	6	**68**	**5.6**
Total		**10**	**21**	**11**	**17**	**15**	**22**	**45**	**40**	**46**	**80**	**109**	**125**	**151**	**150**	**147**	**216**	**1205**	**100**

* O & U includes the sites (ICD - 10: C26, C39, C48, C76, C77, C78, C79, C80, C97)

Table 9: Number of Incidence Cancer by Five Year Age Group and Site (ICD 10): 2014-2018 in females

% = Relative proportion of Cancer of All Sites

ICD 10	Sites	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75+	Total	%
C00	Lip	-	-	-	-	-	-	-	-	1	-	-	-	1	-	-	-	**2**	**0.1**
C01-02	Tongue	-	-	-	-	-	1	-	-	-	-	3	2	1	1	3	-	**11**	**0.7**
C03-06	Mouth	-	-	-	-	-	-	-	-	-	1	3	3	2	1	3	3	**16**	**1.0**
C07-C08	Salivary gland	-	-	-	1	-	-	-	-	-	2	2	-	1	-	2	1	**9**	**0.6**
C09	Tonsil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C10	Other Oropharynx	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C11	Nasopharynx	-	-	-	-	2	1	1	-	-	-	-	1	1	1	1	1	**9**	**0.6**
C12-C13	Hypopharynx	-	-	-	-	-	-	-	-	-	-	3	2	1	-	2	1	**9**	**0.6**
C14	Pharynx Unspecified	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	1	**2**	**0.1**
C15	Oesophagus	-	-	-	-	-	1	-	1	2	2	5	13	9	5	2	10	**50**	**3.2**
C16	Stomach	-	-	-	-	-	2	3	5	4	11	14	18	28	24	25	35	**169**	**11.0**
C17	Small intestine	-	-	-	-	-	-	-	-	-	-	1	-	-	1	-	-	**2**	**0.1**
C18	Colon	-	-	-	-	-	-	1	1	2	3	-	3	3	3	2	4	**22**	**1.4**
C19-C20	Rectum	-	-	-	-	1	1	2	-	3	1	1	5	3	4	6	12	**39**	**2.5**
C21	Anus	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1	**2**	**0.1**
C22	Liver	-	-	-	-	-	-	2	2	6	4	6	5	6	2	4	5	**42**	**2.7**
C23-24	Gall Bladder	-	-	-	-	1	2	0	2	1	5	13	7	11	7	7	4	**60**	**3.9**
C25	Pancreas	-	-	-	1	-	-	-	-	-	-	2	-	1	1	1	2	**8**	**0.5**
C30-C31	Nose, Sinuses etc	-	-	-	-	-	-	-	1	-	1	1	-	2	1	1	1	**8**	**0.5**
C32	Larynx	-	-	-	-	-	-	-	-	-	2	2	1	1	4	2	1	**13**	**0.8**
C33-C34	Lung etc.	-	-	-	-	1	1	4	-	8	3	5	8	15	10	14	8	**77**	**5.0**
C37-C38	Other Thoracic organ	-	-	-	-	1	-	-	-	-	-	-	-	1	-	-	-	**2**	**0.1**
C40-C41	Bone	-	-	3	5	1	2	-	2	1	1	2	2	2	5	-	4	**30**	**1.9**
C43	Melanoma of skin	-	-	-	-	-	1	-	-	1	-	-	3	2	3	1	3	**14**	**0.9**
C44	Other skin	-	-	-	-	1	-	-	-	-	1	1	-	3	1	-	2	**9**	**0.6**
C45	Mesothelioma	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	**1**	**0.1**
C46	Kaposi Sarcoma	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C47-C49	Conn & soft tissue	-	-	-	1	-	-	2	1	-	1	-	-	-	-	1	1	**7**	**0.5**
C50	Breast	-	-	-	-	1	8	5	16	20	11	11	14	2	10	2	6	**106**	**6.9**
C51	Vulva	-	-	-	-	-	1	1	-	1	-	2	1	2	1	2	4	**15**	**1.0**
C52	Vagina	-	-	-	-	-	1	-	1	-	-	2	1	-	-	1	-	**6**	**0.4**
C53	Cervix Uteri	-	-	-	-	1	9	24	36	45	51	40	30	27	15	16	19	**313**	**20.3**
C54	Corpus Uteri	-	-	-	-	-	-	-	1	-	1	3	5	1	1	3	-	**15**	**1.0**
C55	Uterus unspecified	-	-	-	-	-	-	1	1	1	1	1	2	-	-	-	2	**9**	**0.6**
C56	Ovary etc.	-	-	2	5	4	5	2	6	5	10	10	9	4	13	11	7	**93**	**6.0**
C57	Other female genital	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C58	Placenta	-	-	-	-	1	7	2	2	-	2	1	-	-	-	-	-	**15**	**1.0**
C64	Kidney	-	-	-	-	-	-	-	-	-	-	-	1	1	-	2	1	**5**	**0.3**
C65	Renal Pelvis	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	**1**	**0.1**
C66	Ureter	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C67	Bladder	-	-	-	-	-	1	-	-	-	-	3	2	-	2	1	1	**10**	**0.6**
C68	Other urinary organs	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	**1**	**0.1**
C69	Eye	1	-	1	-	-	-	-	-	-	-	-	-	1	1	2	1	**7**	**0.5**
C70-C72	Brain, NS	3	-	1	2	-	-	3	5	3	9	3	1	3	2	3	2	**40**	**2.6**
C73	Thyroid	-	-	2	3	11	19	18	23	9	8	8	8	4	3	2	4	**122**	**7.9**
C74	Adrenal gland	-	-	-	-	-	1	-	-	1	1	-	-	-	1	1	-	**5**	**0.3**
C75	Other endocrine	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C81	Hodgkins Disease	-	-	-	-	2	-	-	1	-	-	-	-	1	-	-	-	**4**	**0.3**
C82-C85,C96	NHL	1	1	1	1	2	-	-	-	1	-	-	4	3	5	-	2	**21**	**1.4**
C88	Imm. disease	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C90	Multiple Myeloma	-	-	-	-	-	-	-	-	1	-	-	-	4	3	-	2	**10**	**0.6**
C91	Lymphoid Leukemia	3	1	2	1	1	-	-	-	-	-	-	-	-	-	-	1	**9**	**0.6**
C92-C94	Myeloid Leukemia	4	4	3	5	2	5	5	-	4	1	2	2	4	3	-	-	**44**	**2.9**
C95	Leukemia Unspecified	1	2	-	-	-	1	-	1	-	-	-	-	2	1	-	-	**8**	**0.5**
MPD	Myel. disorders	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MDS	Myel. syndromes	-	-	-	-	-	-	-	-	-	2	-	-	-	1	-	-	**3**	**0.2**
Other & Unspecified*		-	-	-	-	2	-	1	2	10	5	7	8	11	6	6	4	**64**	**4.2**
Total		**13**	**8**	**15**	**27**	**36**	**70**	**77**	**110**	**130**	**141**	**158**	**161**	**165**	**143**	**129**	**156**	**1539**	**100**

* O & U includes the sites (ICD - 10: C26, C39, C48, C76, C77, C78, C79, C80, C97)

Table 10: Average Annual Age Specific, Crude (CR), Age Adjusted (AAR) and Truncated (35-64 yrs) (TR) Incidence Rate per 100,000 population: 2014-2018 in males

ICD 10	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75+	CR	AAR	TR
C00	-	-	-	-	-	-	-	-	0.9	-	1.3	1.7	-	2.7	3.5	2.5	**0.3**	**0.4**	**0.6**
C01-02	-	-	-	-	-	-	0.6	0.7	0.9	-	4.0	3.3	3.9	2.7	3.5	5.0	**0.7**	**0.9**	**1.9**
C03-06	-	-	-	0.6	-	-	1.8	0.7	2.8	2.2	4.0	10.0	5.9	13.4	20.8	10.0	**2.0**	**2.3**	**3.8**
C07-C08	-	-	-	-	-	-	-	-	-	1.1	-	-	2.0	-	3.5	5.0	**0.3**	**0.3**	**0.5**
C09	-	-	-	-	-	-	-	-	-	1.1	1.3	5.0	-	8.1	-	2.5	**0.5**	**0.6**	**1.1**
C10	-	-	-	-	-	-	-	-	-	2.2	-	1.7	2.0	5.4	-	-	**0.3**	**0.4**	**0.9**
C11	-	0.6	0.6	0.6	-	0.5	1.2	1.4	-	2.2	6.6	5.0	-	8.1	3.5	-	**1.2**	**1.3**	**2.4**
C12-C13	-	-	-	-	-	-	-	-	1.8	3.2	2.6	3.3	9.8	16.1	24.3	5.0	**1.5**	**2.0**	**3.1**
C14	-	-	-	-	-	0.5	-	-	-	-	-	-	-	-	3.5	-	**0.1**	**0.1**	-
C15	-	-	-	-	-	-	-	0.7	0.9	5.4	15.9	16.6	29.3	34.9	62.5	60.1	**5.3**	**6.6**	**9.8**
C16	-	-	-	-	0.5	1.0	2.4	4.8	4.6	13.0	27.8	41.5	88.0	96.6	135.5	142.8	**13.5**	**16.6**	**25.5**
C17	-	-	-	-	-	-	-	-	0.9	-	-	-	2.0	-	-	-	**0.1**	**0.1**	**0.4**
C18	-	-	-	-	-	0.5	-	0.7	2.8	1.1	5.3	1.7	2.0	18.8	-	17.5	**1.4**	**1.6**	**2.2**
C19-C20	-	-	-	-	-	1.0	1.8	1.4	-	7.6	7.9	11.6	15.6	18.8	13.9	20.0	**2.9**	**3.4**	**6.5**
C21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C22	-	1.2	-	-	-	-	0.6	2.1	2.8	6.5	9.3	23.2	21.5	26.8	24.3	37.6	**4.2**	**5.1**	**9.5**
C23-24	-	-	-	-	-	-	-	-	2.8	-	4.0	3.3	7.8	18.8	10.4	20.0	**1.6**	**2.0**	**2.6**
C25	-	-	-	-	-	-	-	0.7	-	2.2	1.3	1.7	9.8	2.7	13.9	7.5	**1.0**	**1.2**	**2.2**
C30-C31	-	-	-	-	-	0.5	-	-	-	-	-	1.7	-	-	-	2.5	**0.2**	**0.2**	**0.2**
C32	-	-	-	-	-	-	-	-	-	2.2	1.3	8.3	5.9	5.4	10.4	15.0	**1.2**	**1.4**	**2.5**
C33-C34	-	-	-	-	-	0.5	1.8	1.4	5.5	6.5	10.6	10.0	21.5	24.2	45.2	37.6	**4.3**	**5.1**	**8.4**
C37-C38	-	-	-	-	-	-	-	-	-	-	1.3	-	-	-	3.5	-	**0.1**	**0.1**	**0.2**
C40-C41	-	1.2	-	2.3	1.5	-	1.2	-	1.8	2.2	1.3	8.3	5.9	-	10.4	7.5	**1.6**	**1.7**	**2.8**
C43	0.7	0.6	-	-	-	-	-	-	-	2.2	4.0	1.7	2.0	5.4	-	7.5	**0.7**	**0.9**	**1.5**
C44	-	-	-	0.6	-	-	1.2	0.7	0.9	1.1	1.3	-	2.0	2.7	13.9	2.5	**0.7**	**0.8**	**1.0**
C45	-	-	-	-	-	-	-	-	-	-	1.3	-	-	-	-	-	**0.1**	**0.1**	**0.2**
C46	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C47-C49	0.7	0.6	-	-	-	-	1.8	0.7	0.9	-	-	3.3	-	5.4	3.5	2.5	**0.7**	**0.8**	**0.7**
C50	-	-	-	-	-	0.5	1.8	-	-	-	1.3	1.7	2.0	2.7	-	2.5	**0.5**	**0.5**	**0.7**
C60	-	-	-	-	0.5	-	-	-	0.9	-	-	1.7	0.0	2.7	-	2.5	**0.3**	**0.3**	**0.4**
C61	-	-	-	-	-	-	0.6	-	-	-	-	3.3	7.8	8.1	20.8	45.1	**1.8**	**2.0**	**1.4**
C62	0.7	-	-	-	1.0	0.5	1.2	-	1.8	-	-	1.7	-	-	-	2.5	**0.5**	**0.5**	**0.6**
C63	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C64	-	-	-	-	-	0.5	-	-	-	2.2	1.3	1.7	5.9	10.7	6.9	2.5	**0.8**	**1.0**	**1.6**
C65	0.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**0.1**	**0.1**	-
C66	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C67	-	-	-	-	-	-	-	-	1.8	2.2	5.3	1.7	3.9	2.7	17.4	10.0	**1.1**	**1.4**	**2.3**
C68	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C69	1.4	1.2	-	-	-	-	-	-	-	-	-	3.3	-	-	3.5	2.5	**0.4**	**0.5**	**0.4**
C70-C72	1.4	-	0.6	1.7	0.5	1.0	-	2.8	2.8	3.2	4.0	6.6	3.9	5.4	6.9	10.0	**1.9**	**2.1**	**3.7**
C73	-	-	-	0.0	0.5	1.4	2.4	2.1	-	5.4	-	3.3	7.8	8.1	3.5	12.5	**1.6**	**1.8**	**2.9**
C74	-	-	-	0.6	-	-	-	-	-	-	-	-	-	-	-	-	**0.1**	**0.1**	-
C75	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C81	-	0.6	-	0.6	-	0.5	-	-	-	-	2.6	-	7.8	-	-	2.5	**0.5**	**0.6**	**1.4**
C82-C85,C96	-	0.6	0.6	-	0.5	1.0	1.2	0.7	-	2.2	2.6	-	-	-	10.4	7.5	**1.0**	**1.0**	**1.0**
C88	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C90	-	-	-	-	-	-	-	-	-	-	-	3.3	2.0	8.1	6.9	5.0	**0.5**	**0.7**	**0.7**
C91	0.7	2.5	1.1	0.6	-	-	-	-	-	1.1	-	-	-	-	-	2.5	**0.5**	**0.6**	**0.2**
C92-C94	0.7	1.9	2.3	1.7	1.9	0.5	1.2	3.5	-	1.1	1.3	5.0	-	16.1	3.5	7.5	**2.0**	**2.1**	**1.7**
C95	-	1.2	0.6	-	-	-	0.6	-	-	-	1.3	-	2.0	-	-	-	**0.3**	**0.4**	**0.5**
MPD	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MDS	-	-	-	-	-	-	-	0.7	-	-	1.3	-	-	2.7	-	-	**0.2**	**0.2**	**0.3**
O&U*	-	0.6	0.6	0.6	0.5	0.5	3.5	2.1	4.6	7.6	10.6	11.6	15.6	18.8	20.8	15.0	**3.6**	**4.2**	**8.0**
Total	**6.8**	**13.0**	6.3	**9.7**	**7.3**	**10.5**	**26.5**	**27.7**	**42.4**	**86.4**	**144.0**	**207.5**	**295.2**	**402.6**	**510.8**	**541.1**	**64.0**	**76.4**	**118.4**

* O & U includes the sites (ICD - 10: C26, C39, C48, C76, C77, C78, C79, C80, C97)

Table 11: Average Annual Age Specific, Crude (CR), Age Adjusted (AAR) and Truncated (35-64 yrs) (TR) Incidence Rate per 100,000 population: 2014-2018 in females

ICD 10	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75+	CR	AAR	TR
C00	-	-	-	-	-	-	-	-	1.1	-	-	-	2.0	-	-	-	**0.1**	**0.1**	**0.5**
C01-02	-	-	-	-	-	0.6	-	-	-	-	4.4	3.6	2.0	2.9	11.0	-	**0.6**	**0.8**	**1.4**
C03-06	-	-	-	-	-	-	-	-	-	1.2	4.4	5.4	4.0	2.9	11.0	7.3	**0.9**	**1.1**	**2.2**
C07-C08	-	-	-	0.6	-	-	-	-	-	2.4	3.0	-	2.0	-	7.3	2.4	**0.5**	**0.6**	**1.2**
C09	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C11	-	-	-	-	1.2	0.6	0.7	-	-	-	-	1.8	2.0	2.9	3.7	2.4	**0.5**	**0.5**	**0.5**
C12-C13	-	-	-	-	-	-	-	-	-	0.0	4.4	3.6	2.0	-	7.3	2.4	**0.5**	**0.6**	**1.4**
C14	-	-	-	-	-	-	-	-	-	1.2	-	-	-	-	-	2.4	**0.1**	**0.1**	**0.2**
C15	-	-	-	-	-	0.6	-	0.8	2.1	2.4	7.4	23.3	18.1	14.4	7.3	24.4	**2.9**	**3.5**	**7.6**
C16	-	-	-	-	-	1.1	2.1	4.0	4.3	13.5	20.7	32.3	56.5	69.3	91.3	85.4	**9.9**	**11.7**	**19.0**
C17	-	-	-	-	-	-	-	-	-	-	1.5	-	-	2.9	-	-	**0.1**	**0.2**	**0.2**
C18	-	-	-	-	-	-	0.7	0.8	2.1	3.7	-	5.4	6.0	8.7	7.3	9.8	**1.3**	**1.5**	**2.8**
C19-C20	-	-	-	-	0.6	0.6	1.4	-	3.2	1.2	1.5	9.0	6.0	11.6	21.9	29.3	**2.3**	**2.5**	**3.0**
C21	-	-	-	-	-	-	-	-	-	-	-	-	2.0	-	-	2.4	**0.1**	**0.1**	**0.3**
C22	-	-	-	-	-	-	1.4	1.6	6.4	4.9	8.9	9.0	12.1	5.8	14.6	12.2	**2.5**	**2.9**	**6.6**
C23-24	-	-	-	-	0.6	1.1	-	1.6	1.1	6.1	19.2	12.6	22.2	20.2	25.6	9.8	**3.5**	**4.3**	**9.3**
C25	-	-	-	0.6	-	-	-	-	-	-	3.0	-	2.0	2.9	3.7	4.9	**0.5**	**0.5**	**0.7**
C30-C31	-	-	-	-	-	-	-	0.8	-	1.2	1.5	-	4.0	2.9	3.7	2.4	**0.5**	**0.6**	**1.1**
C32	-	-	-	-	-	-	-	-	-	2.4	3.0	1.8	2.0	11.6	7.3	2.4	**0.8**	**1.0**	**1.4**
C33-C34	-	-	-	-	0.6	0.6	2.7	-	8.5	3.7	7.4	14.3	30.2	28.9	51.1	19.5	**4.5**	**5.4**	**9.3**
C37-C38	-	-	-	-	0.6	-	-	-	-	-	-	-	2.0	-	-	-	**0.1**	**0.1**	**0.3**
C40-C41	-	-	1.7	2.9	0.6	1.1	-	1.6	1.1	1.2	3.0	3.6	4.0	14.4	-	9.8	**1.8**	**1.9**	**2.2**
C43	-	-	-	-	-	0.6	-	-	1.1	-	-	5.4	4.0	8.7	3.7	7.3	**0.8**	**1.0**	**1.4**
C44	-	-	-	-	0.6	-	-	-	-	1.2	1.5	-	6.0	2.9	-	4.9	**0.5**	**0.6**	**1.3**
C45	-	-	-	-	-	-	-	-	-	-	1.5	-	-	-	-	-	**0.1**	**0.1**	**0.2**
C46	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C47-C49	-	-	-	0.6	-	-	1.4	0.8	-	1.2	-	-	-	-	3.7	2.4	**0.4**	**0.4**	**0.4**
C50	-	-	-	-	0.6	4.5	3.4	12.8	21.3	13.5	16.2	25.1	4.0	28.9	7.3	14.6	**6.2**	**6.8**	**15.6**
C51	-	-	-	-	-	0.6	0.7	0.0	1.1	-	3.0	1.8	4.0	2.9	7.3	9.8	**0.9**	**1.0**	**1.4**
C52	-	-	-	-	-	0.6	-	0.8	-	-	3.0	1.8	-	-	3.7	-	**0.4**	**0.4**	**0.9**
C53	-	-	-	-	0.6	5.1	16.5	28.7	48.0	62.4	59.1	53.8	54.4	43.3	58.4	46.4	**18.3**	**20.5**	**50.4**
C54	-	-	-	-	-	-	-	0.8	-	1.2	4.4	9.0	2.0	2.9	11.0	-	**0.9**	**1.1**	**2.5**
C55	-	-	-	-	-	-	0.7	0.8	1.1	1.2	1.5	3.6	-	-	-	4.9	**0.5**	**0.5**	**1.3**
C56	-	-	1.2	2.9	2.3	2.8	1.4	4.8	5.3	12.2	14.8	16.1	8.1	37.6	40.2	17.1	**5.4**	**6.2**	**9.8**
C57	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C58	-	-	-	-	0.6	3.9	1.4	1.6	-	2.4	1.5	-	-	-	-	-	**0.9**	**0.8**	**1.0**
C64	-	-	-	-	-	-	-	-	-	-	-	1.8	2.0	-	7.3	2.4	**0.3**	**0.3**	**0.5**
C65	-	-	-	-	0.6	-	-	-	-	-	-	-	-	-	-	-	**0.1**	-	-
C66	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C67	-	-	-	-	-	0.6	-	-	-	-	4.4	3.6	-	5.8	3.7	2.4	**0.6**	**0.7**	**1.2**
C68	-	-	-	-	-	-	-	-	-	-	-	-	-	2.9	-	-	**0.1**	**0.1**	-
C69	0.7	-	0.6	-	-	-	-	-	-	-	-	-	2.0	2.9	7.3	2.4	**0.4**	**0.5**	**0.3**
C70-C72	2.1	-	0.6	1.2	-	-	2.1	4.0	3.2	11.0	4.4	1.8	6.0	5.8	11.0	4.9	**2.3**	**2.7**	**5.3**
C73	-	-	1.2	1.8	6.5	10.7	12.4	18.3	9.6	9.8	11.8	14.3	8.1	8.7	7.3	9.8	**7.1**	**6.7**	**12.1**
C74	-	-	-	-	-	0.6	-	-	1.1	1.2	-	-	-	2.9	3.7	-	**0.3**	**0.3**	**0.4**
C75	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C81	-	-	-	-	1.2	-	-	0.8	-	-	-	-	2.0	-	-	-	**0.2**	**0.2**	**0.4**
C82-C85,C96	0.7	0.6	0.6	0.6	1.2	-	-	-	1.1	-	-	7.2	6.0	14.4	-	4.9	**1.2**	**1.5**	**1.9**
C88	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C90	-	-	-	-	-	-	-	-	1.1	-	-	-	8.1	8.7	-	4.9	**0.6**	**0.7**	**1.2**
C91	2.1	0.6	1.2	0.6	0.6	-	-	-	-	-	-	-	-	-	-	2.4	**0.5**	**0.6**	-
C92-C94	2.8	2.6	1.7	2.9	1.2	2.8	3.4	-	4.3	1.2	3.0	3.6	8.1	8.7	-	-	**2.6**	**2.7**	**3.0**
C95	0.7	1.3	-	-	-	0.6	-	0.8	-	-	-	-	4.0	2.9	-	-	**0.5**	**0.6**	**0.7**
MPD	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MDS	-	-	-	-	-	-	-	-	-	2.4	-	-	-	2.9	-	-	**0.2**	**0.2**	**0.5**
O & U*	-	-	-	1.2	1.2	-	0.7	1.6	10.7	6.1	10.3	14.3	22.2	17.3	21.9	9.8	**3.7**	**4.5**	**9.9**
Total	**9.1**	**5.1**	**8.7**	**15.9**	**21.1**	**39.4**	**52.9**	**87.7**	**138.7**	**172.6**	**233.3**	**288.7**	**332.7**	**413.2**	**471.1**	**380.7**	**89.8**	**101.7**	**195.0**

* O & U includes the sites (ICD - 10: C26, C39, C48, C76, C77, C78, C79, C80, C97)

Table 12: Cumulative Rate (Cu. Rate %) & Cumulative Risk (Cu. Risk) of Individual Sites (ICD 10) Based on Age Specific Rates (from 0-64 years and 0-74 years) 2014-2018 in males

ICD 10	Sites	0 - 64 Years		0 - 74 Years	
		Cu. Rate %	Cu. Risk %	Cu. Rate %	Cu. Risk %
C00	Lip	0.0002	0.0002	0.0005	0.0005
C01-02	Tongue	0.0007	0.0007	0.0010	0.0010
C03-06	Mouth	0.0014	0.0014	0.0031	0.0031
C07-C08	Salivary Glands	0.0002	0.0002	0.0003	0.0003
C09	Tonsil	0.0004	0.0004	0.0008	0.0008
C10	Other Oropharynx	0.0003	0.0003	0.0006	0.0006
C11	Nasopharynx	0.0009	0.0009	0.0015	0.0015
C12-C13	Hypopharynx	0.0010	0.0010	0.0031	0.0031
C14	Pharynx Unspecified	0.0000	0.0000	0.0002	0.0002
C15	Oesophagus	0.0034	0.0034	0.0083	0.0083
C16	Stomach	0.0092	0.0092	0.0208	0.0208
C17	Small Intestine	0.0001	0.0001	0.0001	0.0001
C18	Colon	0.0007	0.0007	0.0016	0.0016
C19-C20	Rectum	0.0023	0.0023	0.0040	0.0040
C21	Anus & Anal Canal	-	-	-	-
C22	Liver	0.0034	0.0034	0.0059	0.0059
C23-24	Gall Bladder etc.	0.0009	0.0009	0.0024	0.0024
C25	Pancreas	0.0008	0.0008	0.0016	0.0016
C30-C31	Nose, Sinuses etc.	0.0001	0.0001	0.0001	0.0001
C32	Larynx	0.0009	0.0009	0.0017	0.0017
C33-C34	Lung etc.	0.0029	0.0029	0.0063	0.0063
C37-C38	Other Thoracic organ	0.0001	0.0001	0.0002	0.0002
C40-C41	Bone	0.0013	0.0013	0.0018	0.0018
C43	Melanoma of skin	0.0006	0.0006	0.0008	0.0008
C44	Other skin	0.0004	0.0004	0.0012	0.0012
C45	Mesothelioma	0.0001	0.0001	0.0001	0.0001
C46	Kaposi sarcoma	-	-	-	-
C47-C49	Conn. & Soft tissue	0.0004	0.0004	0.0008	0.0008
C50	Breast	0.0004	0.0004	0.0005	0.0005
C60	Penis	0.0002	0.0002	0.0003	0.0003
C61	Prostate	0.0006	0.0006	0.0020	0.0020
C62	Testis	0.0003	0.0003	0.0003	0.0003
C63	Oth Male Genital	-	-	-	-
C64	Kidney etc.	0.0006	0.0006	0.0015	0.0015
C65	Renal Pelvis	-	-	-	-
C66	Ureter	-	-	-	-
C67	Bladder	0.0007	0.0007	0.0017	0.0017
C68	Uns. Urinary Organs	-	-	-	-
C69	Eye	0.0003	0.0003	0.0005	0.0005
C70-C72	Brain, NS	0.0014	0.0014	0.0020	0.0020
C73	Thyroid	0.0011	0.0011	0.0017	0.0017
C74	Adrenal gland	-	-	-	-
C75	Other Endocrine	-	-	-	-
C81	Hodkings Disease	0.0006	0.0006	0.0006	0.0006
C82-C85,C96	NHL	0.0005	0.0005	0.0010	0.0010
C88	Imm. Disease	-	-	-	-
C90	Multiple Myeloma	0.0003	0.0003	0.0010	0.0010
C91	Lymphoid Leukemia	0.0003	0.0003	0.0003	0.0003
C92-C94	Myeloid Leukemia	0.0010	0.0010	0.0020	0.0020
C95	Leukemia Unspecified	0.0003	0.0003	0.0003	0.0003
MPD	Myel. disorders	-	-	-	-
MDS	Myel. syndromes	0.0001	0.0001	0.0002	0.0002
Other & Unspecified*		0.0029	0.0029	0.0049	0.0049
Total		**0.0442**	**0.0442**	**0.0898**	**0.0898**

* O & U includes the sites (ICD - 10: C26, C39, C48, C76, C77, C78, C79, C80, C97)

Table 13: Cumulative Rate (Cu. Rate %) & Cumulative Risk (Cu. Risk) of Individual Sites (ICD 10) Based on Age Specific Rates (from 0-64 years and 0-74 years) 2014-2018 in females

ICD 10	Sites	0 - 64 Years		0 - 74 Years	
		Cu. Rate %	Cu. Risk %	Cu. Rate %	Cu. Risk %
C00	Lip	0.0002	0.0002	0.0002	0.0002
C01-02	Tongue	0.0005	0.0005	0.0012	0.0012
C03-06	Mouth	0.0008	0.0008	0.0014	0.0014
C07-C08	Salivary gland	0.0004	0.0004	0.0008	0.0008
C09	Tonsil	-	-	-	-
C10	Other Oropharynx	-	-	-	-
C11	Nasopharynx	0.0003	0.0003	0.0006	0.0006
C12-C13	Hypopharynx	0.0005	0.0005	0.0009	0.0009
C14	Pharynx Unspecified	0.0001	0.0001	0.0001	0.0001
C15	Oesophagus	0.0027	0.0027	0.0038	0.0038
C16	Stomach	0.0067	0.0067	0.0147	0.0147
C17	Small intestine	0.0001	0.0001	0.0002	0.0002
C18	Colon	0.0009	0.0009	0.0017	0.0017
C19-C20	Rectum	0.0012	0.0012	0.0028	0.0028
C21	Anus	0.0001	0.0001	0.0001	0.0001
C22	Liver	0.0022	0.0022	0.0032	0.0032
C23-24	Gall Bladder	0.0032	0.0032	0.0055	0.0055
C25	Pancreas	0.0003	0.0003	0.0006	0.0006
C30-C31	Nose, Sinuses etc	0.0004	0.0004	0.0007	0.0007
C32	Larynx	0.0005	0.0005	0.0014	0.0014
C33-C34	Lung etc.	0.0034	0.0034	0.0074	0.0074
C37-C38	Other Thoracic organ	0.0001	0.0001	0.0001	0.0001
C40-C41	Bone	0.0010	0.0010	0.0018	0.0018
C43	Melanoma of skin	0.0006	0.0006	0.0012	0.0012
C44	Other skin	0.0005	0.0005	0.0006	0.0006
C45	Mesothelioma	0.0001	0.0001	0.0001	0.0001
C46	Kaposi Sarcoma	-	-	-	-
C47-C49	Conn & soft tissue	0.0002	0.0002	0.0004	0.0004
C50	Breast	0.0051	0.0051	0.0069	0.0069
C51	Vulva	0.0006	0.0006	0.0011	0.0011
C52	Vagina	0.0003	0.0003	0.0005	0.0005
C53	Cervix Uteri	0.0164	0.0164	0.0215	0.0215
C54	Corpus Uteri	0.0009	0.0009	0.0016	0.0016
C55	Uterus unspecified	0.0004	0.0004	0.0004	0.0004
C56	Ovary etc.	0.0036	0.0036	0.0075	0.0075
C57	Other female genital	-	-	-	-
C58	Placenta	0.0006	0.0006	0.0006	0.0006
C64	Kidney	0.0002	0.0002	0.0006	0.0006
C65	Renal Pelvis	-	-	-	-
C66	Ureter	-	-	-	-
C67	Bladder	0.0004	0.0004	0.0009	0.0009
C68	Other urinary organs	0.0000	0.0000	0.0001	0.0001
C69	Eye	0.0002	0.0002	0.0007	0.0007
C70-C72	Brain, NS	0.0018	0.0018	0.0027	0.0027
C73	Thyroid	0.0052	0.0052	0.0060	0.0060
C74	Adrenal gland	0.0001	0.0001	0.0005	0.0005
C75	Other endocrine	-	-	-	-
C81	Hodgkins Disease	0.0002	0.0002	0.0002	0.0002
C82-C85,C96	NHL	0.0009	0.0009	0.0016	0.0016
C88	Imm. disease	-	-	-	-
C90	Multiple Myeloma	0.0005	0.0005	0.0009	0.0009
C91	Lymphoid Leukemia	0.0003	0.0003	0.0003	0.0003
C92-C94	Myeloid Leukemia	0.0019	0.0019	0.0023	0.0023
C95	Leukemia Unspecified	0.0004	0.0004	0.0005	0.0005
MPD	Myel. disorders	-	-	-	-
MDS	Myel. syndromes	0.0001	0.0001	0.0003	0.0003
Other & Unspecified*		0.0034	0.0034	0.0054	0.0054
Total		**0.0703**	**0.0703**	**0.1144**	**0.1145**

* O & U includes the sites (ICD - 10: C26, C39, C48, C76, C77, C78, C79, C80, C97)

Table 14: Number (#) and Proportion (%) of Cancer by Site (ICD10) and Method of Diagnosis: 2014-2018 in males

ICD 10	Site	Radiology		Endoscopy		Microscopic		Death Certificate / Other		Total	
		#	%	#	%	#	%	#	%	#	%
C00	Lip	-		-		8		-			
C01-02	Tongue	-		--		14		-			
C03-06	Mouth	-		-		37		-			
C07-C08	Salivary glands	-		-		5		-			
C09	Tonsil	-		-		12		-			
C10	Other Oropharynx	-		-		6		-			
C11	Nasopharynx	-		-		34		-			
C12-C13	Hypopharynx	-		-		41		-			
C14	Pharynx Unspecified	-		-		3		-			
C15	Oesophagus	-		-		106		-			
C16	Stomach	-		-		275		-			
C17	Small Intestine	-		-		2		-			
C18	Colon	-		-		28		-			
C19-C20	Rectum	--		--		60		-			
C21	Anus & Anal Canal	--		-		-		-			
C22	Liver	--		--		73		16			
C23	Gall Bladder etc	---		-		33		-			
C25	Pancreas	--		-		22		-			
C30-C31	Nose, sinuses etc.	-		-		6		-			
C32	Larynx	-		-		26		-			
C33-C34	Lung etc.	15		-		70		7			
C37-C38	Other Thoracic organ	-		-		2		-			
C40-C41	Bone	-		-		30		-			
C43	Melanoma of skin	--		-		26		-			
C44	Other Skin	-		-		7		-			
C45	Mesothelioma	--		-		-		-			
C46	Kaposi Sarcoma	---		-		-		-			
C47+C49	Conn. & Soft tissue	--		-		13		-			
C50	Breast	--		-		9		-			
C60	Penis	-		-		7		-			
C61	Prostate	-		-		36		-			
C62	Testis	-		-		10		-			
C63	Oth male genital	-		-		-		-			
C64	Kidney etc.	-		-		17		-			
C67	Bladder	--		-		67		-			
C68	Uns. Urinary Organs	-		-		-		-			
C69	Eye	-		-		8		-			
C70-C72	Brain, NS	4		-		34		3			
C73	Thyroid	-		-		32		-			
C74	Adrenal gland	-		-		1		-			
C75	Other endocrine	--		-		-		-			
C81	Hodgkins Disease	--		-		-		-			
C82-C85,C96	NHL	-		-		11		-			
C88	Imm. disease	-		-		18		-			
C90	Multiple myeloma	-		-		10		-			
C91	Lymphoid Leukemia	-		-		10		-			
C92-C94	Myeloid Leukemia	-		-		46		-			
C95	Leukemia Unspecified	-		-		-		-			
MPD	Myel. disorders	-		-		-		-			
MDS	Myel. syndromes	-		-		3		---			
Other & Unspecified*		-		-		80		-			
Total											

* O & U includes the sites (ICD - 10: C26, C39, C48, C76, C77, C78, C79, C80, C97)

Table 15: Number (#) and Proportion (%) of Cancer by Site (ICD10) and Method of Diagnosis: 2014-2018 in females

ICD 10	Site	Radiology		Endoscopy		Microscopic		Death Certificate / Other		Total	
		#	%	#	%	#	%	#	%	#	%
C00	Lip	-		-		3		-			
C01-C02	Tongue	-		-		11		-			
C03-C06	Mouth	-		-		16		-			
C07-C08	Salivary gland	-		-		12		-			
C09	Tonsil	-		-		-		-			
C10	Other Oropharynx	-		-		-		-			
C11	Nasopharynx	-		-		12		-			
C12-C13	Hypopharynx	-		-		11		-			
C14	Pharynx Unspecified	-		-		2		-			
C15	Oesophagus	-		-		54		-			
C16	Stomach	-		-		174		-			
C17	Small intestine	-		-		2		-			
C18	Colon	-		-		26		-			
C19-C20	Rectum	-		-		41		-			
C21	Anus	-		-		2		-			
C22	Liver	-		-		39		9			
C23-C24	Gall Bladder	-		-		69		-			
C25	Pancreas	-		-		13		-			
C30-C31	Nose, Sinuses etc	-		-		10		-			
C32	Larynx	-		-		14		-			
C33-C34	Lung etc.	-		-		88		-			
C37-C38	Other Thoracic organ	-		-		2		-			
C40-C41	Bone	-		-		29		-			
C43	Melanoma of skin	-		-		15		-			
C44	Other skin	-		-		14		-			
C45	Mesothelioma	-		-		-		-			
C46	Kaposi Sarcoma	-		-		-		-			
C47+C49	Conn & soft tissue	-		-		10		-			
C50	Breast	-		-		115		-			
C51	Vulva	-		-		17		-			
C52	Vagina	-		-		6		-			
C53	Cervix Uteri	-		-		342		--			
C54	Corpus Uteri	-		-		15		-			
C55	Uterus unspecified	-		-		9		-			
C56	Ovary etc.	-		-		96		-			
C57	Other female genital	-		-		-		-			
C58	Placenta	--		-		17		-			
C64	Kidney	-				6		-			
C65	Renal Pelvis	-		-		1		-			
C66	Ureter	-		-		-		-			
C67	Bladder	-		-		12		-			
C68	Other urinary organs	-		-		1		-			
C69	Eye	-		-		7		-			
C70-C72	Brain, NS	5		--		39		3			
C73	Thyroid	-				147		-			
C74	Adrenal gland	--		-		5		-			
C75	Other endocrine	---		-		-		-			
C81	Hodgkins Disease	--		-		5		-			
C82-C85,C96	NHL	--		-		17		-			
C88	Imm. disease	--		-		-		-			
C90	Multiple Myeloma	--		-		12		-			
C91	Lymphoid Leukemia	---		-		9		-			
C92-C94	Myeloid Leukemia	--		-		49		-			
C95	Leukemia Unspecified	--		-		1		-			
MPD	Myel. disorders	--		-		-		-			
MDS	Myel. syndromes	--		-		3		-			
Other & Unspecified*		-		-		21		1			
Total											

* O & U includes the sites (ICD - 10: C26, C39, C48, C75, C76, C77, C78, C79, C80, C97)

Table 16: Number of Cancer Deaths by Five Year Age Group and Site (ICD 10): 2014-2018 in males
% = Relative proportion of Cancer of All Sites

ICD 10	Sites	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75+	Total	%
C00	Lip	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	**1**	**0.2**
C01-02	Tongue	-	-	-	-	-	-	-	-	-	-	1	1	-	1	-	1	**4**	**0.9**
C03-06	Mouth	-	-	-	-	-	-	1	-	1	1	-	2	2	-	1	1	**9**	**1.9**
C07-C08	Salivary Glands	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	**1**	**0.2**
C09	Tonsil	-	-	-	-	-	-	-	-	-	-	1	1	-	2	-	-	**4**	**0.9**
C10	Other Oropharynx	-	-	-	-	-	-	-	-	-	1	-	-	1	1	-	-	**3**	**0.6**
C11	Nasopharynx	-	-	-	-	-	1	-	-	-	-	1	2	-	-	-	-	**4**	**0.9**
C12-C13	Hypopharynx	-	-	-	-	-	-	-	-	1	1	1	1	4	-	1	1	**10**	**2.1**
C14	Pharynx Unspecified	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	**1**	**0.2**
C15	Oesophagus	-	-	-	-	-	-	-	-	1	5	6	8	8	6	14	10	**58**	**12.4**
C16	Stomach	-	-	-	-	-	1	2	2	4	3	6	16	27	19	20	25	**125**	**26.8**
C17	Small Intestine	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C18	Colon	-	-	-	-	-	-	-	-	-	-	2	-	-	4	-	1	**7**	**1.5**
C19-C20	Rectum	-	-	-	-	-	-	1	-	-	2	3	1	3	3	3	1	**17**	**3.6**
C21	Anus & Anal Canal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C22	Liver	-	1	-	-	-	-	1	3	2	5	2	11	7	8	6	11	**57**	**12.2**
C23-24	Gall Bladder etc.	-	-	-	-	-	-	-	-	1	-	3	2	3	6	2	6	**23**	**4.9**
C25	Pancreas	-	-	-	-	-	-	-	-	-	1	-	1	5	-	2	3	**12**	**2.6**
C30-C31	Nose, Sinuses etc.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C32	Larynx	-	-	-	-	-	-	-	-	-	-	-	3	2	1	2	2	**10**	**2.1**
C33-C34	Lung etc.	-	-	-	-	-	-	1	-	3	2	3	1	5	3	5	10	**33**	**7.1**
C37-C38	Other Thoracic organ	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	**1**	**0.2**
C40-C41	Bone	-	-	-	2	1	-	-	-	-	-	-	2	-	-	1	-	**6**	**1.3**
C43	Melanoma of skin	-	-	-	-	-	-	-	-	-	1	-	1	1	-	-	-	**3**	**0.6**
C44	Other skin	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	**1**	**0.2**
C45	Mesothelioma	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C46	Kaposi sarcoma	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C47-C49	Conn. & Soft tissue	-	-	-	-	-	-	-	-	1	-	-	1	-	1	-	1	**4**	**0.9**
C50	Breast	-	-	-	-	-	-	1	-	-	-	1	-	-	-	-	-	**2**	**0.4**
C60	Penis	-	-	-	-	1	-	-	-	1	-	-	-	-	-	-	-	**2**	**0.4**
C61	Prostate	-	-	-	-	-	-	-	-	-	-	-	1	-	-	2	6	**9**	**1.9**
C62	Testis	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C63	Oth Male Genital	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C64	Kidney etc.	-	-	-	-	-	1	-	-	-	-	-	-	1	-	1	1	**4**	**0.9**
C65	Renal Pelvis	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C66	Ureter	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C67	Bladder	-	-	-	-	-	-	-	-	1	1	-	-	1	-	2	-	**5**	**1.1**
C68	Uns. Urinary Organs	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C69	Eye	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C70-C72	Brain, NS	1	-	-	2	-	1	-	-	-	2	-	-	1	1	1	1	**10**	**2.1**
C73	Thyroid	-	-	-	-	-	-	-	-	-	1	-	-	-	1	-	1	**3**	**0.6**
C74	Adrenal gland	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C75	Other endocrine	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C81	Hodkings Disease	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C82-C85,C96	NHL	-	-	-	-	-	-	-	-	-	-	1	-	-	-	1	-	**2**	**0.4**
C88	Imm. Disease	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C90	Multiple Myeloma	-	-	-	-	-	-	-	-	-	-	-	-	1	2	-	-	**3**	**0.6**
C91	Lymphoid Leukemia	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**1**	**0.2**
C92-C94	Myeloid Leukemia	1	1	-	-	-	-	-	1	1	-	-	1	-	2	1	-	**8**	**1.7**
C95	Leukemia Unspecified	-	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	**2**	**0.4**
MPD	Myel. disorders	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MDS	Myel. syndromes	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	**1**	**0.2**
Other & Unspecified*		-	-	-	-	-	-	2	-	1	2	4	-	4	3	1	3	**21**	**4.5**
Total		**2**	**3**	**0**	**4**	**2**	**5**	**10**	**6**	**18**	**28**	**36**	**56**	**77**	**65**	**69**	**86**	**467**	**100**

* O & U includes the sites (ICD - 10: C26, C39, C48, C75, C76, C77, C78, C79, C80, C97)

Table 17: Number of Cancer Deaths by Five Year Age Group and Site (ICD 10): 2014-2018 in females
% = Relative proportion of Cancer of All Sites

ICD 10	Sites	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75+	Total	%
C00	Lip	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C01-02	Tongue	-	-	-	-	-	1	-	-	-	-	-	-	1	-	1	-	**3**	**0.7**
C03-06	Mouth	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	**2**	**0.4**
C07-C08	Salivary Glands	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1	-	**2**	**0.4**
C09	Tonsil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C10	Other Oropharynx	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C11	Nasopharynx	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1	-	**2**	**0.4**
C12-C13	Hypopharynx	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	**1**	**0.2**
C14	Pharynx Unspecified	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	**1**	**0.2**
C15	Oesophagus	-	-	-	-	-	1	-	-	1	1	2	10	5	1	2	6	**29**	**6.3**
C16	Stomach	-	-	-	-	-	2	1	-	1	1	6	10	12	9	16	17	**75**	**16.4**
C17	Small Intestine	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	**1**	**0.2**
C18	Colon	-	-	-	-	-	-	1	-	1	3	1	3	-	1	1	1	**12**	**2.6**
C19-C20	Rectum	-	-	-	-	-	-	1	-	1	2	-	-	-	1	2	1	**8**	**1.7**
C21	Anus & Anal Canal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	**1**	**0.2**
C22	Liver	-	-	-	-	-	-	2	1	5	3	6	3	5	2	3	4	**34**	**7.4**
C23-24	Gall Bladder etc.	-	-	-	-	-	-	-	2	-	2	6	5	3	5	3	3	**29**	**6.3**
C25	Pancreas	-	-	-	1	-	-	-	-	-	-	2	-	-	1	-	2	**6**	**1.3**
C30-C31	Nose, Sinuses etc.	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	**2**	**0.4**
C32	Larynx	-	-	-	-	-	-	-	-	-	-	1	1	-	2	1	-	**5**	**1.1**
C33-C34	Lung etc.	-	-	-	-	-	-	3	-	-	1	3	6	3	5	11	4	**36**	**7.9**
C37-C38	Other Thoracic organ	-	-	-	-	1	-	-	-	-	-	-	-	1	-	-	-	**2**	**0.4**
C40-C41	Bone	-	-	1	-	-	1	-	-	-	-	-	-	-	1	-	-	**3**	**0.7**
C43	Melanoma of skin	-	-	-	-	-	-	-	-	1	-	-	1	-	-	-	-	**2**	**0.4**
C44	Other skin	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	**1**	**0.2**
C45	Mesothelioma	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C46	Kaposi sarcoma	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C47-C49	Conn. & Soft tissue	-	-	-	-	-	-	1	-	-	1	-	-	-	-	-	-	**2**	**0.4**
C50	Breast	-	-	-	-	-	1	2	2	1	-	-	3	-	1	1	1	**12**	**2.6**
C51	Vulva	-	-	-	-	-	1	-	-	-	-	1	-	-	-	1	1	**4**	**0.9**
C52	Vagina	-	-	-	-	-	-	-	-	-	-	1	-	-	-	1	-	**2**	**0.4**
C53	Cervix Uteri	-	-	-	-	-	1	-	4	8	11	15	8	7	6	8	8	**76**	**16.6**
C54	Corpus Uteri	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	**1**	**0.2**
C55	Uterus unspecified	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-	-	**2**	**0.4**
C56	Ovary etc.	-	-	-	-	-	2	1	4	2	5	5	4	1	5	5	3	**37**	**8.1**
C57	Other Female Gentile	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C58	Placenta	-	-	-	-	-	1	1	-	-	1	-	-	-	-	-	-	**3**	**0.7**
C64	Kidney	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	**2**	**0.4**
C65	Renal Pelvis	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C66	Ureter	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C67	Bladder	-	-	-	-	-	-	-	-	-	-	1	-	-	1	-	-	**2**	**0.4**
C68	Other Urinary organs	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C69	Eye	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C70-C72	Brain, NS	-	-	-	-	-	-	-	2	-	3	-	1	1	1	-	1	**9**	**2.0**
C73	Thyroid	-	-	-	-	-	-	-	1	-	-	-	-	-	1	1	1	**4**	**0.9**
C74	Adrenal gland	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C75	Other endocrine	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C81	Hodkings Disease	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C82-C85,C96	NHL	-	-	1	-	-	-	-	-	-	-	-	1	-	2	-	-	**4**	**0.9**
C88	Imm. Disease	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C90	Multiple Myeloma	-	-	-	-	-	-	-	-	-	-	-	-	3	1	-	1	**5**	**1.1**
C91	Lymphoid Leukemia	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**1**	**0.2**
C92-C94	Myeloid Leukemia	1	-	-	1	-	1	1	-	1	-	-	-	2	-	-	-	**7**	**1.5**
C95	Leukemia Unspecified	1	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	**2**	**0.4**
MPD	Myel. disorders	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MDS	Myel. syndromes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other & Unspecified*		-	-	-	1	-	-	-	1	4	2	1	3	7	4	1	2	**26**	**5.7**
Total		**2**	**1**	**2**	**3**	**1**	**12**	**14**	**17**	**26**	**36**	**54**	**62**	**54**	**51**	**64**	**59**	**458**	**100**

* O & U includes the sites (ICD - 10: C26, C39, C48, C75, C76, C77, C78, C79, C80, C97)

Table 18: Average Annual Age Specific, Crude (CR), Age Adjusted (AAR) and Truncated (35-64 yrs) (TR) Mortality Rate per 100,000 population: 2014-2018 in males

ICD 10	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75+	CR	AAR	TR
C00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.5	**0.1**	**0.1**	-
C01-02	-	-	-	-	-	-	-	-	-	-	1.3	1.7	-	2.7	-	2.5	**0.2**	**0.3**	**0.4**
C03-06	-	-	-	-	-	-	0.6	-	0.9	1.1	-	3.3	3.9	0.0	3.5	2.5	**0.5**	**0.6**	**1.3**
C07-C08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.5	-	**0.1**	**0.1**	-
C09	-	-	-	-	-	-	-	-	-	-	1.3	1.7	-	5.4	-	-	**0.2**	**0.3**	**0.4**
C10	-	-	-	-	-	-	-	-	-	1.1	-	-	2.0	2.7	-	-	**0.2**	**0.2**	**0.5**
C11	-	-	-	-	-	0.5	-	-	-	-	1.3	3.3	-	-	-	-	**0.2**	**0.2**	**0.6**
C12-C13	-	-	-	-	-	-	-	-	0.9	1.1	1.3	1.7	7.8	-	3.5	2.5	**0.5**	**0.7**	**1.8**
C14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.5	-	**0.1**	**0.1**	-
C15	-	-	-	-	-	-	-	-	0.9	5.4	7.9	13.3	15.6	16.1	48.6	25.1	**3.1**	**3.9**	**6.2**
C16	-	-	-	-	-	0.5	1.2	1.4	3.7	3.2	7.9	26.6	52.8	51.0	69.5	62.6	**6.6**	**8.3**	**13.1**
C17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C18	-	-	-	-	-	-	-	-	-	-	2.6	-	-	10.7	-	2.5	**0.4**	**0.5**	**0.4**
C19-C20	-	-	-	-	-	-	0.6	-	-	2.2	4.0	1.7	5.9	8.1	10.4	2.5	**0.9**	**1.2**	**2.0**
C21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C22	-	0.6	-	-	-	-	0.6	2.1	1.8	5.4	2.6	18.3	13.7	21.5	20.8	27.6	**3.0**	**3.7**	**6.4**
C23-24	-	-	-	-	-	-	-	-	0.9	-	4.0	3.3	5.9	16.1	6.9	15.0	**1.2**	**1.5**	**2.0**
C25	-	-	-	-	-	-	-	-	-	1.1	-	1.7	9.8	-	6.9	7.5	**0.6**	**0.8**	**1.7**
C30-C31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C32	-	-	-	-	-	-	-	-	-	-	-	5.0	3.9	2.7	6.9	5.0	**0.5**	**0.7**	**1.1**
C33-C34	-	-	-	-	-	-	0.6	-	2.8	2.2	4.0	1.7	9.8	8.1	17.4	25.1	**1.8**	**2.1**	**3.1**
C37-C38	-	-	-	-	-	-	-	-	-	-	1.3	-	-	-	-	-	**0.1**	**0.1**	**0.2**
C40-C41	-	-	-	1.1	0.5	-	-	-	-	-	-	3.3	-	-	3.5	-	**0.3**	**0.3**	**0.4**
C43	-	-	-	-	-	-	-	-	-	1.1	-	1.7	2.0	-	-	-	**0.2**	**0.2**	**0.7**
C44	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.5	-	**0.1**	**0.1**	-
C45	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C46	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C47-C49	-	-	-	-	-	-	-	-	0.9	-	-	1.7	-	2.7	-	2.5	**0.2**	**0.3**	**0.4**
C50	-	-	-	-	-	-	0.6	-	-	-	1.3	-	-	-	-	-	**0.1**	**0.1**	**0.2**
C60	-	-	-	-	0.5	-	-	-	-	-	-	-	-	-	-	-	**0.1**	**0.1**	**0.2**
C61	-	-	-	-	-	-	-	-	-	-	-	1.7	-	-	6.9	15.0	**0.5**	**0.5**	**0.2**
C62	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C63	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C64	-	-	-	-	-	0.5	-	-	-	-	-	-	2.0	-	3.5	2.5	**0.2**	**0.2**	**0.3**
C65	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C66	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C67	-	-	-	-	-	-	-	-	0.9	1.1	-	-	2.0	-	6.9	-	**0.3**	**0.3**	**0.6**
C68	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C69	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C70-C72	0.7	-	-	1.1	-	0.5	-	-	-	2.2	-	-	2.0	2.7	3.5	2.5	**0.5**	**0.6**	**0.7**
C73	-	-	-	-	-	-	-	-	-	1.1	-	-	-	2.7	-	2.5	**0.2**	**0.2**	**0.2**
C74	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C75	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C81	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C82-C85,C96	-	-	-	-	-	-	-	-	-	-	1.3	-	-	-	3.5	-	**0.1**	**0.1**	**0.2**
C88	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C90	-	-	-	-	-	-	-	-	-	-	-	-	2.0	5.4	-	-	**0.2**	**0.2**	**0.3**
C91	-	0.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**0.1**	**0.1**	-
C92-C94	0.7	0.6	-	-	-	-	-	0.7	0.9	-	-	1.7	-	5.4	3.5	-	**0.4**	**0.5**	**0.5**
C95	-	-	-	-	-	-	0.6	-	-	-	-	-	2.0	-	-	-	**0.1**	**0.1**	**0.3**
MPD	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MDS	-	-	-	-	-	-	-	-	-	-	-	-	-	2.7	-	-	**0.1**	**0.1**	-
O & U	-	-	-	-	-	0.5	1.2	-	0.9	2.2	5.3	-	7.8	8.1	3.5	7.5	**1.1**	**1.3**	**2.5**
Total	**1.4**	**1.9**	**0.0**	**2.3**	**1.0**	**2.4**	**5.9**	**4.2**	**16.6**	**30.2**	**47.6**	**93.0**	**150.5**	**174.5**	**239.7**	**215.4**	**24.8**	**30.7**	**49.0**

* O & U includes the sites (ICD - 10: C26, C39, C48, C75, C76, C77, C78, C79, C80, C97)

Table 19: Average Annual Age Specific, Crude (CR), Age Adjusted (AAR) and Truncated (35-64 yrs) (TR) Mortality Rate per 100,000 population: 2014-2018 in females

ICD 10	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75+	CR	AAR	TR
C00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C01-02	-	-	-	-	-	0.6	-	-	-	-	-	-	2.0	-	3.7	-	**0.2**	**0.2**	**0.3**
C03-06	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.3	-	**0.1**	**0.1**	-
C07-C08	-	-	-	-	-	-	-	-	-	-	-	1.8	-	-	3.7	-	**0.1**	**0.1**	**0.2**
C09	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C11	-	-	-	-	-	-	-	-	-	-	-	-	2.0	-	3.7	-	**0.1**	**0.2**	**0.3**
C12-C13	-	-	-	-	-	-	-	-	-	-	1.5	-	-	-	-	-	**0.1**	**0.1**	**0.2**
C14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.4	**0.1**	-	-
C15	-	-	-	-	-	0.6	-	-	1.1	1.2	3.0	17.9	10.1	2.9	7.3	14.6	**1.7**	**2.0**	**4.5**
C16	-	-	-	-	-	1.1	0.7	-	1.1	1.2	8.9	17.9	24.2	26.0	58.4	41.5	**4.4**	**5.2**	**7.3**
C17	-	-	-	-	-	-	-	-	-	-	1.5	-	-	-	-	-	**0.1**	**0.1**	**0.2**
C18	-	-	-	-	-	-	0.7	-	1.1	3.7	1.5	5.4	-	2.9	3.7	2.4	**0.7**	**0.8**	**1.8**
C19-C20	-	-	-	-	-	-	0.7	-	1.1	2.4	-	-	-	2.9	7.3	2.4	**0.5**	**0.5**	**0.7**
C21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.4	**0.1**	-	-
C22	-	-	-	-	-	-	1.4	0.8	5.3	3.7	8.9	5.4	10.1	5.8	11.0	9.8	**2.0**	**2.3**	**5.3**
C23-24	-	-	-	-	-	-	-	1.6	-	2.4	8.9	9.0	6.0	14.4	11.0	7.3	**1.7**	**2.1**	**4.1**
C25	-	-	-	0.6	-	-	-	-	-	-	3.0	-	-	2.9	-	4.9	**0.4**	**0.4**	**0.5**
C30-C31	-	-	-	-	-	-	-	-	-	-	-	-	-	2.9	3.7	-	**0.1**	**0.2**	-
C32	-	-	-	-	-	-	-	-	-	-	1.5	1.8	-	5.8	3.7	-	**0.3**	**0.4**	**0.5**
C33-C34	-	-	-	-	-	-	2.1	-	-	1.2	4.4	10.8	6.0	14.4	40.2	9.8	**2.1**	**2.5**	**3.1**
C37-C38	-	-	-	-	0.6	-	-	-	-	-	-	-	2.0	-	-	-	**0.1**	**0.1**	**0.3**
C40-C41	-	-	0.6	-	-	0.6	-	-	-	-	-	-	-	2.9	-	-	**0.2**	**0.2**	-
C43	-	-	-	-	-	-	-	-	1.1	-	-	1.8	-	-	-	-	**0.1**	**0.1**	**0.4**
C44	-	-	-	-	-	-	-	-	-	-	-	-	2.0	-	-	-	**0.1**	**0.1**	**0.3**
C45	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C46	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C47-C49	-	-	-	-	-	-	0.7	-	-	1.2	-	-	-	-	-	-	**0.1**	**0.1**	**0.2**
C50	-	-	-	-	-	0.6	1.4	1.6	1.1	-	-	5.4	-	2.9	3.7	2.4	**0.7**	**0.7**	**1.2**
C51	-	-	-	-	-	0.6	-	-	-	-	1.5	-	-	-	3.7	2.4	**0.2**	**0.2**	**0.2**
C52	-	-	-	-	-	-	-	-	-	-	1.5	-	-	-	3.7	-	**0.1**	**0.1**	**0.2**
C53	-	-	-	-	-	0.6	-	3.2	8.5	13.5	22.1	14.3	14.1	17.3	29.2	19.5	**4.4**	**5.3**	**12.1**
C54	-	-	-	-	-	-	-	-	-	-	-	1.8	-	-	-	-	**0.1**	**0.1**	**0.2**
C55	-	-	-	-	-	-	-	-	-	-	1.5	1.8	-	-	-	-	**0.1**	**0.1**	**0.5**
C56	-	-	-	-	-	1.1	0.7	3.2	2.1	6.1	7.4	7.2	2.0	14.4	18.3	7.3	**2.2**	**2.5**	**4.6**
C57	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C58	-	-	-	-	-	0.6	0.7	-	-	1.2	-	-	-	-	-	-	**0.2**	**0.2**	**0.2**
C64	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.7	2.4	**0.1**	**0.1**	-
C65	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C66	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C67	-	-	-	-	-	-	-	-	-	-	1.5	-	-	2.9	-	-	**0.1**	**0.2**	**0.2**
C68	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C69	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C70-C72	-	-	-	-	-	-	-	1.6	-	3.7	-	1.8	2.0	2.9	-	2.4	**0.5**	**0.6**	**1.5**
C73	-	-	-	-	-	-	-	0.8	-	-	-	-	-	2.9	3.7	2.4	**0.2**	**0.3**	**0.2**
C74	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C75	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C81	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C82-C85,C96	-	-	0.6	-	-	-	-	-	-	-	-	1.8	-	5.8	-	-	**0.2**	**0.3**	**0.2**
C88	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C90	-	-	-	-	-	-	-	-	-	-	-	-	6.0	2.9	-	2.4	**0.3**	**0.4**	**0.8**
C91	-	0.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**0.1**	**0.1**	-
C92-C94	0.7	-	-	0.6	-	0.6	0.7	-	1.1	-	-	-	4.0	-	-	-	**0.4**	**0.4**	**0.7**
C95	0.7	-	-	-	-	-	-	-	-	-	-	-	2.0	-	-	-	**0.1**	**0.2**	**0.3**
MPD	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MDS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
O&U*	-	-	-	0.6	-	-	-	0.8	4.3	2.4	1.5	5.4	14.1	11.6	3.7	4.9	**1.5**	**1.9**	**4.2**
Total	**1.4**	**0.6**	**1.2**	**1.8**	**0.6**	**6.8**	**9.6**	**13.5**	**27.7**	**44.1**	**79.7**	**111.2**	**108.9**	**147.4**	**233.7**	**144.0**	**26.7**	**31.5**	**57.8**

* O & U includes the sites (ICD - 10: C26, C39, C48, C75, C76, C77, C78, C79, C80, C97)

5. Challenges in establishing and sustaining Cancer Registry in Bhutan

There is no separate program for cancer control and therefore no separate budget exists for running Cancer Registry. Registry in run by regular staff of JDWNRH (on part time basis) and data assistant is recruited by HPV Study which is a collaborative research project between JDWNRH and IARC.

Registry is not supported financially either by the Hospital or Ministry, However, data collection is supported either by the Ministry or Bhutan Cancer Society. Therefore, there is no ownership of the registry. It neither belongs to Hospital nor to the Ministry.

External funding support from IARC could not be obtained since MOU could not be signed. In order to sustain the registry, the Department of Public Health should establish a separate Cancer Control Program with dedicated human resource and fund.

Recommendations

1. Create a separate cancer control program in the MOH which will also take ownership of the PBCR.
2. To have a collaborative research agreement (CRA) between MOH of Bhutan and IARC, Lyon so that the latter could support the registry.
3. Standard operating procedure (SOP) to be in place so that registry staff follows it diligently
4. Need linkage with vital statistics office or RICB for collecting data on death cases
5. Make cancer a notifiable disease
6. Strengthen collaboration with CCE of Tata Memorial Center in Mumbai for technical support

7. References

1) National Statistical Bureau, Bhutan (2017)
2) J. Ferlay et al, Cancer incidence and mortality worldwide: sources, methods and major patterns, GLOBOCAN 2018: International Journal of Cancer
3) *CanReg5* open source software: International Agency for Research on Cancer, Lyon, France
4) International classification of diseases 2000 for Oncology: Third edition, WHO, Geneva 2000
5) Annual Health Bulletin 2019, Ministry of Health, Bhutan
6) 2015 Bhutan Cancer Report

7) Cancer burden in Chandigarh and Punjab State 2013-14

8) Freddie Bray, D. Max Parkin: Evaluation of data quality in the Cancer Registry: Principles and methods. Part 1: comparability, validity and timeliness, EJC 45 (2009) 745-755

9) TrangThiHuin et al, Prevalence of H.pylori, virulence factors in Bhutan, Vietnam and Myanmar is related to gastric cancer incidence, Biomed Research International vol 2015, article ID 830813,

10) G. Da Villa et al, Viral hepatitis in the Bhutanese population: preliminary results of a socio epidemiological investigation, Res. Virology, 1997, 148, 115-117

11) NCRP-ICMR- Three-year report of PBCR 2012-2014, Bengaluru – 2016

12) WHO NCD STEPS Risk factor survey, 2019, Bhutan

13) Tshomo et al, Human Papilloma Virus infection in Bhutan at the moment of implementation of national HPV vaccination program, BMC infectious diseases 14(1) 408-July, 2014

8. Glossary

PBCR	Population Based Cancer Registry
JDWNRH	Jigme Dorji Wangchuck National Referral Hospital
CID	Citizenship Identity Number
SOP	Standard Operating Procedure
MOH	Ministry of Health
MOU	Memorandum of Understanding
IARC	International Agency for Research on Cancer
NCI	National Cancer Institute
CRA	Collaborative Research Agreement
ASR	Age Standardized Rate
HBV	Hepatitis B virus
HPV	Human Papilloma Virus
LEEP	Loop Electrosurgical Excision Procedure
CMO	Chief Medical Officer
NSB	National Statistics Bureau
RICB	Royal Insurance Corporation of Bhutan
CCE	Center for Cancer Epidemiology
TMH	Tata Memorial Hospital

TMC	Tata Medical Center

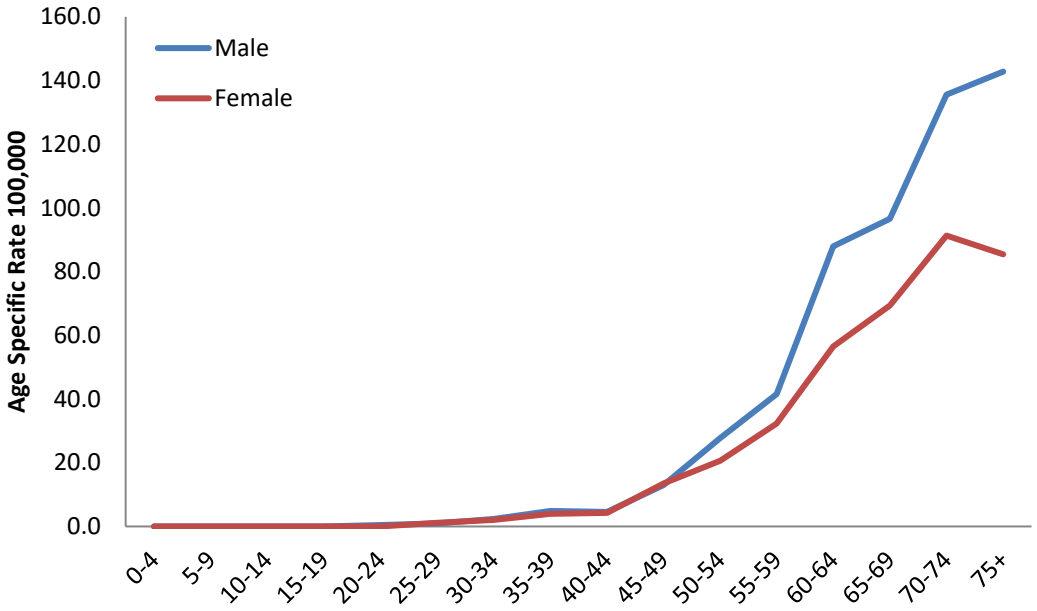
9. Acknowledgment

Our special thanks to

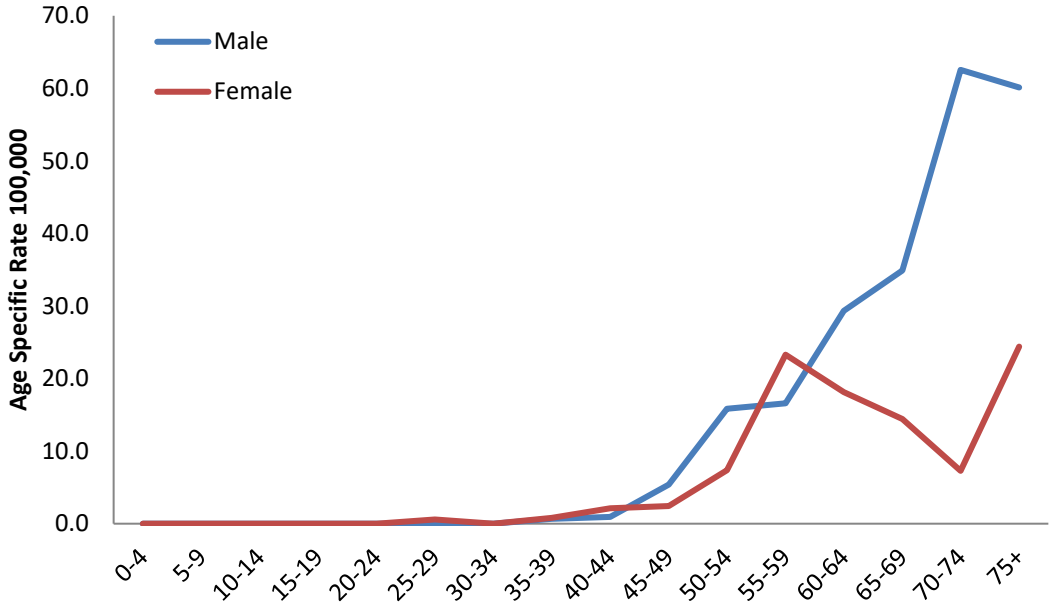
1. Bhutan Cancer Society, Thimphu, Bhutan
2. Tata Medical Center, Kolkata, West Bengal, India
3. Narayana Hospital, Kolkata, West Bengal, India
4. Liaison Officer, Kolkata, West Bengal, India
5. Staff of Medical Record Unit of JDWNRH
6. Staff of Referral Unit, JDWNRH
7. Staff of Oncology and Radiation Therapy units of JDWNRH
8. Staff working in Endoscopy and Colposcopy Units in JDWNRH
9. Staff of CT/MRI Unit of Radiology Department, JDWNRH
10. Staff working in Histology, Cytology and Hematology Units, Department of Laboratory Medicine, JDWNRH
11. Nursing staff of JDWNRH and all other Hospitals and Grade I BHUs
12. Staff of IT section in JDW
13. Heads and CMOs of all Regional and District Hospitals and Grade I BHUs
14. Staff of Life Insurance Section of RICB, Thimphu

10. Annexure

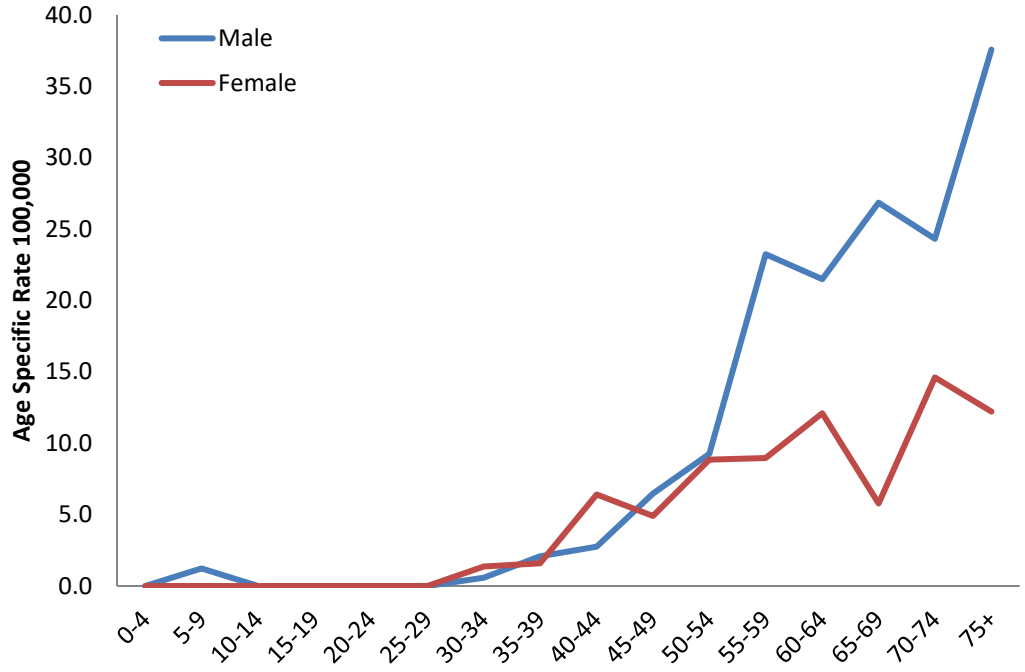
Annexure I: Age specific rates of top 10 cancers



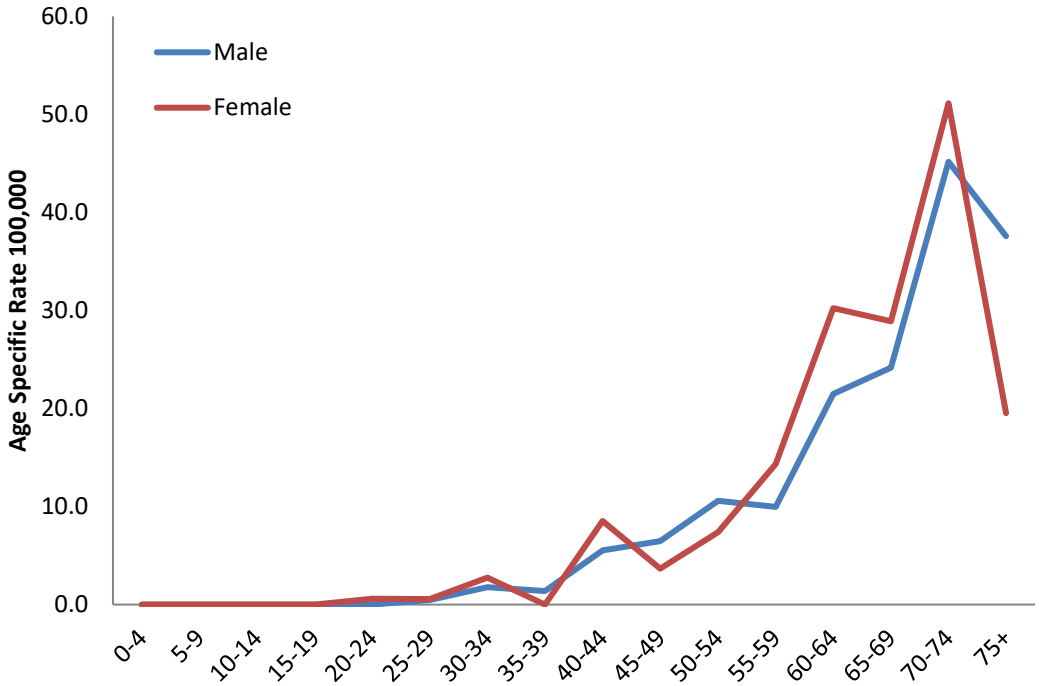
Age specific incidence rate of stomach cancer



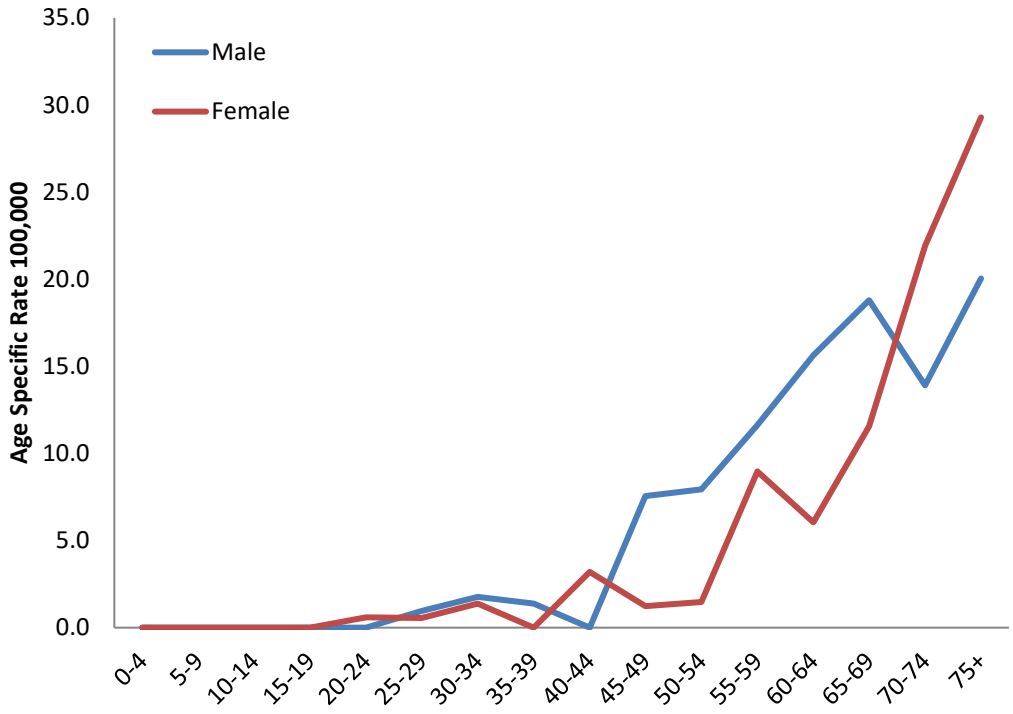
Age specific incidence rate of oesophagus cancer



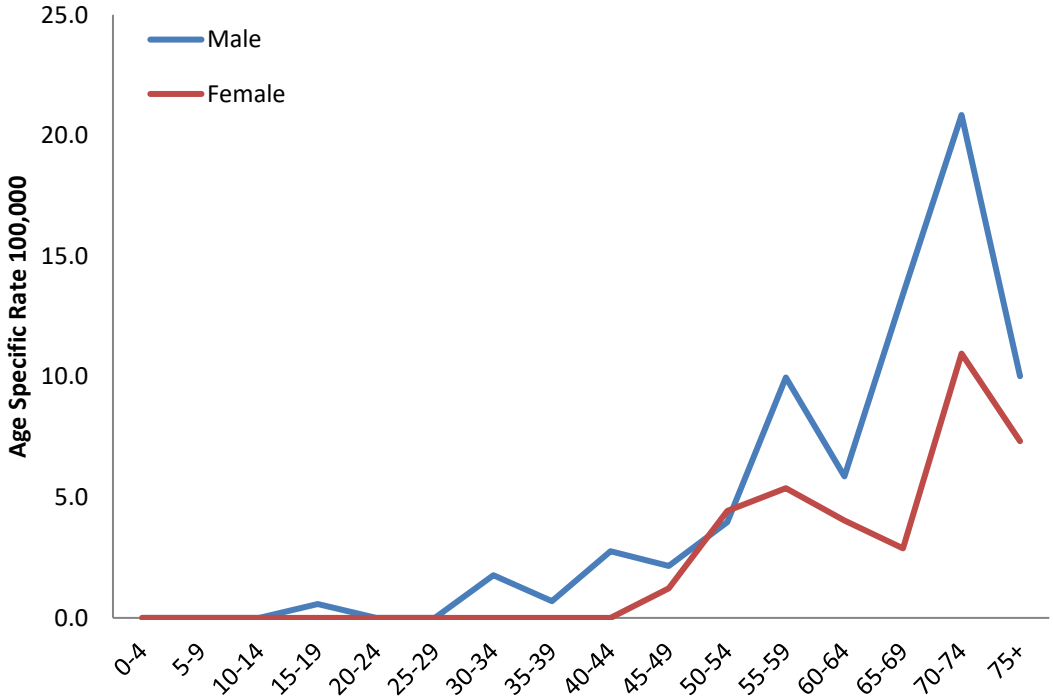
Age specific incidence rate of liver cancer



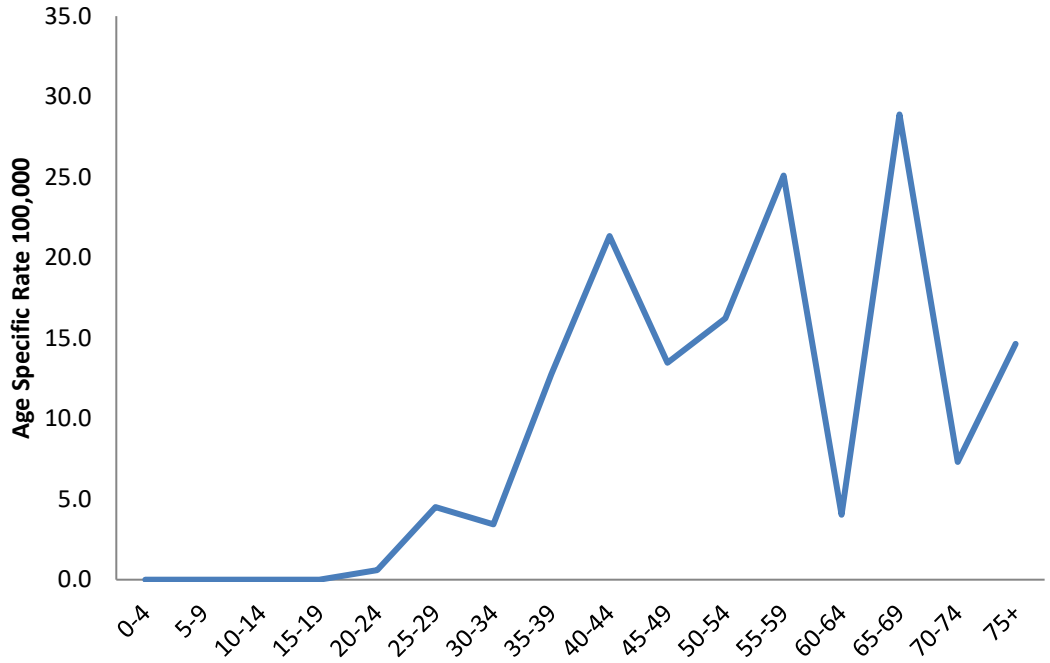
Age specific incidence rate of lung cancer



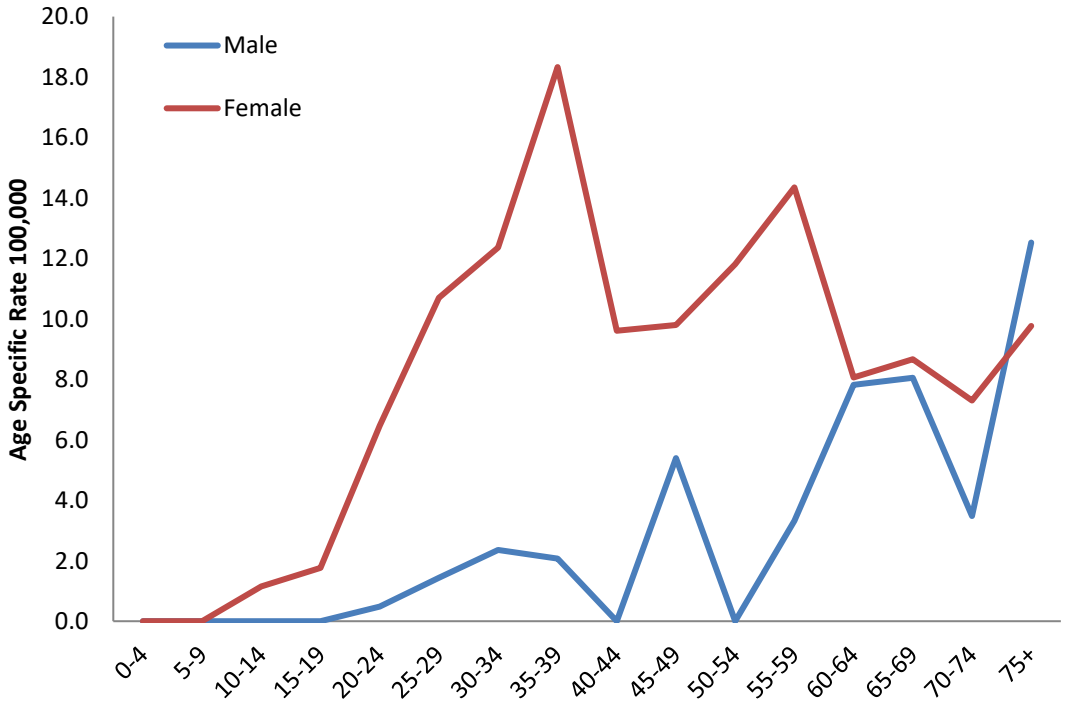
Age specific incidence rate of rectum cancer



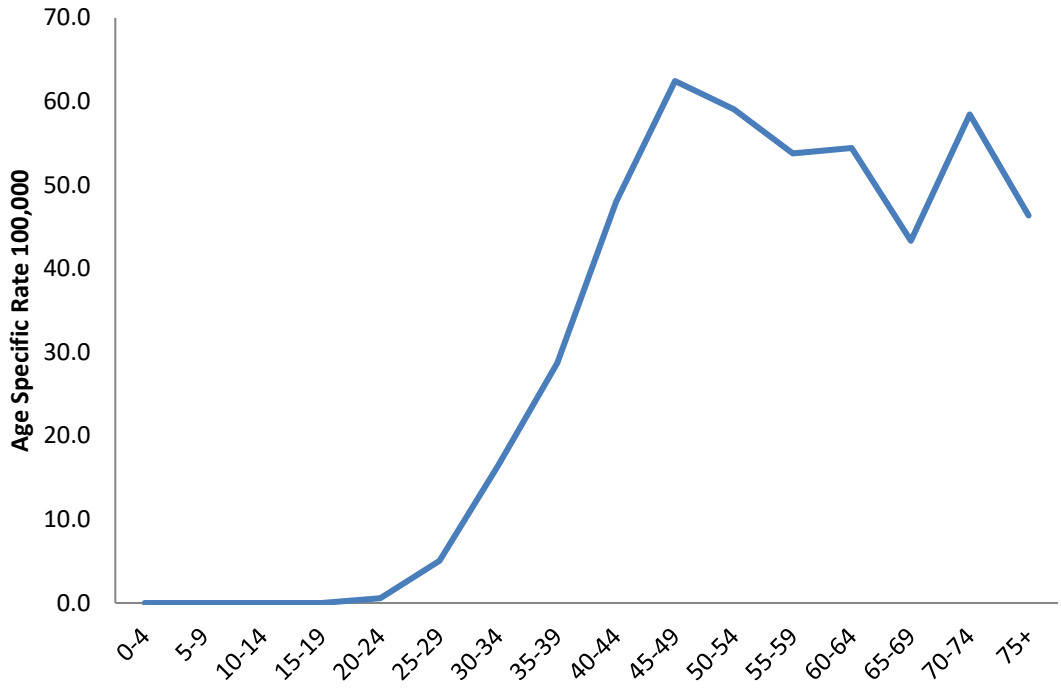
Age specific incidence rate of mouth cancer



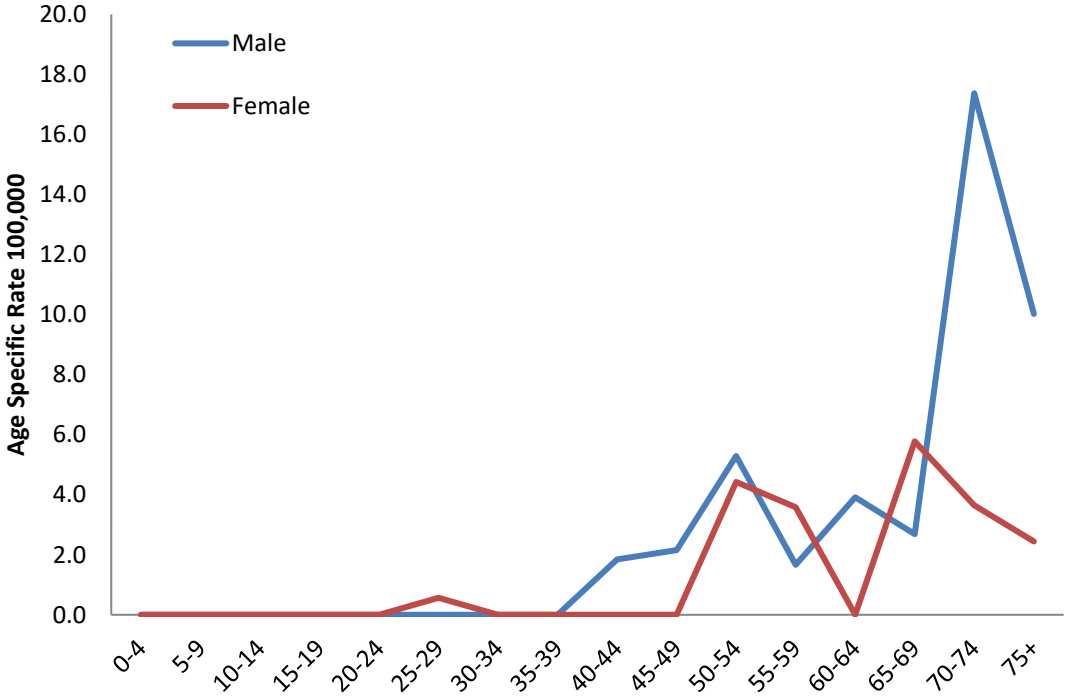
Age specific incidence rate of breast cancer: Female



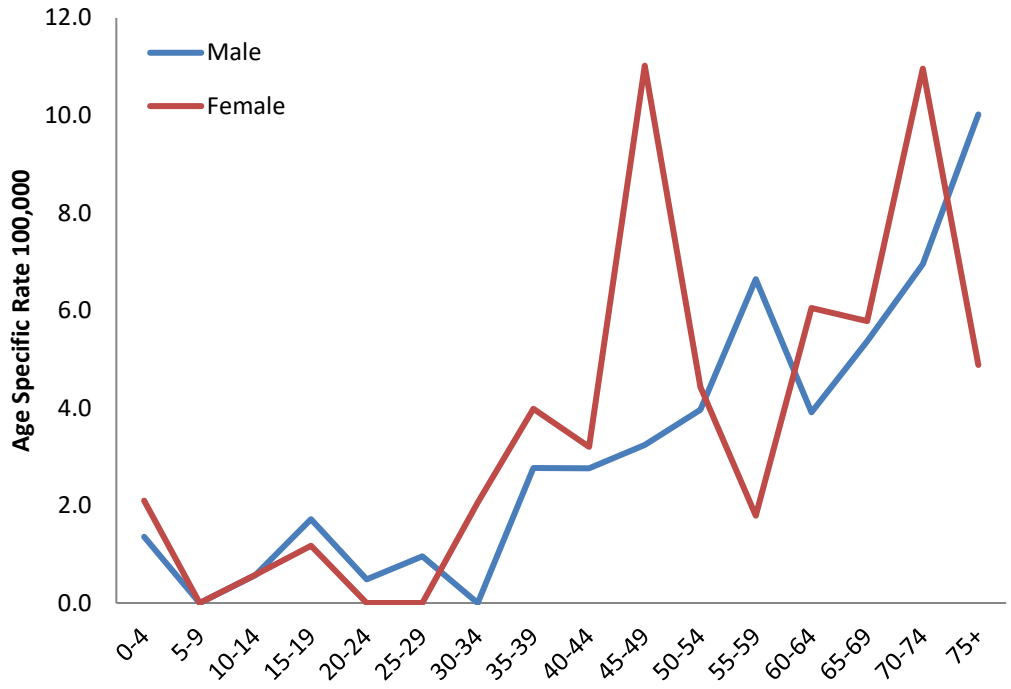
Age specific incidence rate of thyroid cancer



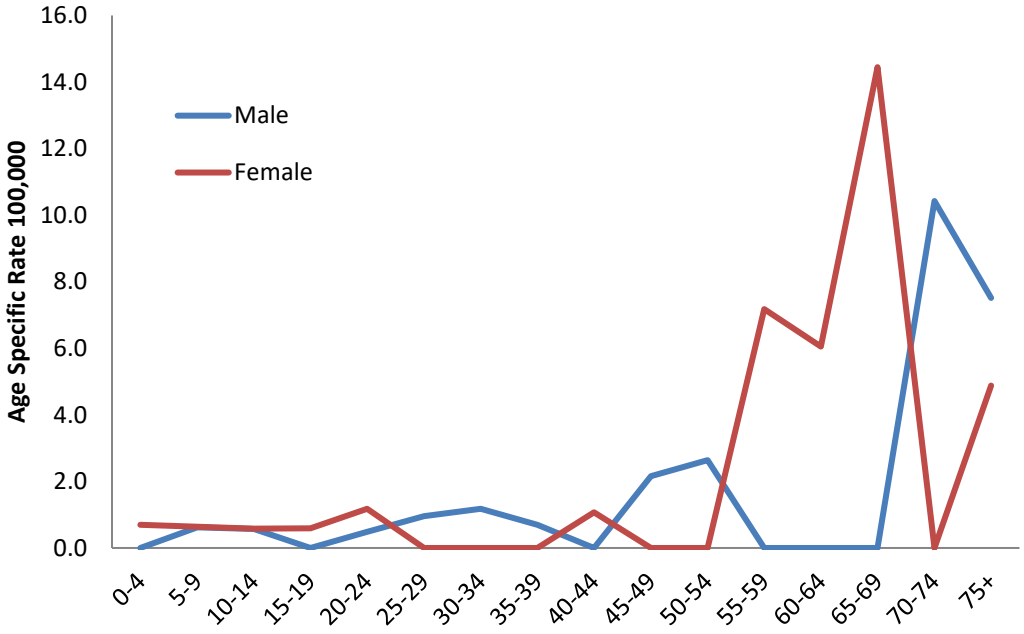
Age specific incidence rate of ovary cancer



Age specific incidence rate of urinary bladder cancer



Age specific incidence rate of Brain, NS cancer



Age specific incidence rate of NHL cancer

Picture: Cancer Registry Team



