

Cancer Incidence and Mortality Data Colombo District, Sri Lanka (Population Based Cancer Registry) 2013 - 2019



**National Cancer Control Programme
Ministry of Health
Sri Lanka**



Cancer Incidence and Mortality Data Colombo District, Sri Lanka 2013 - 2019



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Message from the Director General of Health Services



I would like to send this message for the publication named 'Cancer Incidence & Mortality Data of Colombo District 2013-2019: Second Report of Population Based Cancer Registry of Colombo District', published by the National Cancer Control Programme of Ministry of Health.

According to International Agency for Research on Cancer (IARC) of World Health Organization (WHO) Population-based cancer registration is the gold standard for the provision of information on cancer incidence in a defined population. In population-based cancer registration, cancer incidence data are collected from point of diagnosis, point of treatment and point of mortality. Other unique feature of population-based cancer registration is matching of incidence and mortality data for identification of additional incident cases from mortality data.

I appreciate the partnership of IARC, IARC Regional Hub for Cancer Registration -Mumbai, Adyar Cancer Institute - Chennai, WHO SEARO Office and WHO Country office for regular technical guidance for establishment of population-based cancer registry in Colombo district. The contribution of stakeholder including hospital administrators, Oncology units, Oro-maxillo facial units, pathology laboratories (histopathology, haematology, oral pathology), Medical Record Departments of the hospitals of Colombo district, Divisional Death Registrars for their contributions. The coordination and hard work of National Cancer Control Programme is highly appreciated.

Dr. Asela Gunawardena
Director General of Health Services

Message from the Deputy Director General (Non- Communicable Diseases)



I am happy to send this message to the 2nd edition of *'Cancer Incidence & Mortality Data of Colombo District 2013-2019: Second Report of Population Based Cancer Registry of Colombo District'* published by the National Cancer Control Programme.

Commencing and maintenance of Population Based Cancer Registry is one of the major activity identified at the National Policy & Strategic Framework on Prevention & Control of Cancers in Sri Lanka. Also, the need was highlighted by the international experts of cancer registration several occasions. Since both cancer incidence and mortality data are collected it would generate comprehensive picture of cancer incidence, mortality and survival. Hope the population covered will be expanded with time.

The partnership of cancer treatment centres, pathology laboratories, OMF unit, Medical Record Departments, Divisional Death Registrars are highly appreciated for the success of this activity. The efforts taken by the Director and entire staff of National Cancer Control Programme to generate this report are highly appreciated.

Dr. Champika Wickramasingha
MBBS, MSc, MD (Community Medicine)
Deputy Director General (Non-Communicable Diseases)

Foreword



National Cancer Control Programme of Ministry of Health would like to release 2nd edition of '*Cancer Incidence & Mortality Data of Colombo District 2013-2019: Second Report of Population Based Cancer Registry of Colombo District*'. Population based cancer registry data will give the most complete cancer incidence data of the identified geographical area. Also cancer mortality data is collected enabling to calculate cancer mortality rates and survival rates. Therefore, it is expected to submit these data to Cancer Incidence in 5 continents publication since up to now Sri Lankan data are not accepted by this prestigious publication. In addition it is essential to introduce quality control measures to ensure quality of information.

With the success of the Population Based Cancer Registry of the Colombo district, establishing population-based cancer registries in other provinces can be explored in phased manner as mentioned in the National Strategic Plan of Prevention & Control of Cancers under 6.3.2.

National Cancer Control Programme would like to express the sincere appreciation for all government cancer treatment centers, all government pathology laboratories, all government Oral and Maxillo- Facial surgery units and private sector hospitals for providing necessary data.

I would like to appreciate the untiring effort of NCCP team for generating this publication.

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Acknowledgement

Establishing a Population Based Cancer Registry in Sri Lanka was a long felt need which was highlighted by both national and international experts for long years. The need was further felt because Sri Lanka cancer Registry data was not considered for the prestigious publication of 'Cancer Incidence in Five Continents (CI V)' even though cancer registration in Sri Lanka was commenced for more than twenty-five years. According to the evidence joint consultancy conducted by Dr. R. Sankaranarayanan of International Agency for Research on Cancer (IARC) and Dr. Max Parkin of International Association of Cancer Registries (IACR) in year 2004/2005 recommended to establish Population Based Cancer Registry in Colombo district (PBCR Colombo). The need was again endorsed by the imPACT review of IAEA/WHO (PACT) in year 2008. The initial methodology was developed during 2008 / 2009 under the leadership of Dr. Yasantha Ariyaratne, Director of National Cancer Control Programme (NCCP)

National Advisory Committee of Prevention and Control of Cancers chaired by the Secretary of Health recommended to commence Population Based Cancer Registry in Colombo district in year 2010 and then Director of NCCP Dr. Neelamani Paranagama led the NCCP team to establish first ever population-based cancer registry in Sri Lanka in year 2012 with the stakeholder participation. In addition to the existing data flow from Cancer treatment centres, pathology laboratories and Oro Maxillo Facial Units, newly detected cancers at the other secondary and tertiary care hospitals in the Colombo district and suburbs were incorporated to the cancer incidence data base. In addition, cancer mortality data of Colombo district were received through the activation of data flow from Divisional Death Registrars.

The contributions of Director, Deputy Director, Consultant Community Physicians, Consultants in Community Dentistry, Medical Officers, Dental Surgeons, Registered Medical Officers, Public Health Nursing Sisters, Nursing Officers, Public Health Inspectors of NCCP to establish and sustain the PBCR Colombo over the period of 2010 onwards is highly appreciated.

Guidance of previous and current Secretary of Health, Additional Secretaries of Health, Director General of Health Services and BDG (NCD) contributed lot in commencing and sustaining PBCR Colombo. The Director, National Cancer Institute and other hospital Directors the process of data flow from respective units of the hospital. Sri Lanka College of Oncologists, College of Pathologists, College of Hematologists, and Association of Oral Medicine & Oral Pathology encouraged their membership to facilitate the process of data flow.

For the Population Based Cancer Registry additional cancer incidence data was incorporated through Medical Record Department returns from government and secondary and tertiary care hospitals in Colombo and suburbs. The partnership of hospital administrators and the officers in charge of medical record departments are highly appreciated.

The partnership of Registrar General Department and District Secretariat Colombo was immensely beneficial for establishing a mechanism to obtain mortality data due to cancers in the Colombo district. The active voluntary participation of Divisional Death Registrars in the Colombo district sending monthly cancer mortality data from year 2012 onwards need to be commended. Additional District Registrars stationed at the Divisional Secretariat offices in the Colombo district communicated with NCCP and Divisional Death Registrars for smooth continuation of data flow of cancer mortality data.

The continuous guidance received from Cancer Surveillance Unit of IARC is highly valued in establishing PBCR. Special thanks to Dr. Freddie Bray, (Head, Cancer Surveillance Unit), Mr. Leslie Mery (Programme Manager of Global Initiative of Cancer Registries), Mr. Morten Ervik of IARC. Also the Prof Atul Budukh and team at IARC Regional Hub (located at the Centre for Cancer Epidemiology, Advanced Centre for Treatment, Research and Education in Cancer, Tata Memorial Centre, Mumbai, India) facilitated in

numerous ways including software support, training of cancer registry staff, trouble shooting of the process. The technical support given by Prof. S. Swaminathan of WIA Cancer Institute of Adyar, Chennai, India for operationalizing PBCR is highly appreciated.

WHO SEARO Regional office facilitated and linked NCCP with Regional Hub for Cancer Registration for establishing PBCR Colombo. WHO country office in Sri Lanka successively provide technical guidance and WHO Biennium support in establishing PBCR. Through the biennium support, all backlog cancer incidence data could be collected up to 2019 enabling publishing of PBCR Colombo report. The partnership of WHO Country Office and coordination of technical support of Dr. Lanka Dissanayaka (Former WHO NPO NCD) and Dr. Nalika Gunawardena (Current WHO NPO NCD) is highly appreciated.

Cancer Care Association also provided support in data extraction and data entering through their Cancer Research fund support. MTS Solutions PVT Ltd completed the assigned task in collecting and entering cancer incidence data through WHO Biennium support.

Dr. Suraj Perera

Consultant Community Physician

Strategic Information Management Unit (Unit of Cancer Registry)

National Cancer Control Programme

Executive Summary

Background

The administrative district of Colombo district of the Western province was selected as the geographic area for the first population-based cancer registry (PBCR) in Sri Lanka. The actual population of Colombo district in year 2012 according to the national census was 2,324,349 (11.4% of total Sri Lankan Population). There were 1,140,472 (49.1%) males and 1,183,877(50.9%) females. Based on actual population of 2012, population estimates are published for each year by the Department of Census & Statistics. Colombo district is further divided to 13 divisional secretariat areas. The leading hospitals including National Cancer Institute- Maharagama (government main cancer treatment centre in the country), National Hospital of Sri Lanka, several teaching hospitals, Private cancer treatment centres and main pathology laboratories are located in this district. Therefore, it was decided to commence first Population Based Cancer Registry in the Colombo district. In year 2020 first report of Population based cancer registry of Colombo district based on 2012 cancer incidence data was published. This is the second publication covering cancer incidence data of years 2013 – 2019.

Methodology

The methodology for commencing PBCR in Colombo district was developed over the years with the guidance of national and international experts in cancer registration. Administrative clearance was obtained from the National Advisory Committee on Cancer Prevention & Control and it was later endorsed by the National Policy & Strategic Framework on Cancer Control & Prevention published in 2015. Ethical clearance and concurrence of all stakeholders were obtained.

Since the PBCR was designed on top of the existing National Cancer Registry of Sri Lanka which collects details of newly identified patients with cancers through cancer treatment centres (using National Cancer Surveillance Form – H-1256), pathology laboratories (using Cancer return form 1 – H 1290) and Oral Maxillo Facial Units (using Annual Notification Form of Oral Cancer – H 1294), those sources were accessed through CanReg 5 database to identify patients with cancer permanently residing in Colombo district.

In addition to above sources, additional cancer incidence and/or mortality data were collected from following sources: (i) From medical records department of other tertiary and secondary care hospitals in Colombo district and suburb through Cancer return form -2 (H-1291) quarterly and (ii) from the offices of Divisional death registrars of Colombo district through Cancer return form -3.

All the data were checked and coded by the cancer registry staff and were entered to the CanReg 5 database. Duplicate checking was conducted during the data entry and data verification stages including the consistency checking. The population estimates of Colombo district for each year was obtained from the Department of Census & Statistics.

Main Findings

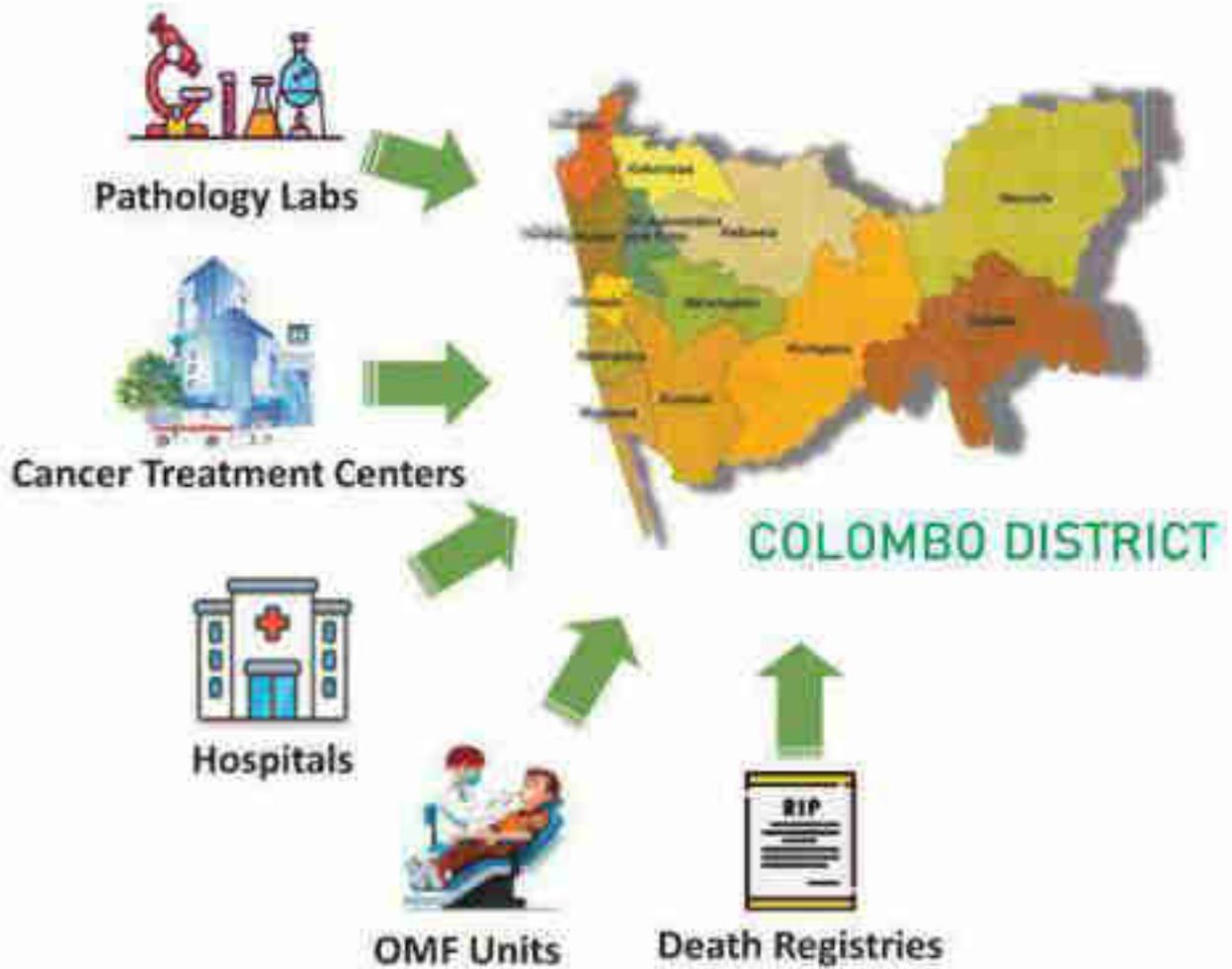
In the year 2012, a total of 2,896.4 (1366 males, 1530 females) patients were reported from Colombo district and in year 2019 a total of 4115 (1811males, 2304 females) patients were reported showing a 42% increase in number. The crude incidence rate for males and females were 119.8 per 100,000 population and 129.2 per 100,000 population in year 2012 and they were increased to 150.8 per 100,000 population & 184.8 per 100,000 population in year 2019 respectively. The crude incidence

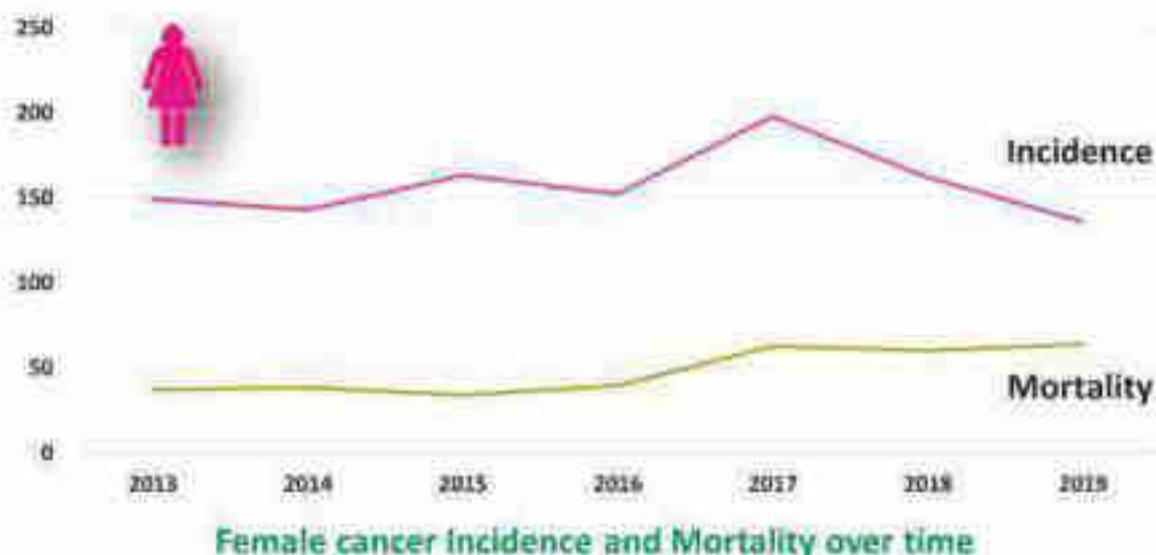
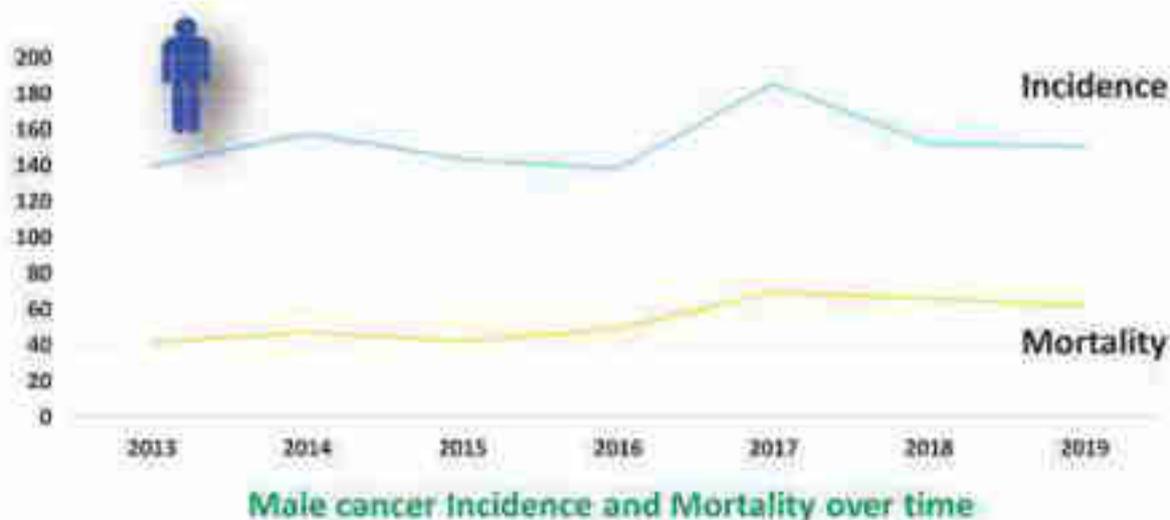
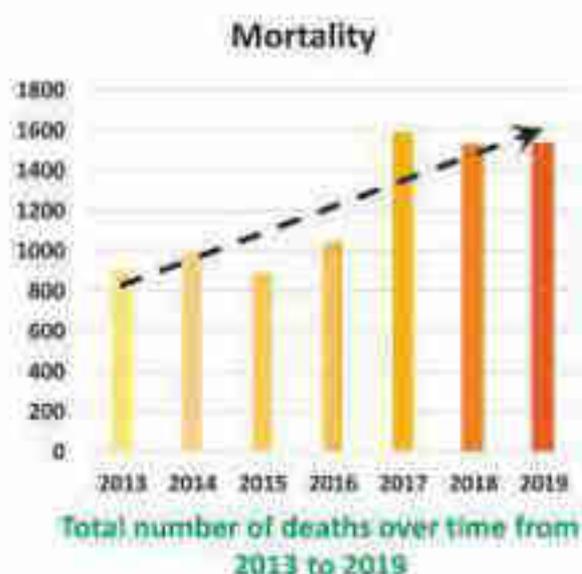
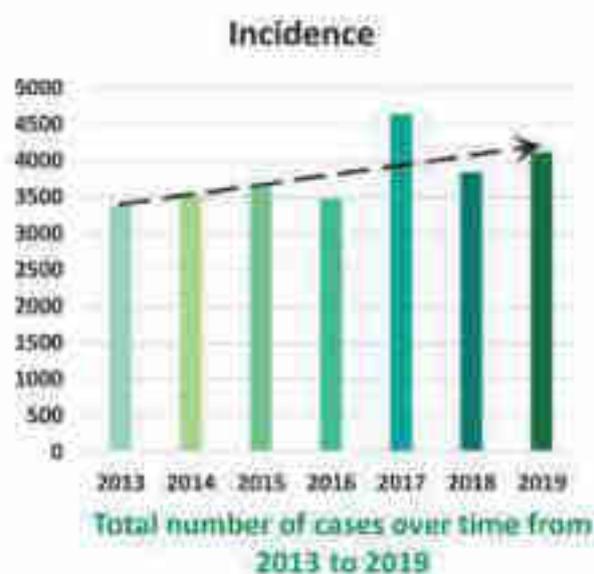
rates were higher than the crude incidence rates for the whole country generated from National Cancer Registry throughout the period. Similarly, it was noted that age standardized cancer incidence rates of males and females were higher in Colombo district in comparison to national age standardized cancer incidence rates of males and females

When number of deaths due to cancers were considered in the year 2012, a total of 707 (382 males, 325 females) deaths were reported from Colombo district and in year 2019 a total of 1540 (745 males, 795 females) deaths were reported showing a 117% increase in number. This may be mainly due to the improvement of mortality data reporting over the years. The crude mortality rate for males and females were 33.5 per 100,000 population and 27.5 per 100,000 population in year 2012 and they were increased to 48.4 per 100,000 population & 51.6 per 100,000 population in year 2019 respectively. The crude incidence rates were lower than the crude incidence rates for the whole country generated from the Vital Registration System upto year 2014. Similarly, it was noted that age standardized cancer mortality rates of males and females were lower in Colombo district in comparison to national age standardized cancer mortality rates of males and females

Conclusions & recommendations

The cancer incidence rates of Colombo district were higher than the national incidence rates due to the fact that incidence data for PBCR were obtained from multiple sources. However, the cancer mortality rates were lower than the national rates may be due to detection of cancers in early stages in Colombo district and improved access to comprehensive cancer care in Colombo district. The extensive process of methodology of population-based cancer registry, is generating most valid cancer incidence & mortality data. Therefore, expediting the process of generating reports in timely manner is essential. Also need to address to the deficiencies identified to generate comparable, valid, timely and complete cancer incidence & mortality data in subsequent years





Cancer Incidence and Mortality Data in Colombo District, Sri Lanka: 2013-2019

1. Introduction

1.1 History of Cancer Registration in Sri Lanka

The National Cancer Control Programme (NCCP), Sri Lanka was established in 1980 according to a recommendation of World Health Organization (WHO) following a detailed survey of morbidity and mortality of cancers in Sri Lanka in the year 1979. Even before establishing of NCCP, frequency data of newly reported cancers to the cancer units were published as a supplementary to Quarterly Epidemiological Report published by the Epidemiological Unit of Ministry of Health.

The formal process of cancer registration in Sri Lanka to generate 'National Cancer Registry' was commenced with the active data collection of hospital-based cancer incidence data of year 1985. For the publication of first 'National Cancer Incidence Data' details of newly detected patients with cancers were collected from three cancer treatment centres namely National Cancer Institute Maharagama, Teaching Hospitals Kandy & Karapitiya. Over the years, number of data collection points were increased with the expansion of cancer treatment network.

In the year 2000/2001, NCCP in collaboration with the Department of Pathology, Faculty of Medicine, University of Colombo pathology-based cancer registration was commenced as a parallel surveillance system. It was expected about 40 pathology laboratories would send monthly returns to NCCP at the beginning.

In year 2004 & 2005, a detailed external review of cancer registration in Sri Lanka was conducted by Dr. R. Sankaranarayanan of International Agency for Research on Cancer (IARC) of World Health Organization (WHO) and Dr. Maxwell Parkin, President of the International Association of Cancer Registries (IACR) respectively. The key recommendations of the review were accepted and were implemented in subsequent years as shown in table (i).

Table (i) Key recommendations & implementation status of External Review on Cancer Registration in Sri Lanka

Recommendation	Implementation
<i>'The registration system as it currently exists provides the basis for a 'National Cancer Registry' and should be continued, since it should provide information on perhaps 85%-90% of cancer cases countrywide'</i>	The 'National Cancer Registry' was further strengthened over the years as shown in table (ii)
<i>'The data from the cancer registry and pathology register should be entered into the same database using the CANREG system of IARC'</i>	<p>Cancer incidence data of 2006 onwards was entered to the CanReg 4 software.</p> <p>From year 2006 onwards newly detected cancers from Oral Maxilla Facial Units throughout the country were incorporated to the national cancer registry.</p> <p>From year 2008 onwards, data on newly diagnosed cancers at the pathology laboratories were also incorporated to the national cancer registry.</p>
<i>'A population-based cancer registry (PBCR) should be developed for Colombo district. The current data collection methods should be augmented by a programme of routine visits to all hospitals within Colombo district and obtaining a list of deaths from cancer from the Registrar General's office. Patient information from these additional sources is entered into the same database as for the 'National Cancer Registry'</i>	Methodology of commencing population-based cancer registry Colombo district was developed over the years with the technical guidance of International Agency for Research on Cancer (IARC), WHO IARC Regional Hub for Cancer Registration, Mumbai India & other development partners.

In addition to the recommendations of the IARC experts in 2004 / 2005, again in 2008 the first ever Comprehensive Review of Cancer Control Programme named 'impACT' review was conducted by the Programme for Action for Cancer Therapy (PACT) of International Atomic Energy Authority (IAEA) and WHO highlighted the importance of commencement of PBCR in Colombo district.

Meantime, the 'National Cancer Registry' was further strengthened and continued over the years as shown in table (ii) since it would provide 85%-90% of cancer incidence of the country. As described by the international experts on cancer registration, it would provide the foundation for development of one or more regional population-based cancer registries.

1.3 Reasons for selecting Colombo district for commencing first Population Based Cancer Registry

Criteria	Compliance to criteria
Presence of clear definition of catchment population	Colombo administrative district
Availability of reliable population denominators from the census and other statistical offices	The national census was conducted in year 2012
Availability of comprehensive cancer care facilities within the catchment area	National Cancer institute – Sri Lanka (Apeksha Hospital) is located in the district. Also, all the private sector dedicated cancer units are located in the district
Easy access to case finding sources such as hospitals, pathology labs and other sources of clinical data, death certificate information within the catchment area and in the surrounding areas.	National Cancer Control Programme (NCCP) which is the focal point of PBCR is also located within the same district. NCCP coordinates with all the stake holders.

1.3 important assumptions when establishing PBCR

- (i) Patient with cancer almost always may have a contact with a health care facility for diagnosis and treatment of cancers if adequate healthcare facilities are available at the specific geographic area
- (ii) Cooperation from health care teams and health systems are obtained for the smooth functioning of population-based cancer registry

1.4 Objectives of commencing Population Based Cancer Registry of Colombo district

1. To obtain precise cancer incidence and mortality rates in a selected geographic area and describe the accurate cancer pattern in the selected area.

Provide cancer trends by demographic characteristics

GIS mapping of cancer incidence

- 2. To provide data for epidemiological research including descriptive and analytical studies (Starting point / end point)
- 3. To monitor and assess the effectiveness of cancer prevention, early detection and treatment programmes
- 4. To provide data for cancer incidence in Five Continents (CI 5) for international comparisons

2. Methodology

2.1 The Process of establishing Population Based Cancer Registry of Colombo district

The approval was obtained from the National Advisory Committee on Prevention and Control Cancers which was chaired by the Secretary of Health to commence PBCR Colombo. Also it was recommended to be included as a major activity into the first ever National Policy & Strategic Framework on Prevention and Control of Cancers in Sri Lanka.

The methodology to commence PBCR Colombo was developed through stakeholder consultations nationally and internationally. Some of the key interventions till commencing the PBCR Colombo are listed below.

Obtaining ethical clearance

- (i) Ethical clearance for the methodology of PBCR was obtained from the Ethical Review Committee of Faculty of Medicine, University of Colombo through EC-10-106 on 22.11.2010

Issuing administrative circulars

- (i) Letter issued by the Secretary - Health on 31/05/2011 informing the commencement of PBCR to the administrators of hospitals in both government & private health sector
- (ii) General circular no. 01-22/2012 on Pathology Laboratory Based Cancer Surveillance in both government & private health sector
- (iii) General circular no. 01-33/2012 on extending cancer surveillance to DMF units
- (iv) Circular letter issued by the Secretary - Health on 20/09/2012 on 'Surveillance of cancers in Sri Lanka - Provision of comprehensive cancer incidence data' to all health care institutions to provide relevant information through the Medical Record Departments.
- (v) Circular letter issued by the Registrar General's Department on 05/06/2012 regarding collection of cancer related deaths through divisional death registrars.

Developing educational materials

- (i) Booklet on Commencement of Population Based Cancer Registry in the Colombo district (Published in year 2012)
- (ii) Booklet on Pathology Laboratory Based Cancer Surveillance (Published in year 2012)

Conducting training programmes and awareness sessions

- (i) Training programmes were conducted for the officers in charge of Medical Record Departments & Divisional Death Registrars
- (ii) Awareness programmes were conducted for the membership of College of Pathologists & Haematologists through their respective college councils
- (iii) Awareness programmes were conducted at the academic sessions of professional colleges - Annual academic sessions of College of Pathologists & College of Gynaecologists, Young Community Physicians Forum on College of Community Physician, Monthly academic sessions Avissawella Clinical Society..... etc

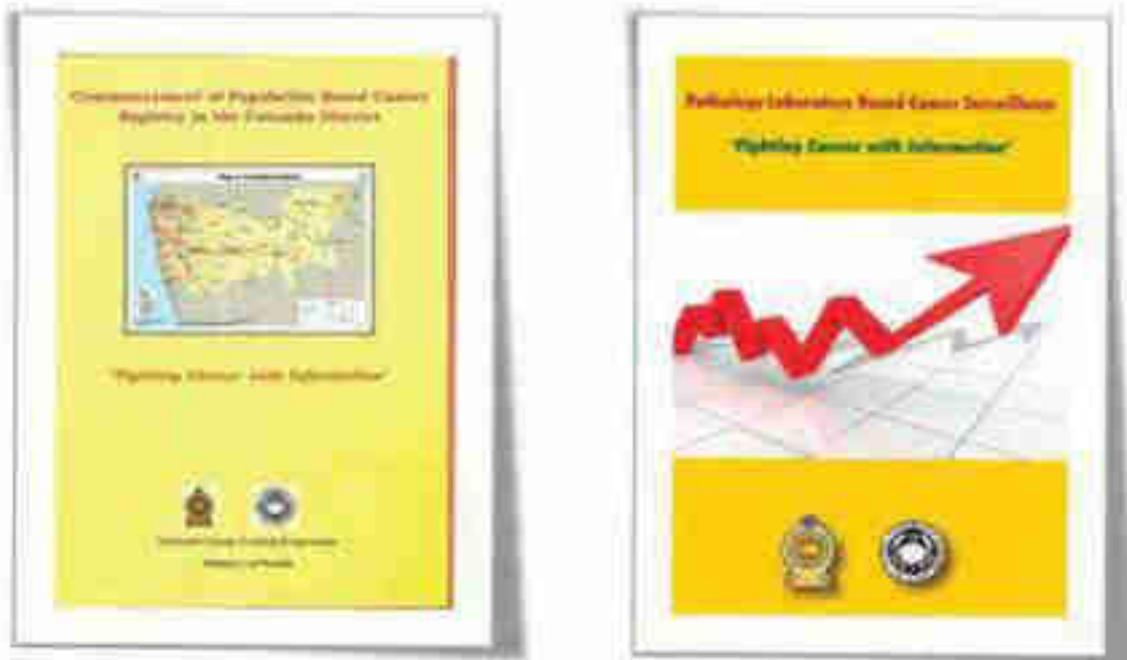


Figure (i): Handbooks of PBCR Colombo

2.2 Profile of Colombo District

Colombo district is one of the three districts of Western province of Sri Lanka. It has an area of 675 sq km. It is surrounded on the north by Kelani River, from the south by Bolgoda river, and from the west by coast line and from the east by Sabaragamuwa province.

Colombo district is administratively divided into 13 Divisional Secretariat areas as shown in figure (ii).



Map of Sri Lanka showing district margins



Map of Colombo District showing Divisional Secretariat areas

Figure (ii): Map showing Colombo district and its Divisional Secretariat areas

2.2.1 Population covered by the Population based cancer registry

The population of Colombo district according to the national census conducted in year 2012 is 2,324,349 and it is a 11.4% of total population of Sri Lanka. There were 1,140,472 males and 1,183,877 females in the Colombo district as shown in table (ii).

Table (ii): Distribution of population according to sex in Colombo district & entire Sri Lanka

	Male	Female	Total
Colombo district	1,140,472 (49.1%)	1,183,877 (50.9%)	2,324,349 (100%)
Entire Sri Lanka	9,856,634 (48.4%)	10,502,805 (51.6%)	20,359,439 (100%)

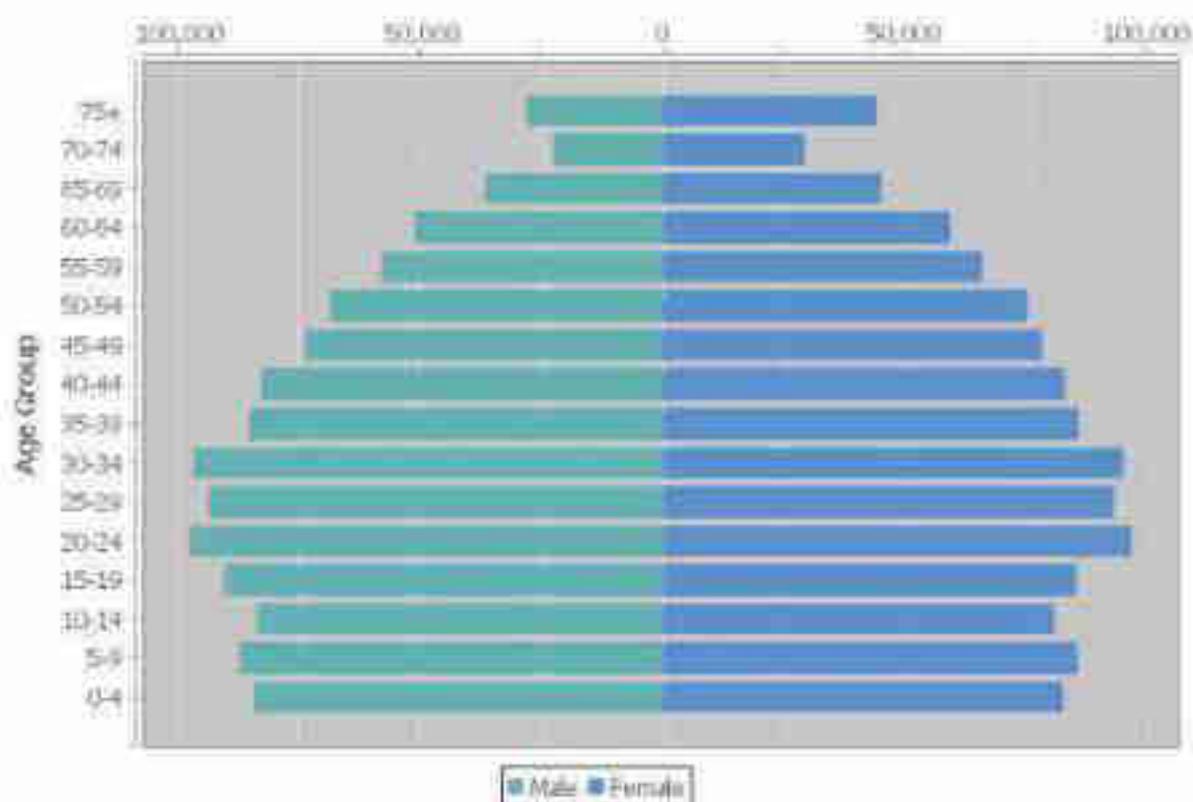


Figure (iii): Population Pyramid of Colombo district Colombo district – 2012

Colombo district is the most urbanized district in the country since 77.6% of the population were living in urbanized area and only 22.1% and 0.3% were from rural sector and estate sector as shown in table (iii).

Table (iii): Distribution of population according to sector in Colombo district & entire Sri Lanka

	Urban	Rural	Estate	Total
Colombo	1,802,904 (77.6%)	513,534 (22.1%)	7,911 (0.3%)	2,324,349 (100%)
Entire Sri Lanka	3,704,470 (18.2%)	15,753,322 (77.4%)	901,647 (4.4%)	20,359,439 (100%)

2.3. Major activities of cancer registration

The process of cancer registration includes following main activities.

1. Data collection (Abstraction of cancer incidence / mortality data)
2. Data coding
3. Data entry, duplicate checking & verification
4. Data analysis
5. Report writing & dissemination of information.

2.3.1 Data collection

2.3.1.1 Collection of cancer incidence data

For the population-based cancer registry, cancer incidence data needed to be extracted from multiple sources at the points of diagnosis and treatment. Since the cancer incidence data were collected for the national cancer registry through the oncology clinics (from cancer incidence data of year 1985), pathology laboratories (from year 2008) and Oral & Maxillo Facial Surgery units (from year 2006), the same sources could be utilized to identify the residents of Colombo district for the PBCR.

In addition to the above-mentioned sources, details of cancer patients who have received in ward care from secondary /tertiary care hospitals without oncology units in Colombo districts and from hospitals adjacent to the Colombo district were collected through the newly developed Cancer Return Form -2.

This process facilitated the identification of as many as possible all the newly diagnosed cancer patients in the year 2012. The process is summarized in table (iv).

Table (iv): Summary details of extraction of cancer incidence data from multiple sources at the points of diagnosis / treatment or from the Medical Record Department

Setting	Data abstraction form	Mode of data abstraction	Frequency of receiving data to NCCP
Histopathology /Haematology /Oral Pathology laboratory (Point of diagnosis)	Cancer Return Form 1 (H 1290)	Passive (by an identified officer (MO/MLT/DO) of the laboratory under the supervision of the Consultant)	Monthly

Table (iv) continued ...

Oncology clinics at the cancer treatment centres (Point of treatment)	National Cancer Surveillance Form (H-1256)	Active (by the trained pre-intern medical officers under the supervision of cancer registry staff of NCCP)	At least 6 months after the registration at the oncology clinic
Oral & Maxillo Facial Surgery Unit of Secondary /Tertiary care hospitals (Point of treatment)	Annual Notification Form of Oral Cancer (H-1294)	Passive (by an identified officer (Dental Surgeon/ DO) under the supervision of the Consultant)	Annually
Medical Record Department of the Secondary /Tertiary care hospitals	Cancer Return Form 2 (H 1291)	Passive (by the Officer in charge of Medical Record Department)	Quarterly

2.3.1.2 Collection of cancer mortality data

Since for the National Cancer Registry, cancer incidence data were extracted only once retrospectively from the clinic files without interviewing the patient, only few cancer deaths were documented routinely. Therefore, data flow from the Divisional Death Registrars covering entire Colombo district was created in collaboration with Registrar General's Department and District Secretariat Colombo as summarized in table (v)

Table (v): Summary details of extraction of cancer mortality data from Divisional Death Registrars

Setting	Data Abstraction Form	Mode of data abstraction	Frequency of receiving data to NCCP
Divisional Death Registrars' Offices	Cancer Return Form 3	Passive (by the Divisional death registrar)	Monthly

2.3.2 Data coding

The cancer registry staffs of National Cancer Control Programme coded the primary site (Topography) and histology (morphology) of each cancer according to the standards declared at the International Classification of Disease for Oncology 3rd edition (ICD-O 3).

2.3.3 Data entry, duplicate checking & verification of data

Coded cancer incidence data were entered into the CanReg5 database by the trained data entry operators attached to the NCCP. The data entering activities were closely supervised by the registry staff and regular feedback was given to ensure optimum quality.

While entering and confirming the data to the CanReg5 data base, quality checks were carried out. In addition, Excel sheets and SPSS sheets were used to identify duplicates. The data sources up to the patient clinic files were rechecked in the instances where errors were noted

2.3.4 Data analysis

Cancer registry staff of the National Cancer Control Programme analyzed Cancer incidence data using Analysis Section of the CanReg 5 database, SPSS and MS Excel software. Cancer incidence data were analyzed using different software to verify the results.

2.3.5 Report writing & dissemination

Report was prepared according to the guidelines presented by the WHO IARC. The quality assurance process was also incorporated.

Cancer Incidence and Mortality Data
Colombo District, Sri Lanka
2013



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2013

Incidence of Cancers – Colombo District, Sri Lanka

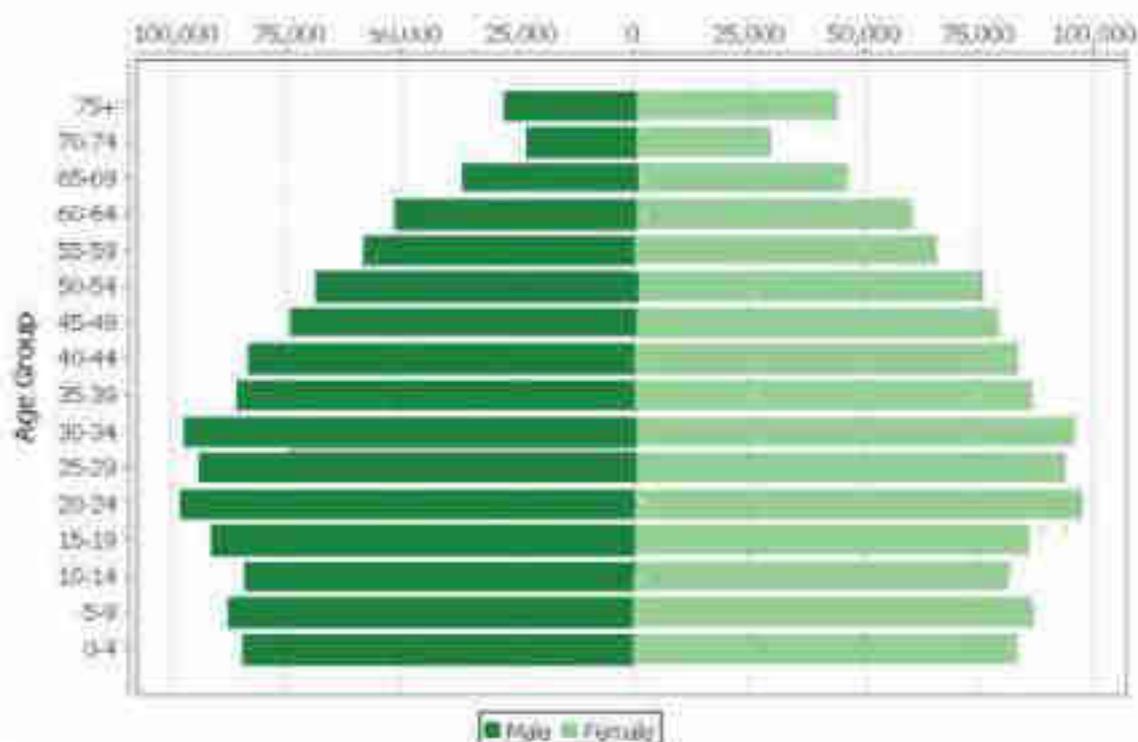


Figure 1: Population pyramid of Colombo district in 2013 by 5-year age groups

Table 1: Distribution of population according to sex in Colombo district and Sri Lanka-2013

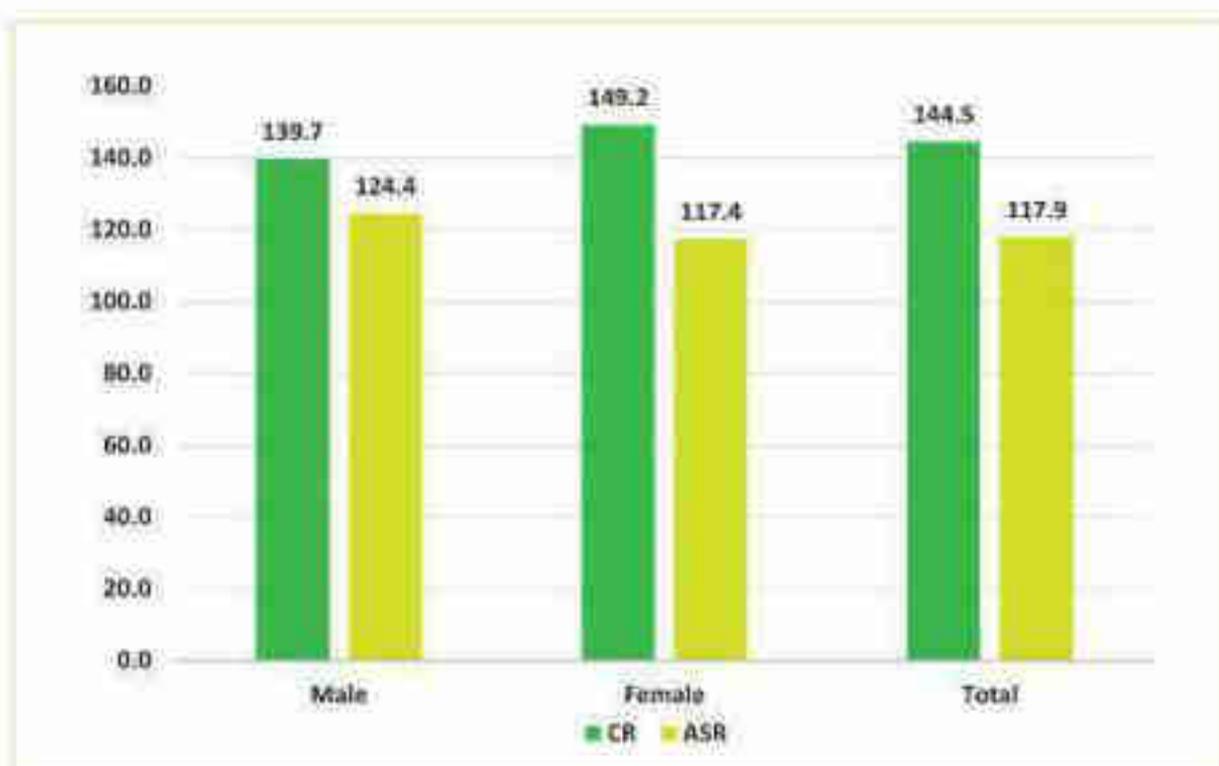
	Male	Female	Total
Colombo district	1147730 (49.1%)	1191412 (50.9%)	2339142 (100%)
Sri Lanka	9965956 (48.4%)	10619085 (51.6%)	20585041 (100%)

Table 2: Cancer incidence in Colombo district – 2013

	Number	%	*CI	**ASR
Male	1,603	47.4	139.7	124.4
Female	1,778	52.6	149.2	117.4
Total	3,381	100.0	144.5	117.9

*CI - Crude cancer incidence rate per 100,000 population

**ASR- age standardized cancer incidence rate per 100,000 population



* CR - Crude cancer incidence rate per 100,000 population

**ASR- Age Standardized cancer incidence Rate per 100,000 population.

Figure 2: Cancer incidence rates, Colombo districts- 2013

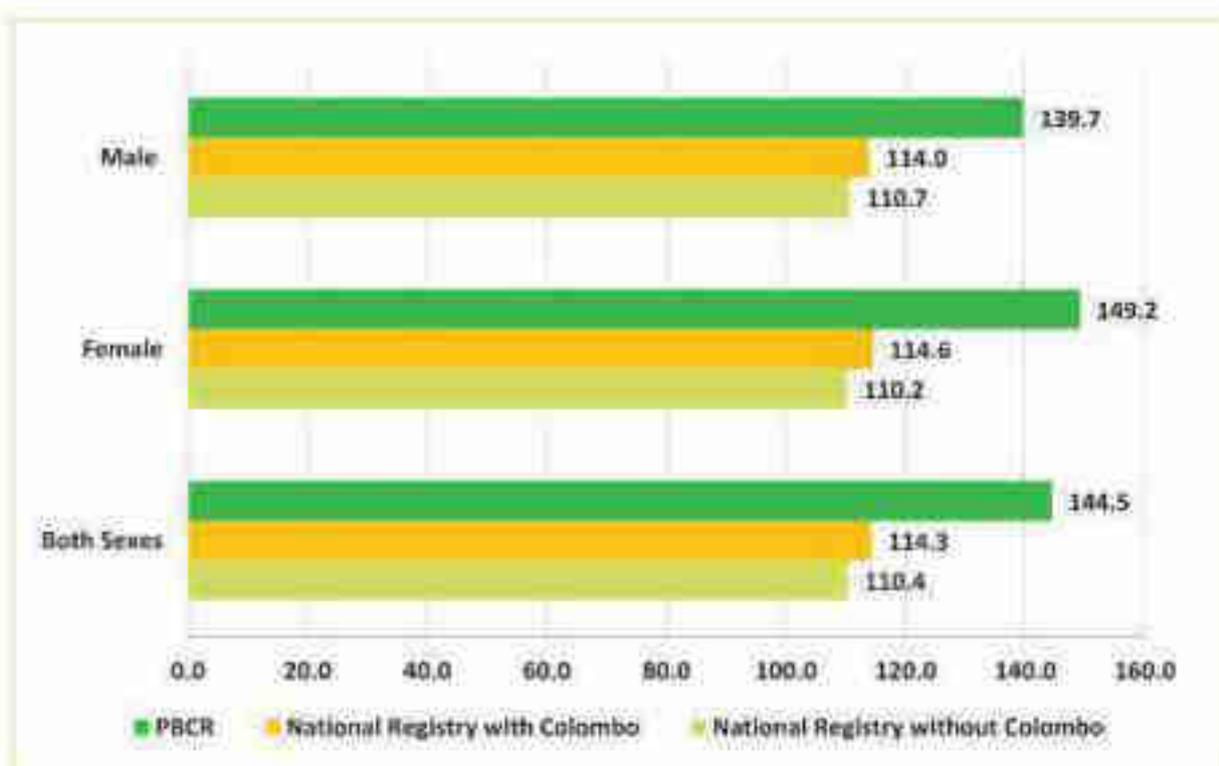


Figure 3: Comparison of crude incidence rates of Colombo PBCR, National Cancer Registry (Including Colombo district) and National Cancer Registry (without Colombo district) – 2013

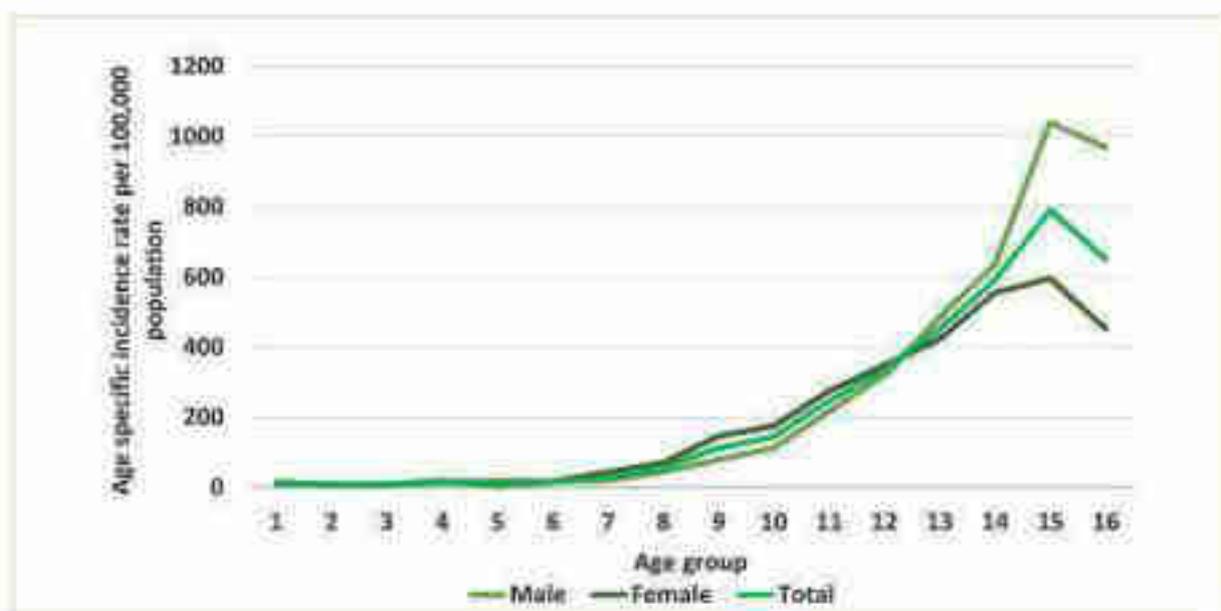


Figure 4: Age specific cancer incidence rates of Colombo district – 2013

Table 3: Cancer incidence of Colombo district by age and sex-2013

Age group	Male			Female			Total		
	Cases	Population	Incidence	Cases	Population	Incidence	Cases	Population	Incidence
Unknown	12			24			36		
00-04	9	84721	10.6	13	82945	15.7	22	167665	13.1
05-09	7	87936	8.0	6	86057	7.0	13	173993	7.5
10-14	6	84216	7.1	7	81237	8.6	13	165452	7.9
15-19	18	91177	19.7	12	85790	14.0	30	176966	17.0
20-24	2	98146	2.0	17	97113	17.5	19	195259	9.7
25-29	15	94267	15.9	17	93604	18.2	32	187871	17.0
30-34	19	97351	19.5	42	95487	44.0	61	192838	31.6
35-39	38	85974	44.2	61	86282	70.7	99	172255	57.5
40-44	66	83302	79.2	122	83376	146.3	188	166678	112.8
45-49	84	74232	113.2	138	78677	175.4	222	152909	145.2
50-54	149	68938	216.1	208	75718	274.7	357	144656	246.8
55-59	186	58376	318.6	231	66268	348.6	417	124644	334.6
60-64	250	51544	485.0	252	59640	422.5	502	111184	451.5
65-69	234	36799	635.9	252	45392	555.2	486	82191	591.3
70-74	236	22673	1040.9	176	29509	596.4	412	52182	789.5
75+	272	28080	968.7	200	44318	451.3	472	72396	652.0
Total	1603	1147730	139.7	1778	1191412	149.2	3381	339142	144.5

Age Sp. In rate – Age specific incidence rate per 100,000 population

Leading cancer sites

Table 4: Leading sites of cancer incidence of Colombo district by sex – 2013

Male					Female				
ICD 10 code	Site	Cases	CR	ASR	ICD 10 code	Site	Cases	CR	ASR
C33-C34	Trachea, bronchus and lung	187	16.3	14.5	C50	Breast	534	44.8	35.0
C61	Prostate	162	14.1	12.6	C54-C55	Uterus	133	11.1	8.5
C00-C06	Lip, tongue and mouth	135	11.8	10.2	C56	Ovary	132	11.1	8.6
C18-C20	Colon and rectum	129	11.3	9.9	C73	Thyroid	111	9.3	7.6
C09-C14	Pharynx	83	7.3	6.3	C18-C20	Colon and rectum	106	8.9	6.7
C15	Oesophagus	77	6.7	6.0	C53	Cervix uteri	103	8.6	6.7
C22	Liver	77	6.7	6.1	C33-C34	Trachea, bronchus and lung	67	5.6	4.4
C81-C85,C96	Lymphoma	76	6.6	5.9	C91-C95	Leukaemia	56	4.7	4.5
C32	Larynx	72	6.3	5.6	C81-C85,C96	Lymphoma	52	4.4	3.6
C67	Bladder	69	6.0	5.4	C15	Oesophagus	47	3.9	2.9
	All sites	1603	139.7	124.4		All sites	1778	149.2	117.4

*CR - Crude incidence rate per 100,000 populations

**ASR - Age standardized incidence rate per 100,000 populations

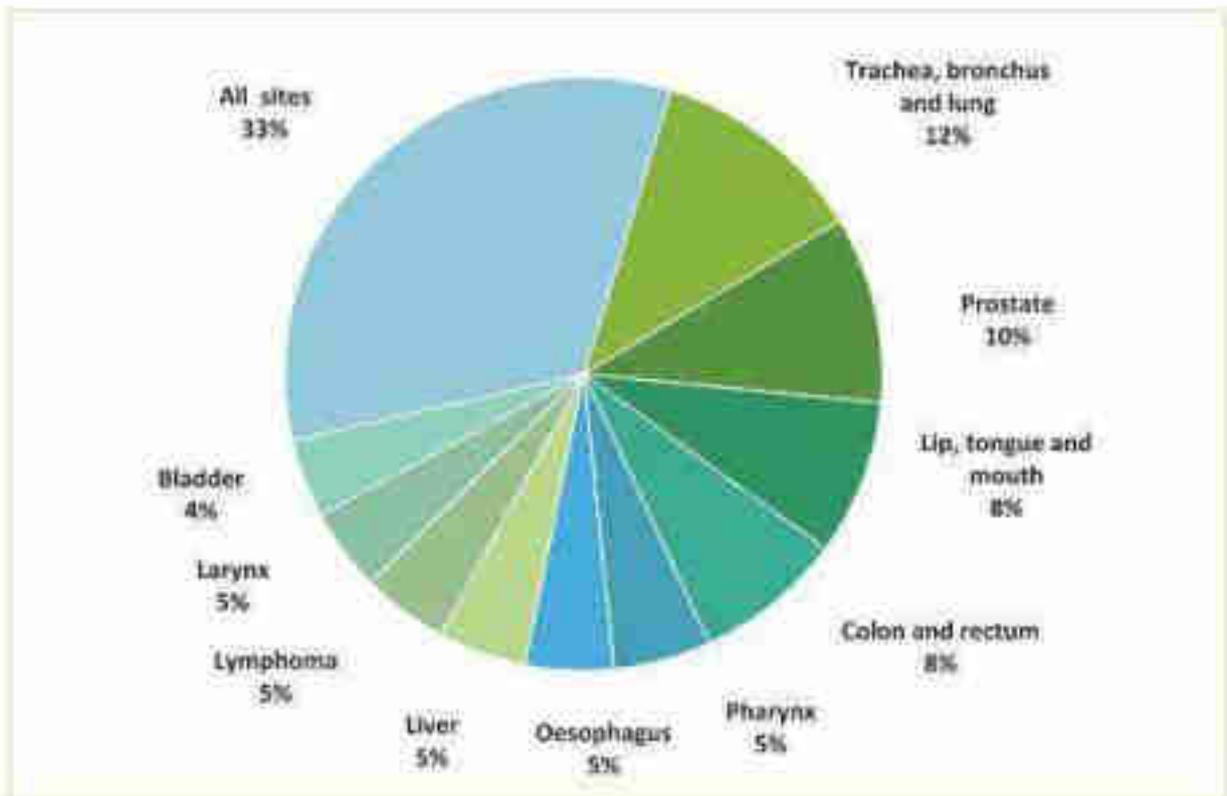


Figure 5: Proportion of incidence of leading cancers in the Colombo district-- Male 2013

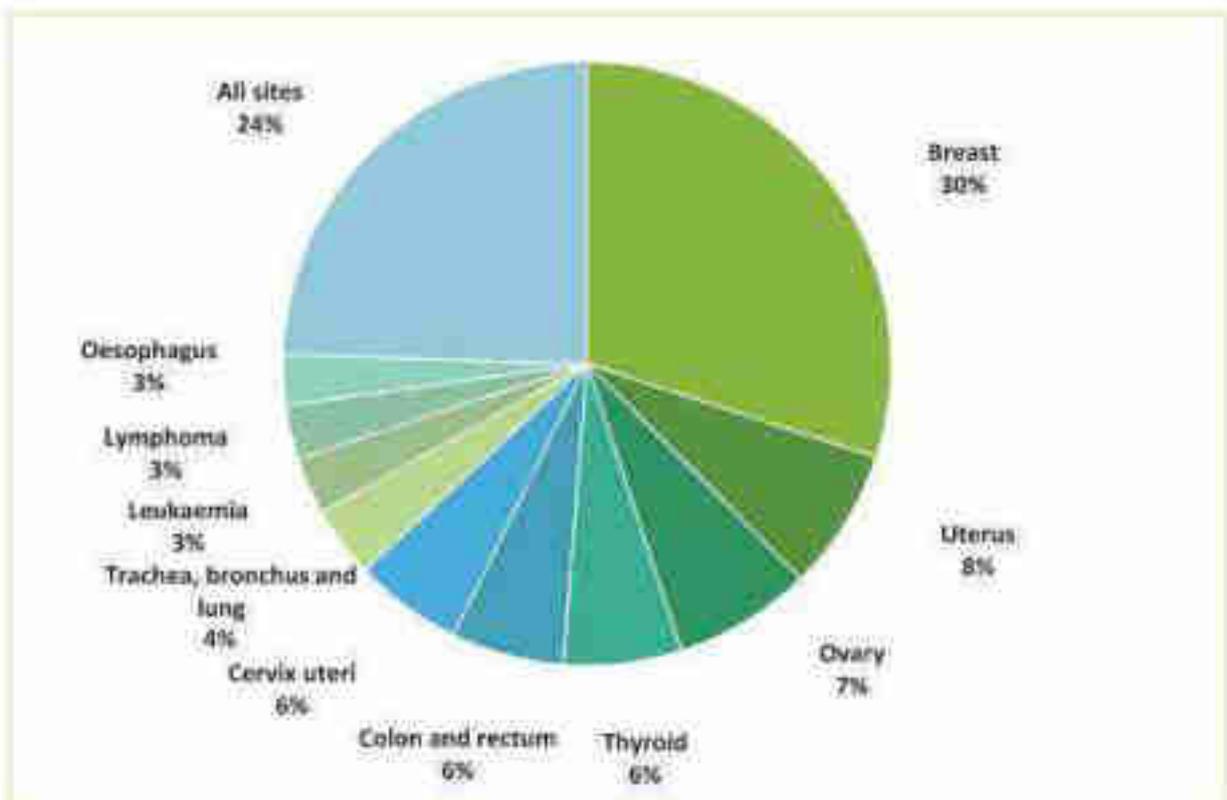


Figure 6: Proportion of incidence of leading cancers in the Colombo district-- Female 2013

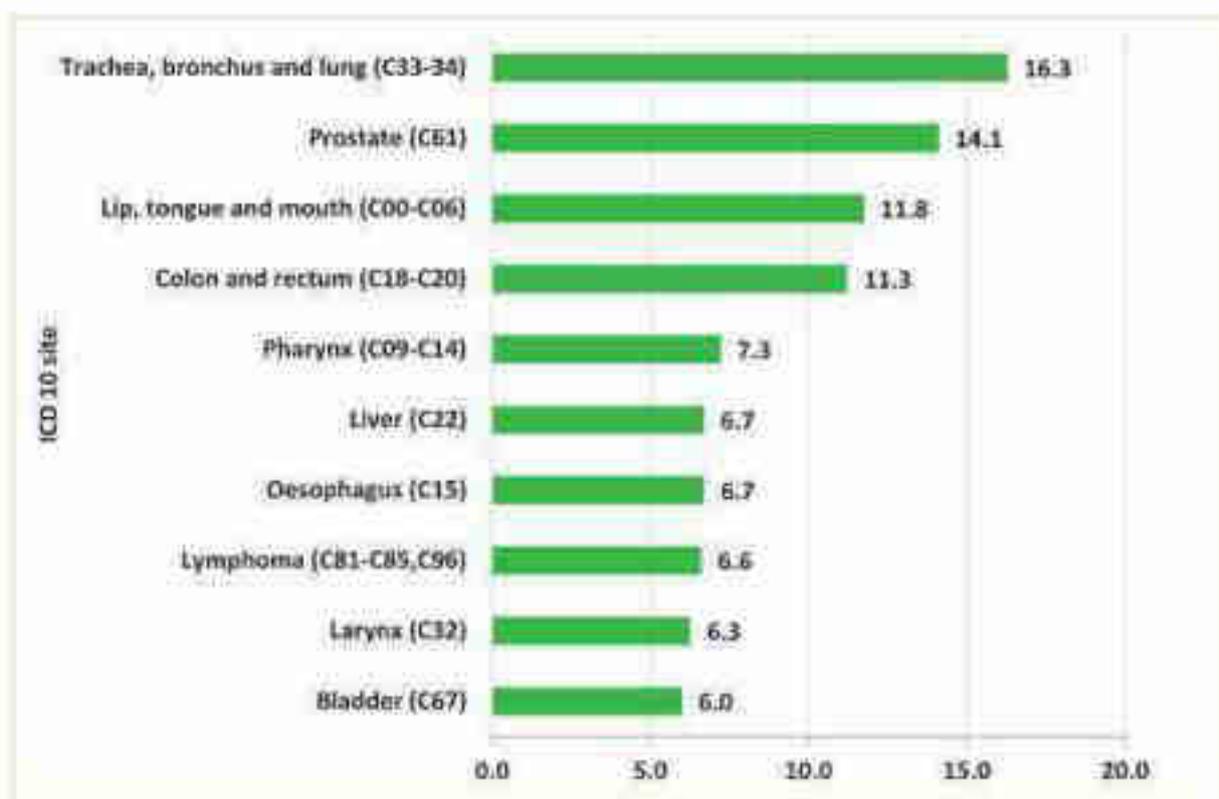


Figure 7: Crude incidence of leading cancers in the Colombo district– Male 2013

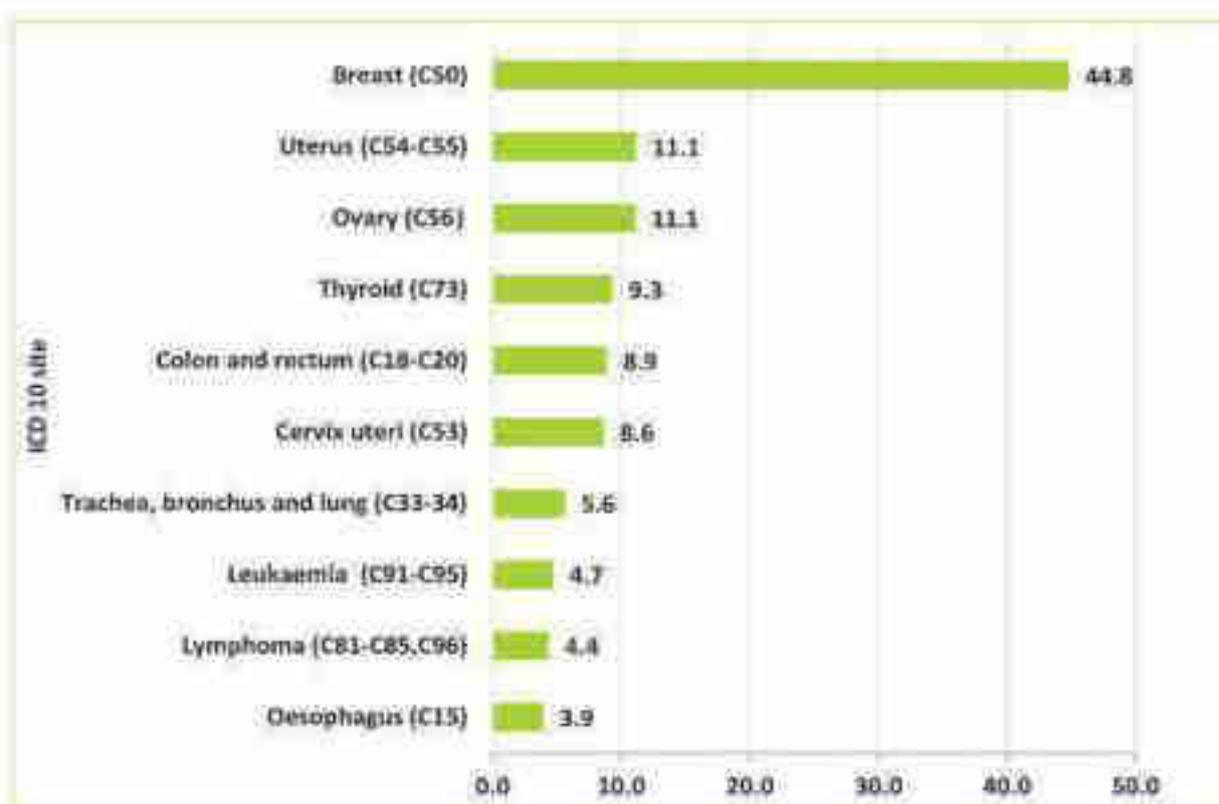


Figure 8: Crude incidence of leading cancers in the Colombo district– Female 2013

Comparison of age standardized cancer incidence rates of leading cancers of 'Population Based Cancer Registry of Colombo district' with the 'National Cancer Registry of Sri Lanka' - 2013

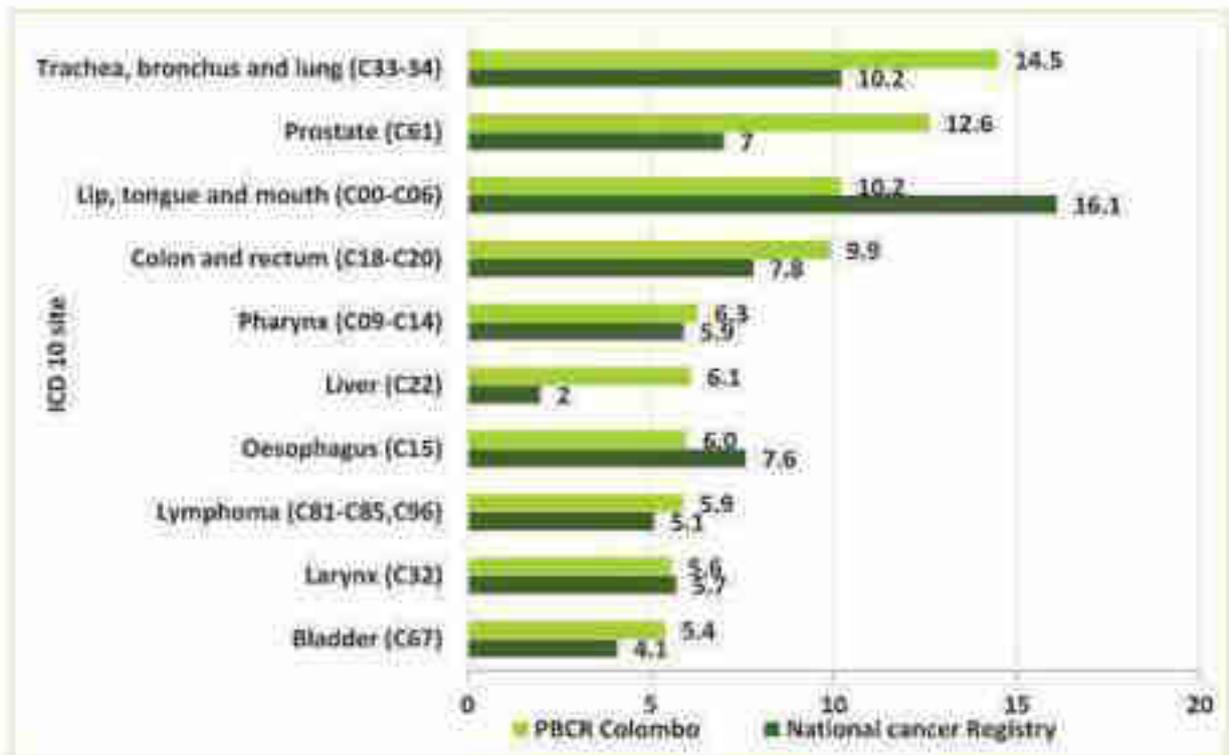


Figure 9: Age standardized incidence rates of leading cancers among males in year 2013- PBCR Colombo district vs National Cancer Registry

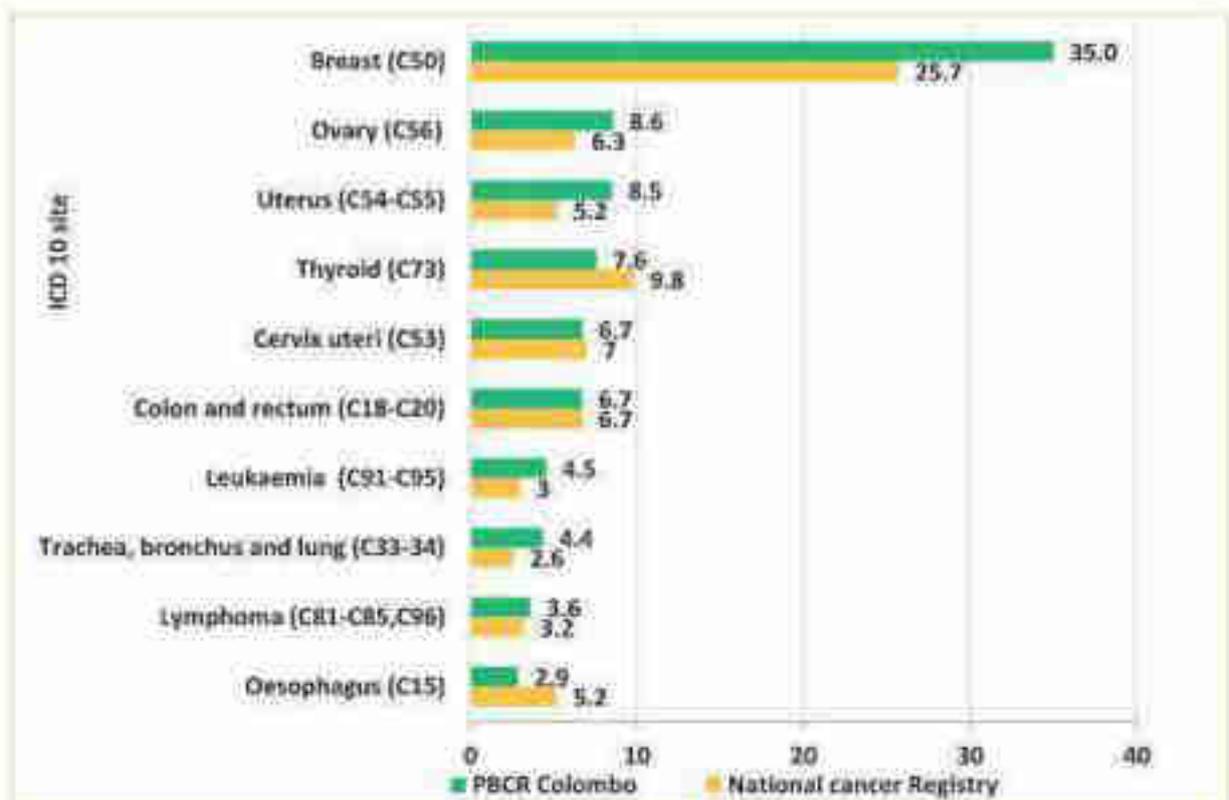


Figure 10: Age standardized incidence rates of leading cancers among females in year 2013- PBCR Colombo district vs National Cancer Registry, Sri Lanka

Mortality of Cancers

Table 9: Distribution of cancer related deaths reported by Divisional Death Registrars of Colombo district in year 2013

Resident district of the deceased person	No.	%
Colombo	919	44.70
Another district other than Colombo	1030	49.80
District not known	314	5.50
Total	2263	100.00

Table 10: Distribution of no. of deaths, cancer related crude death rate and age standardized death rate among the residents of Colombo district in the year 2013

	Number	%	*CR	**ASR
Male	478	52.0	41.6	36.7
Female	441	48.0	37.0	27.8
Total	919	100	39.3	30.9

*CR - Cancer related crude death rate per 100,000 population.

**ASR - Cancer related age standardized death rate per 100,000 population.

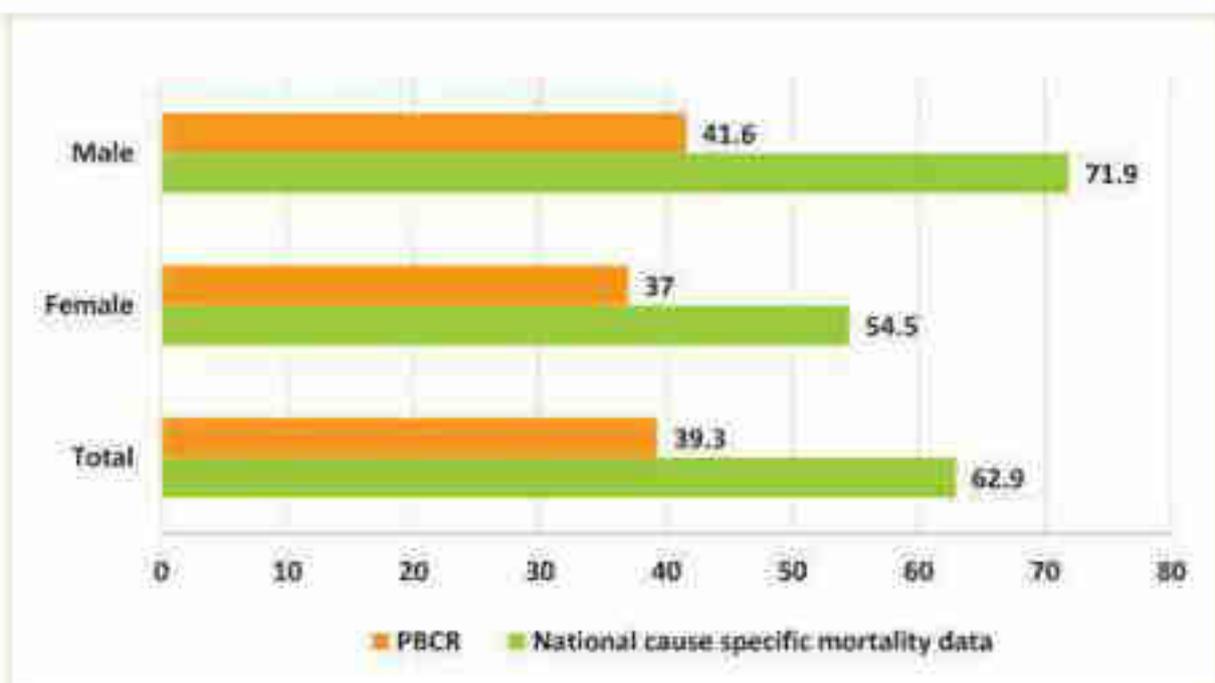


Figure 11: Cancer related crude death rates of Colombo district with national rates based on cause specific death data of Department of Census and Statistics -2013

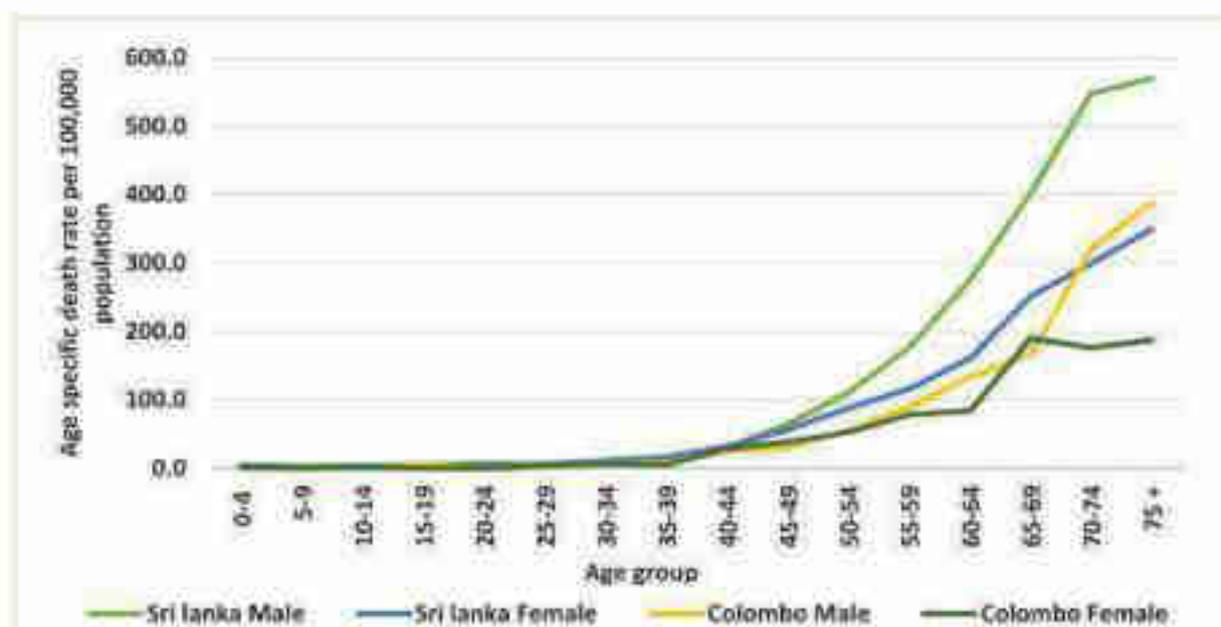


Figure 12: Distribution age-specific death rates among males and females - 2013 Colombo district vs cause-specific death data of Department of Census & Statistics covering whole country

Table 11: Cancer related deaths of Colombo district by age group and sex - 2013

Age group	Male			Female			Total		
	Cases	Population	Incidence	Cases	Population	Incidence	Cases	Population	Incidence
Unknown	11			9			20		
00-04	0	84721	0.0	1	82945	1.2	1	167665	0.6
05-09	1	87936	1.1	0	86057	0.0	1	173993	0.6
10-14	0	84216	0.0	1	81237	1.2	1	165452	0.6
15-19	4	91177	4.4	0	85790	0.0	4	176966	2.3
20-24	0	98146	0.0	0	97113	0.0	0	195259	0.0
25-29	3	94267	3.2	3	93604	3.2	6	187871	3.2
30-34	6	97351	6.2	6	95487	6.3	12	192838	6.2
35-39	7	85974	8.1	4	86282	4.6	11	172255	6.4
40-44	21	83302	25.2	24	83376	28.8	45	166678	27.0
45-49	23	74232	31.0	30	78677	38.1	53	152909	34.7
50-54	38	68938	55.1	40	75718	52.8	78	144656	53.9
55-59	52	58376	89.1	52	66268	78.5	104	124644	83.4
60-64	69	51544	133.9	50	59640	83.8	119	111184	107.0
65-69	61	36799	165.8	86	45392	189.5	147	82191	178.9
70-74	73	22673	322.0	52	29509	176.2	125	52182	239.5
75+	109	28080	388.2	83	44318	187.1	192	72398	265.2
Total	478	1147730	41.6	441	1191412	37.0	919	2339142	39.3

Ag.Sp.Rate- Age specific death rate per 100,000 population.

Leading sites (ICD 10) of cancer mortality

Table 12: Leading sites of cancer mortality of Colombo district – male and female 2013

Male					Female				
ICD 10 code	Site	Cases	CR	ASR	ICD 10 code	Site	Cases	CR	ASR
C33-C34	Trachea, bronchus and lung	65	5.7	5.0	C50	Breast	104	8.7	6.7
C22	Liver	39	3.4	3.0	C54-C55	Uterus	32	2.7	1.9
C00-C06	Lip, tongue and mouth	37	3.2	2.9	C33-C34	Trachea, bronchus and lung	24	2.0	1.6
C09-C14	Pharynx	29	2.5	2.1	C56	Ovary	23	1.9	1.5
C15	Oesophagus	28	2.4	2.2	C22	Liver	21	1.8	1.2
C18-C20	Colon and Rectum	25	2.1	1.9	C53	Cervix uteri	21	1.8	1.3
C61	Prostate	24	2.1	1.8	C18-C20	Colon and rectum	18	1.5	1.2
C16	Stomach	17	1.5	1.3	C91-C95	Leukaemia	18	1.5	1.3
C67	Bladder	14	1.2	1.1	C15	Oesophagus	13	1.1	0.8
C70-C72	Brain, nervous system	13	1.1	1.0	C70-C72	Brain, nervous system	12	1.0	0.8
	All sites	478	41.6	36.7		All sites	441	37.0	27.8

CR - Crude death rate per 100,000 population,
ASR - Age standardized death rate per 100,000 population

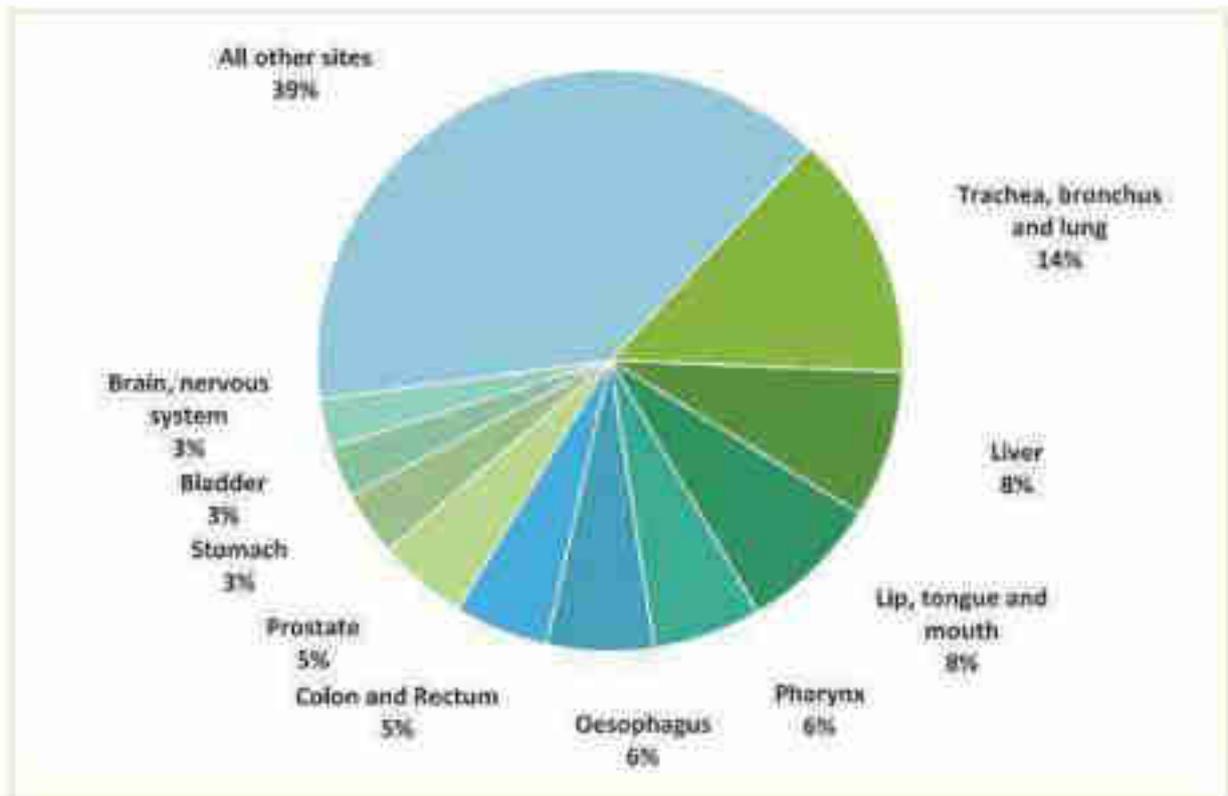


Figure 13: Proportion of leading cancer deaths, Male – 2013

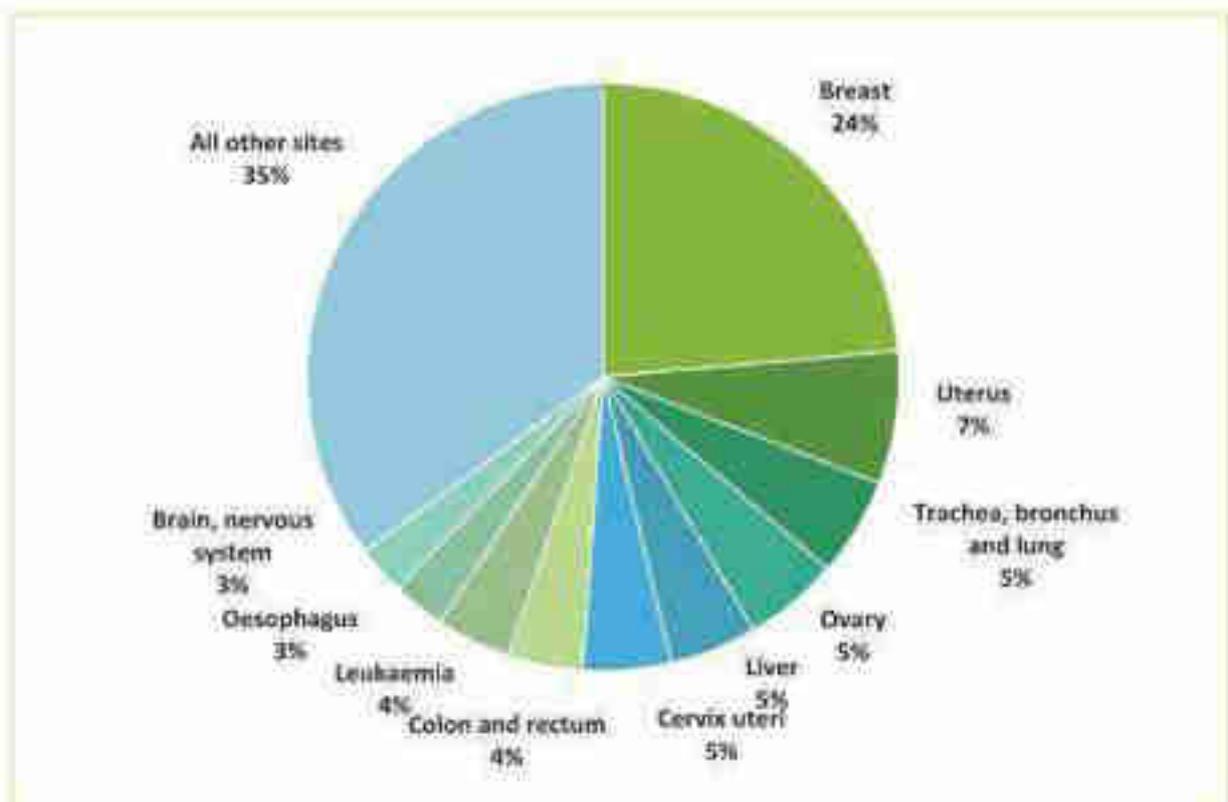


Figure 14: Proportion of leading cancer deaths, Female - 2013

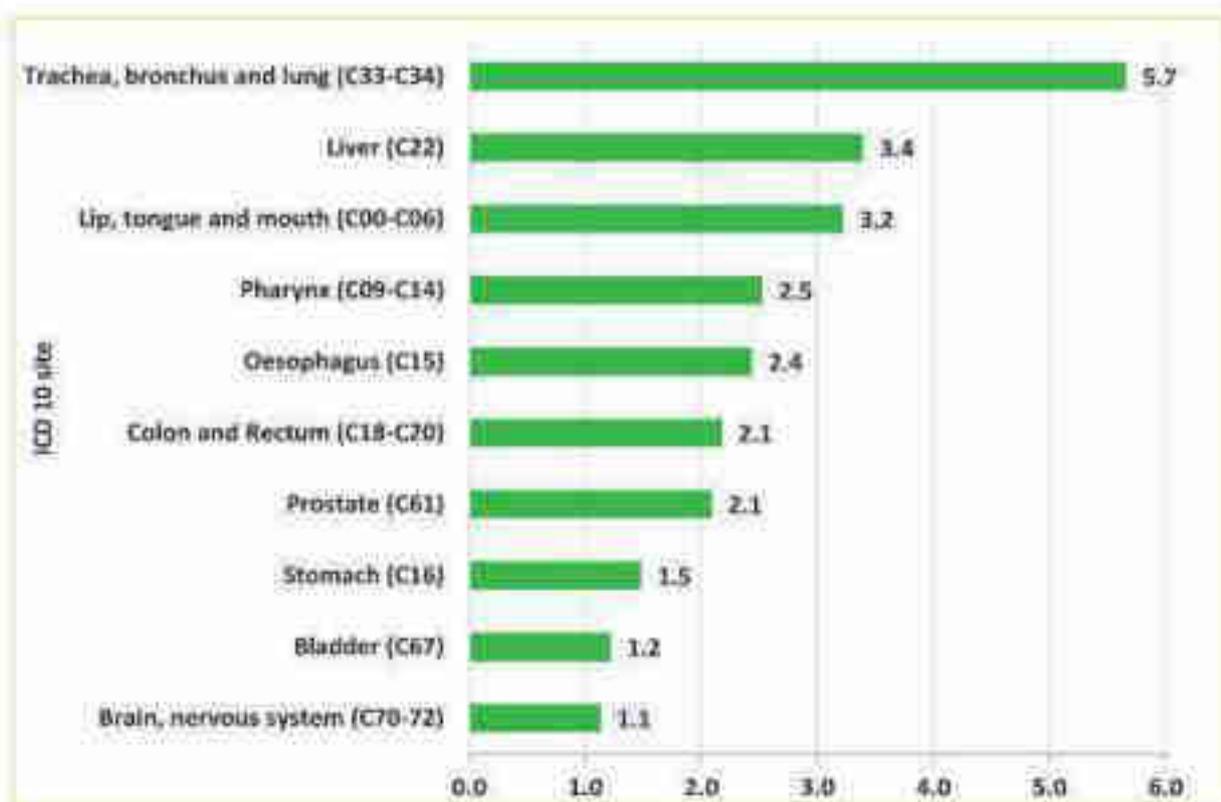


Figure 15: Crude death rate of leading cancer related deaths in the Colombo district, Male - 2013

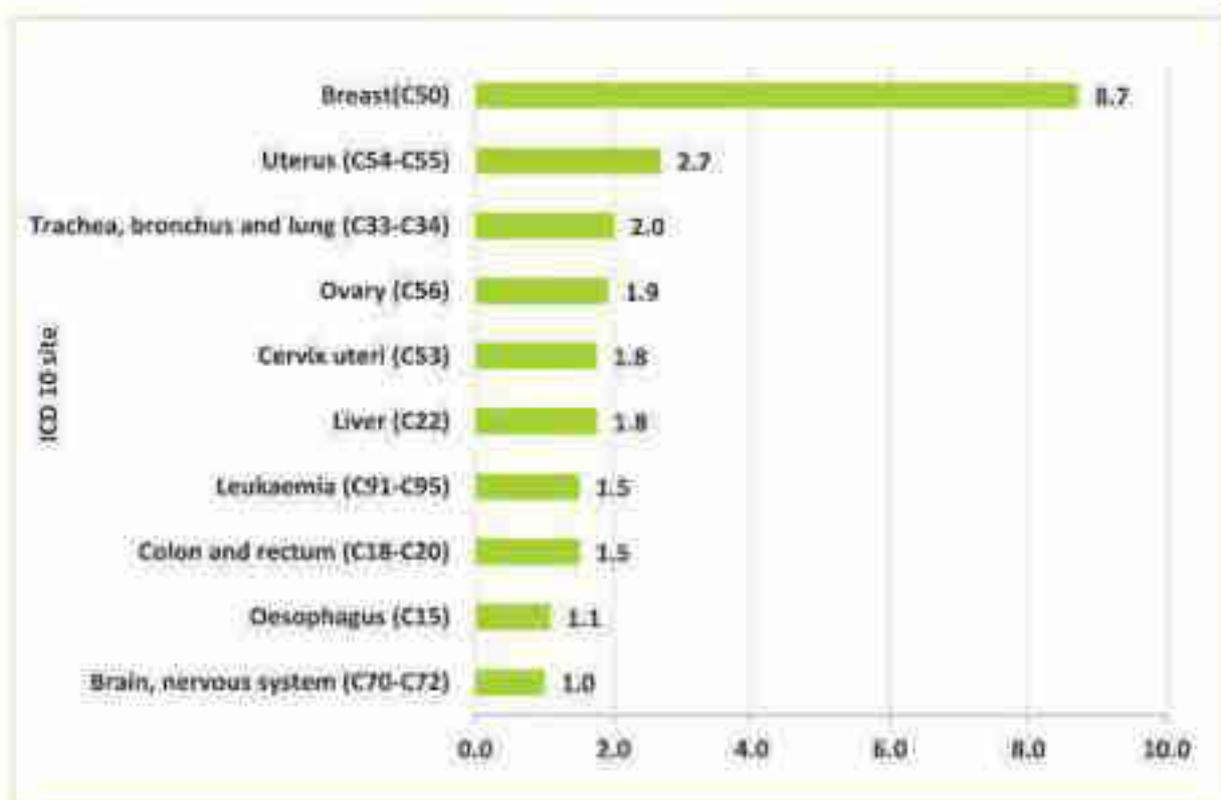


Figure 16: Crude death rate of leading cancer related deaths in the Colombo district, Female 2013

Comparison of age standardized cancer death rates of leading cancers of 'Population based cancer registry of Colombo district' with the 'National Cause Specific Death Data of Sri Lanka'

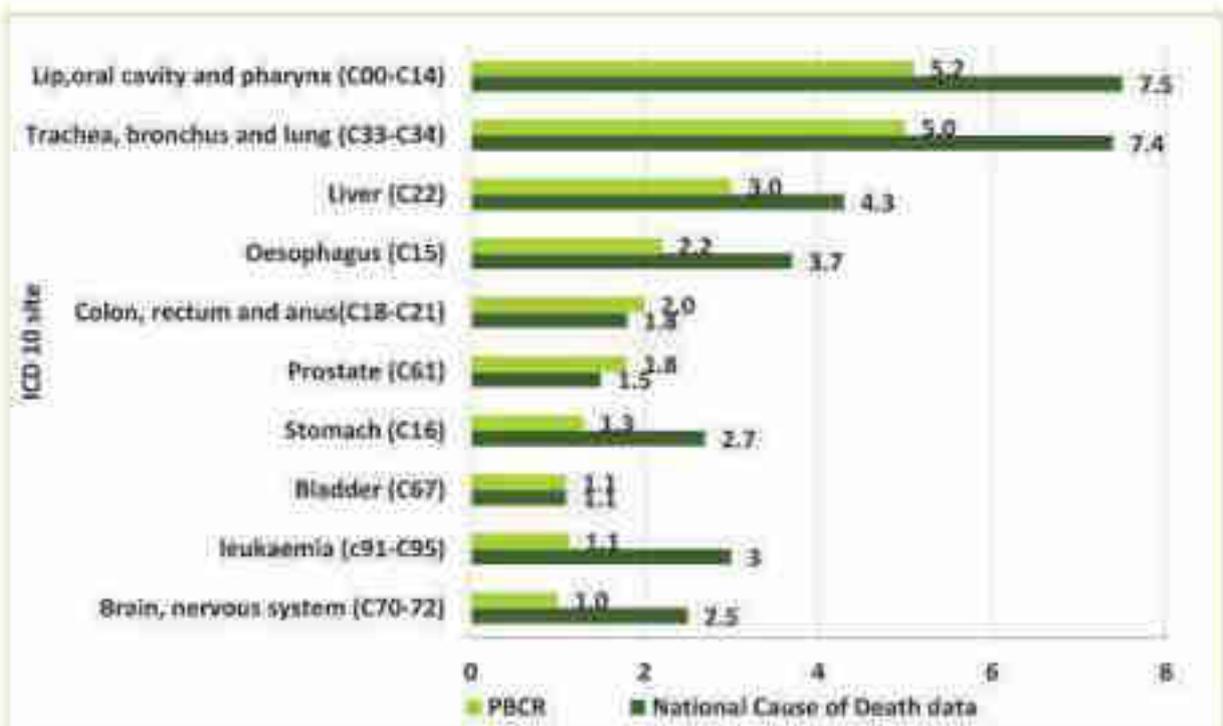


Figure 17: Age standardized death rates of leading cancers among males in year 2013, PBCR Colombo district vs National Cause of Death Data

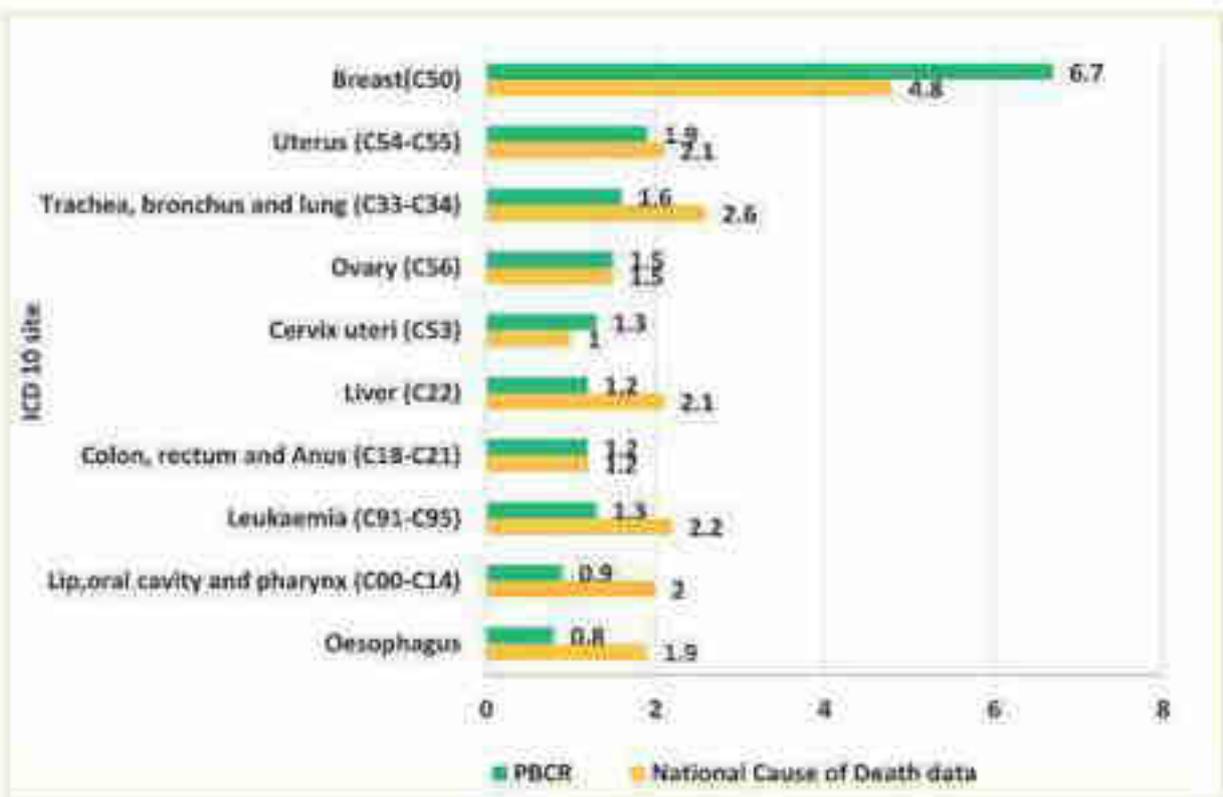


Figure 18 : Age standardized death rates of leading cancers among females in year 2013, PBCR Colombo district vs National Cause Specific Death Data

Incidence and Mortality of leading cancers – 2013

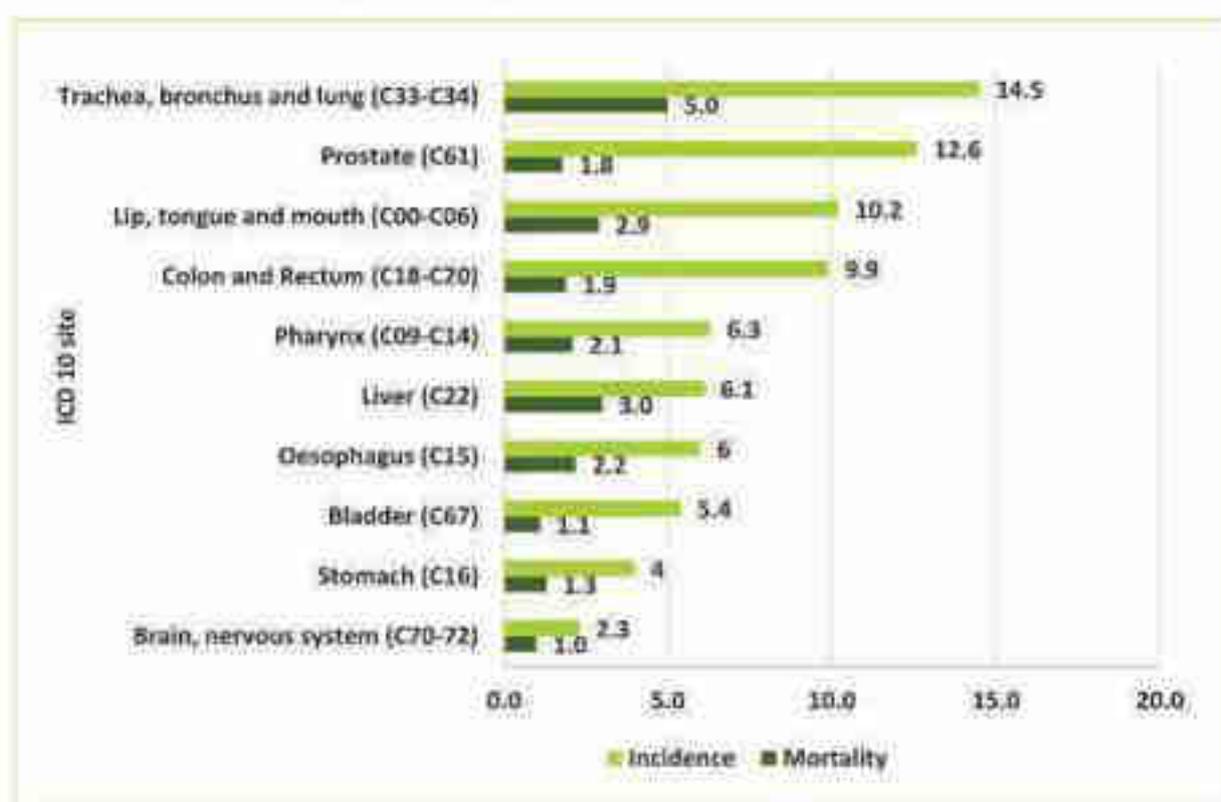


Figure 19: Age standardized incidence rates and death rates of leading cancers in Colombo district, Males 2013

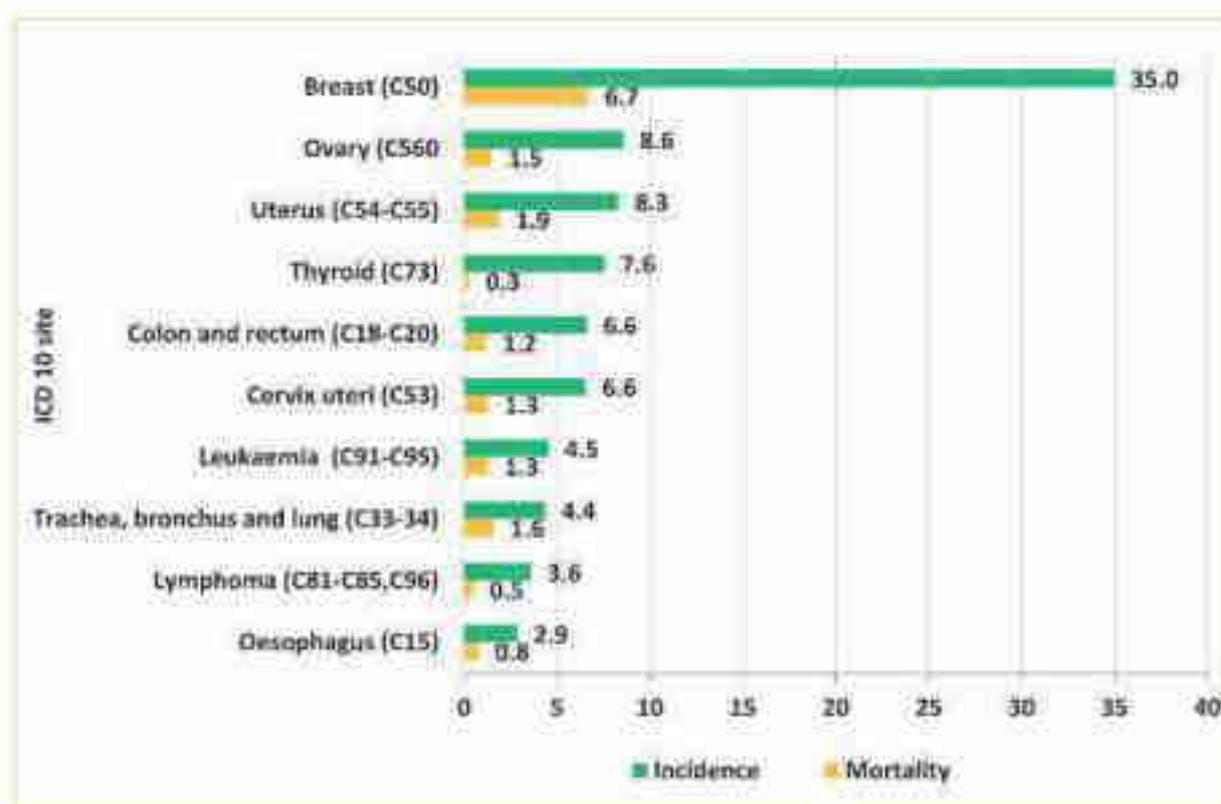


Figure 20: Age standardized incidence rates and death rates of leading cancers in Colombo district, Females 2013

Quality Control

Table 17: Mean values of data quality indicators for comparison of cancer registries in Central, East and South Asia, Male 2013

ICD-10 code and site	NIV% ¹		MIM ²		ASR ³	
	Mean	Colombo	Mean	Colombo	Mean	Colombo
C00-C14 Oral Cavity & Pharynx	85.0	84.2	37	29.4	17	17.3
C15 Oesophagus	78.5	71.4	86.6	36.4	3.6	6.0
C16 Stomach	74.1	67.9	60.3	32.1	13.9	4.0
C18-C21 Large bowel	85.4	85.7	42.9	20.3	18.8	10.2
C22 Liver	29.2	67.1	86.7	50.0	16.5	6.0
C25 Pancreas	44.7	61.5	85.2	38.5	2.9	1.0
C32 Larynx	90.5	94.4	43.1	12.5	4.8	5.6
C33-C34 Trachea, Bronchus & Lung	68.2	81.1	81	34.1	36.4	14.4
C43 Melanoma of Skin	92.8	100	28	0.0	0.6	0.3
C50 Breast	76.8	100	44.4	100	0.6	0.6
C61 Prostate	83.1	100	27.6	14.3	11.5	12.5
C62 Testis	84.8	85.7	8.8	0.0	0.9	0.4
C64-C66 Kidney, Renal pelvis & Ureter	78.3	81.4	35	24.1	3	4.3
C67 Bladder	89.9	80.9	32	20.6	5.4	5.4
C70-C72 Brain, Central Nervous System	70.7	82.7	62	44.8	2.4	2.3
C73 Thyroid	88.9	96.3	11.2	3.7	1.6	2.0
C81-C88, C96 Lymphoma	90.4	97.4	38.7	15.8	8.3	8.8
C91-C95 Leukaemia	91	96.8	45.1	19.7	5.6	5.7
C76-C80 Unspecified	62.6	82.1	58.5	64.2	9	10.2
C00-C96 excluding C44 All sites (Excluding non-melanoma skin)	73.4	83.6	56.5	29.4	171.7	122.9

Table 18: Mean values of data quality indicators for comparison of cancer registries in Central, East and South Asia, Female 2013

ICD-10 Code and site		RM% ^a		M: 1% ^b		ASIR	
		Mean	Colombo	Mean	Colombo	Mean	Colombo
C00-C14	Oral Cavity & Pharynx	86	88.1	29.4	27.1	9.3	3.8
C15	Oesophagus	77.3	91.5	66.2	27.7	2	2.9
C16	Stomach	73.1	79.3	57.6	31.0	7.4	1.9
C18-C21	Large bowel	86.4	91.7	44.2	18.3	14	6.9
C22	Liver	28.5	56.3	85.1	62.5	5	1.9
C25	Pancreas	45.6	81.0	82.8	28.6	2.2	1.4
C32	Larynx	83.9	100	40.7	0.0	0.7	0.2
C33-C34	Trachea, Bronchus & Lung	69.1	83.3	78.5	36.4	10.3	4.4
C43	Melanoma of skin	93.3	100	36.7	66.7	0.3	0.2
C50	Breast	91	87.4	23.4	19.8	40.2	34.4
C53	Cervix uteri	89.5	93.1	39	19.8	15.7	6.6
C54-C55	Corpus Uteri & Uterus unspecified	85.2	84.6	17.1	22.3	6.6	8.3
C56	Ovary	82.5	90.8	37.1	17.6	8	8.9
C64-C66	Kidney, Renal pelvis & Ureter	73.8	100	37.5	12.5	1.5	1.1
C67	Bladder	86.2	84.2	34	36.8	1.3	1.2
C70-C72	Brain, Central Nervous System	66.6	63.0	64	44.4	1.8	2.1
C73	Thyroid	92.4	95.5	8.6	4.5	5.1	7.6
C81-C88, C96	Lymphoma	89.2	100	41.3	17.1	5.3	5.2
C91-C95	Leukaemia	89.6	94.6	54.1	32.1	4.4	4.5
C76-C80	Unspecified	60.8	78.8	55	61.9	6.4	7.5
C00-C96 excluding C44	All sites (Excluding non-melanoma skin)	82	87.4	42.1	24.7	156.6	130.5

The percentage of 'Other and unspecified sites', including primary site unknown is related to the quality of diagnostic information and quality of documentation of the medical records.

Table 19: Distribution of ICD -10 and 'Other and unspecified sites' by Sex Colombo District, 2013

ICD 10 code and site		Male		Female	
		No.	%	No.	%
C26	Other & ill defined digestive organs	08	0.5	04	0.2
C48	Retroperitoneum & peritoneum	02	0.1	02	0.1
C76	Other and ill defined sites	18	1.1	14	0.8
C80	Unknown primary	119	7.4	107	6.0
Total		147	9.2	127	7.1



**Cancer Incidence and Mortality Data
Colombo District, Sri Lanka
2014**



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2014

Incidence of Cancers – Colombo District, Sri Lanka

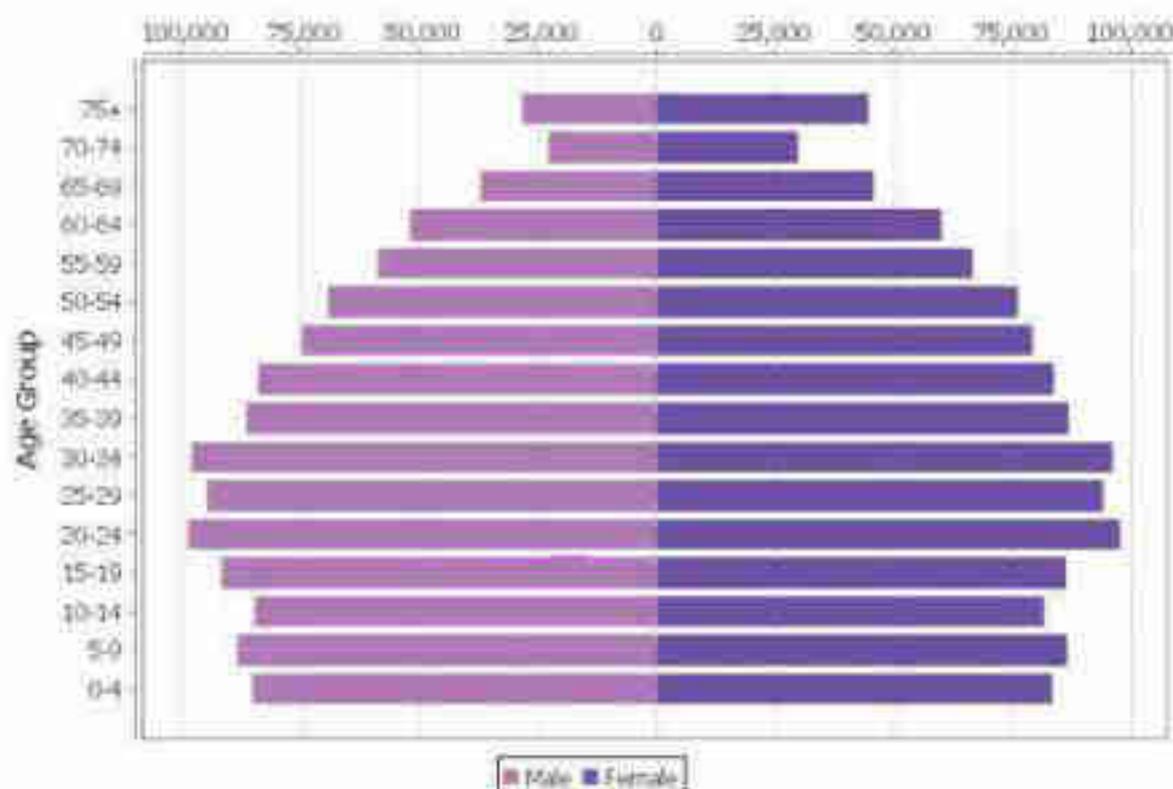


Figure 1: Population pyramid of Colombo district in 2014 by 5-year age groups

Table 1: Distribution of population according to sex in Colombo district and Sri Lanka - 2014

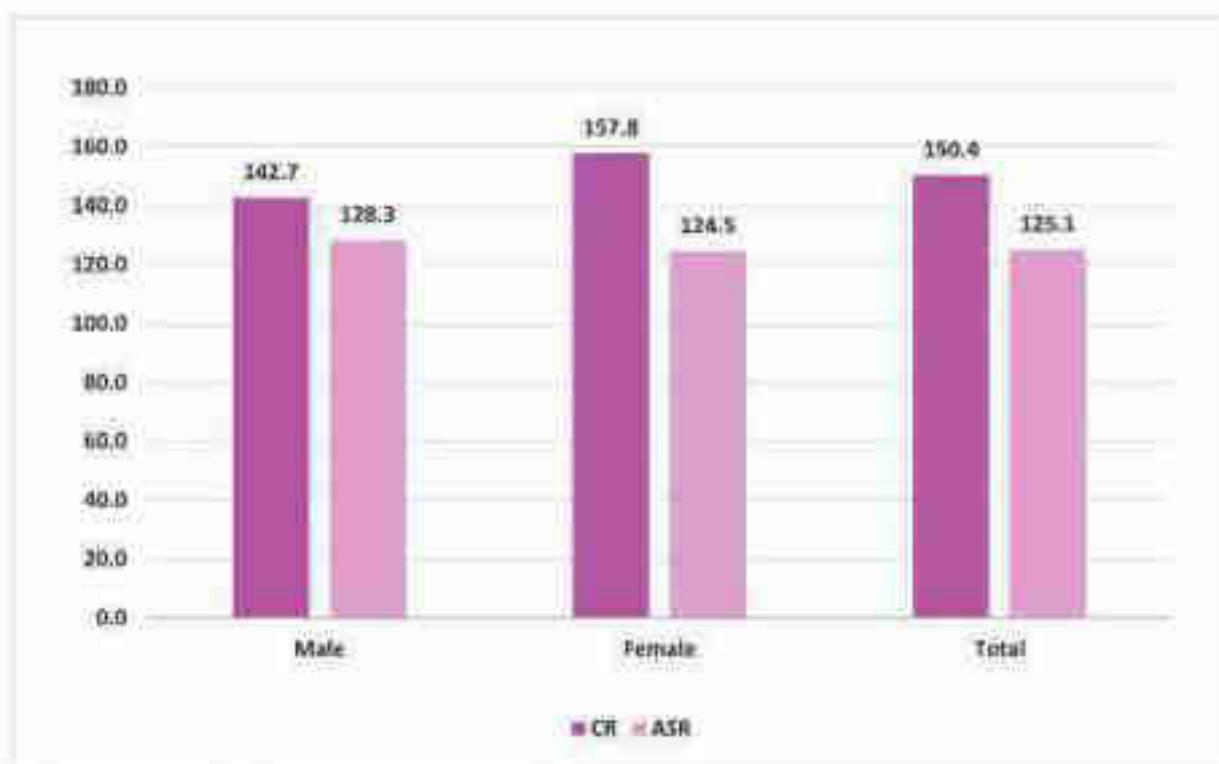
	Male	Female	Total
Colombo district	1154522 (49.1%)	1198462 (50.9%)	2352984 (100%)
Sri Lanka	10059283 (48.4%)	10718312 (51.6%)	20777595 (100%)

Table 2: Cancer Incidence in Colombo district – 2014

	Number	N	*CR	**ASR
Male	1,647	46.6	142.7	128.3
Female	1,891	53.4	157.8	124.5
Total	3,538	100.0	150.4	125.1

*CR - Crude cancer incidence rate per 100,000 population

**ASR - age standardized cancer incidence rate per 100,000 population



* CR - Crude cancer incidence rate per 100,000 population
 **ASR- Age Standardized cancer incidence Rate per 100,000 population

Figure 2: Cancer incidence rates, Colombo districts- 2014

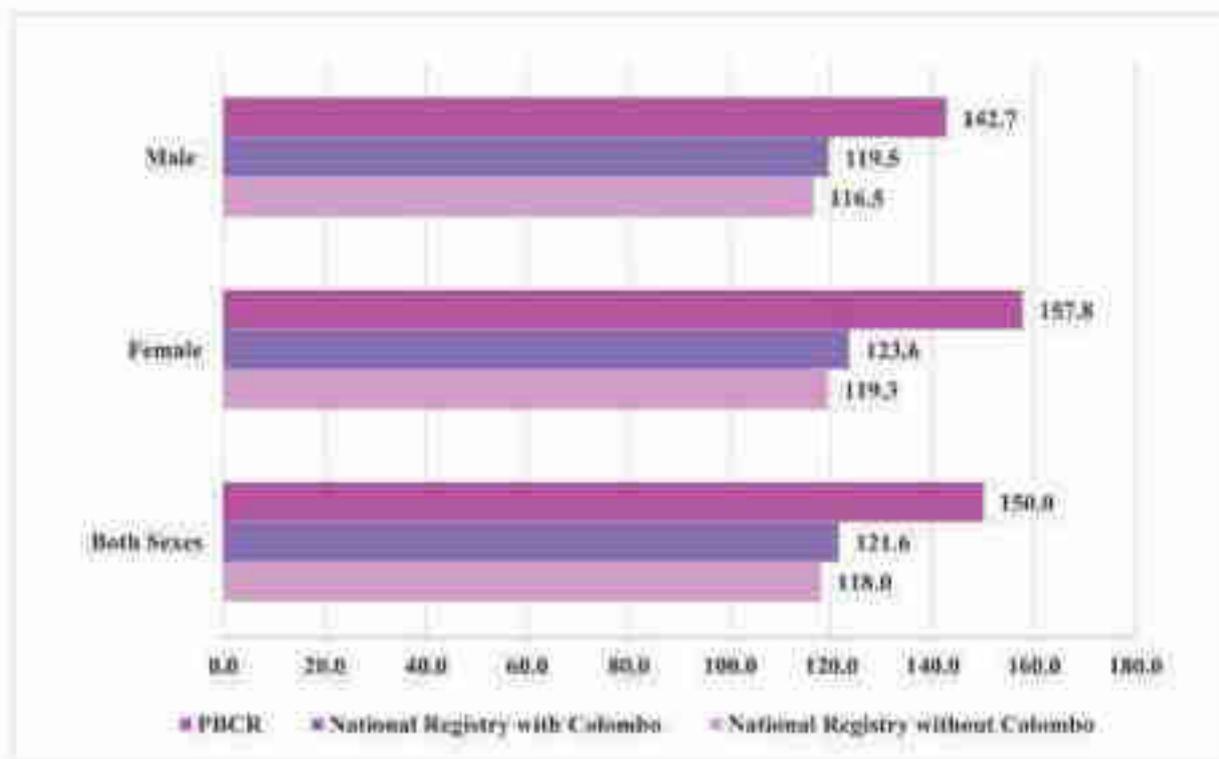


Figure 3: Comparison of crude incidence rates of Colombo PBCR, National Cancer Registry (including Colombo district) and National Cancer Registry (without Colombo district) - 2014

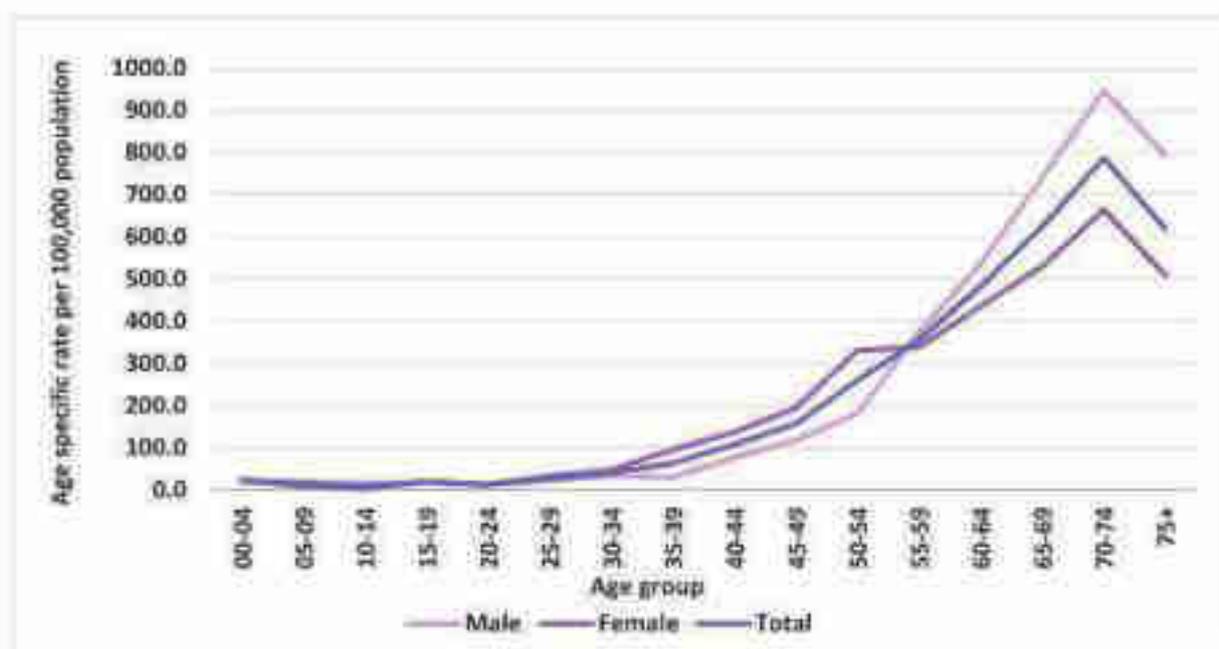


Figure 4: Age specific cancer incidence rates of Colombo district – 2014

Table 3: Cancer incidence of Colombo district by age and sex-2014

Age group	Male			Female			Total		
	Cases	Population	Incidence	Cases	Population	Incidence	Cases	Population	Incidence
Unknown	1			1			2		
00-04	18	85222	21.1	19	83435	22.8	37	168658	21.9
05-09	18	88456	20.3	7	86566	8.1	25	175023	14.3
10-14	13	84714	15.3	2	81717	2.4	15	166431	9.0
15-19	16	91716	17.4	17	86297	19.7	33	178013	18.5
20-24	12	98726	12.2	12	97688	12.3	24	196414	12.2
25-29	21	94825	22.1	31	94158	32.9	52	188983	27.5
30-34	32	97927	32.7	45	96052	46.8	77	193979	39.7
35-39	26	86482	30.1	83	86792	95.6	109	173275	62.9
40-44	64	83795	76.4	115	83870	137.1	179	167664	106.8
45-49	88	74672	117.8	154	79142	194.6	242	153814	157.3
50-54	129	69346	181.7	252	76166	330.9	378	145512	259.8
55-59	220	58722	374.6	226	66660	339.0	446	125382	355.7
60-64	278	51849	536.2	261	59993	435.1	539	111842	481.9
65-69	274	37016	740.2	242	45661	530.0	516	82677	624.1
70-74	216	22808	947.1	197	29683	663.7	413	52491	786.8
75+	224	28246	793.0	227	44581	509.2	451	72826	619.3
Total	1647	1154522	142.7	1891	1198462	157.8	3538	2352984	150.4

*Ag. Sp. In. rate – Age specific incidence rate per 100,000 population

Leading cancer sites

Table 4: Leading sites of cancer incidence of Colombo district by sex – 2014

Male					Female				
ICD 10 code	Site	Cases	CR	ASR	ICD 10 code	Site	Cases	CR	ASR
C33-C34	Trachea, bronchus and lung	187	16.2	14.5	C50	Breast	536	44.7	35.0
C00-C06	Lip, tongue and mouth	149	12.9	11.3	C73	Thyroid	163	13.6	11.4
C61	Prostate	146	12.7	11.3	C53	Cervix uteri	159	13.3	10.2
C18-C20	Colon and rectum	117	10.1	9.1	C54-C55	Uterus	142	11.8	9.0
C91-C95	Leukaemia	102	8.8	8.6	C56	Ovary	135	11.3	8.9
C81-C85, C96	Lymphoma	94	8.1	7.6	C18-C20	Colon and rectum	133	11.1	8.4
C09-C14	Pharynx	90	7.8	6.8	C91-C95	Leukaemia	70	5.8	5.5
C15	Oesophagus	87	7.5	6.6	C81-C85, C96	Lymphoma	62	5.2	4.2
C22	Liver	69	6.0	5.3	C33-C34	Trachea, bronchus and lung	56	4.7	3.7
C67	Bladder	57	4.9	4.4	C15	Oesophagus	41	3.4	2.6
	All sites	1647	142.7	128.3		All sites	1891	157.8	124.5

*CR - Crude incidence rate per 100,000 populations.

**ASR - Age standardized incidence rate per 100,000 populations.

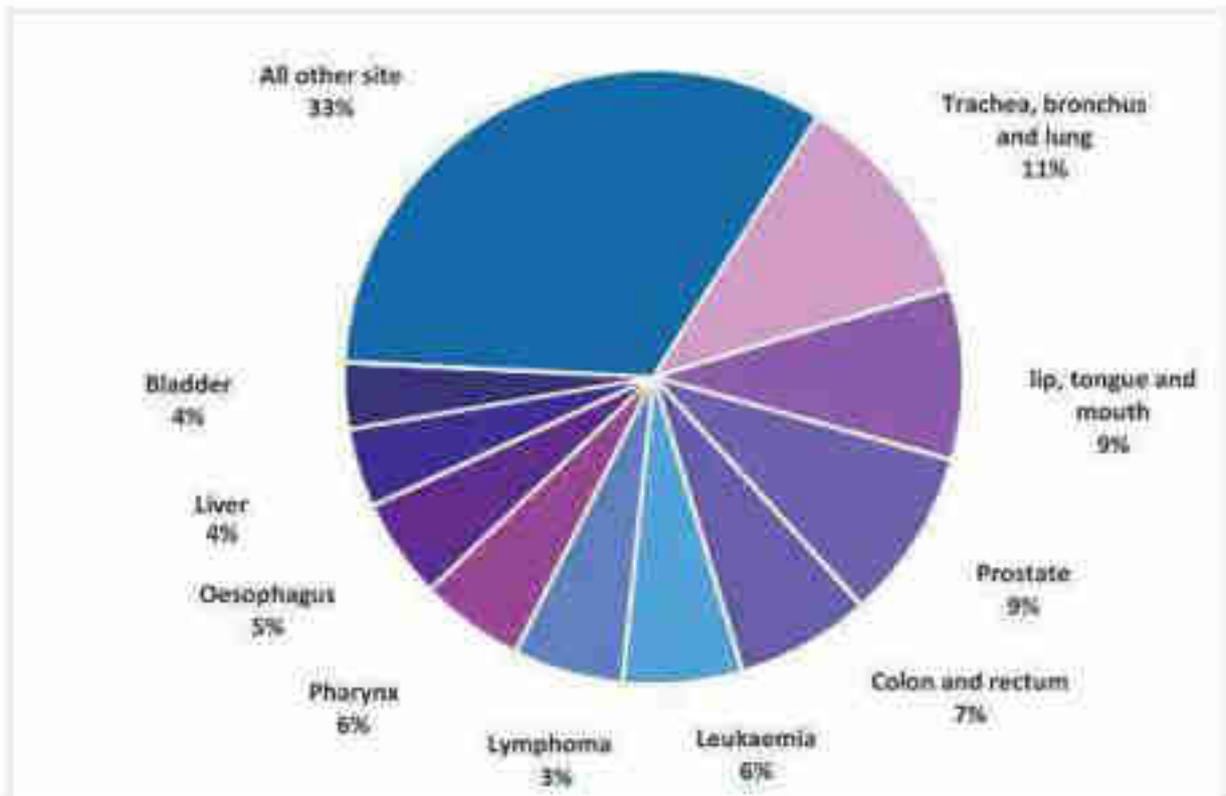


Figure 5: Proportion of incidence of leading cancers in the Colombo district-- Male 2014

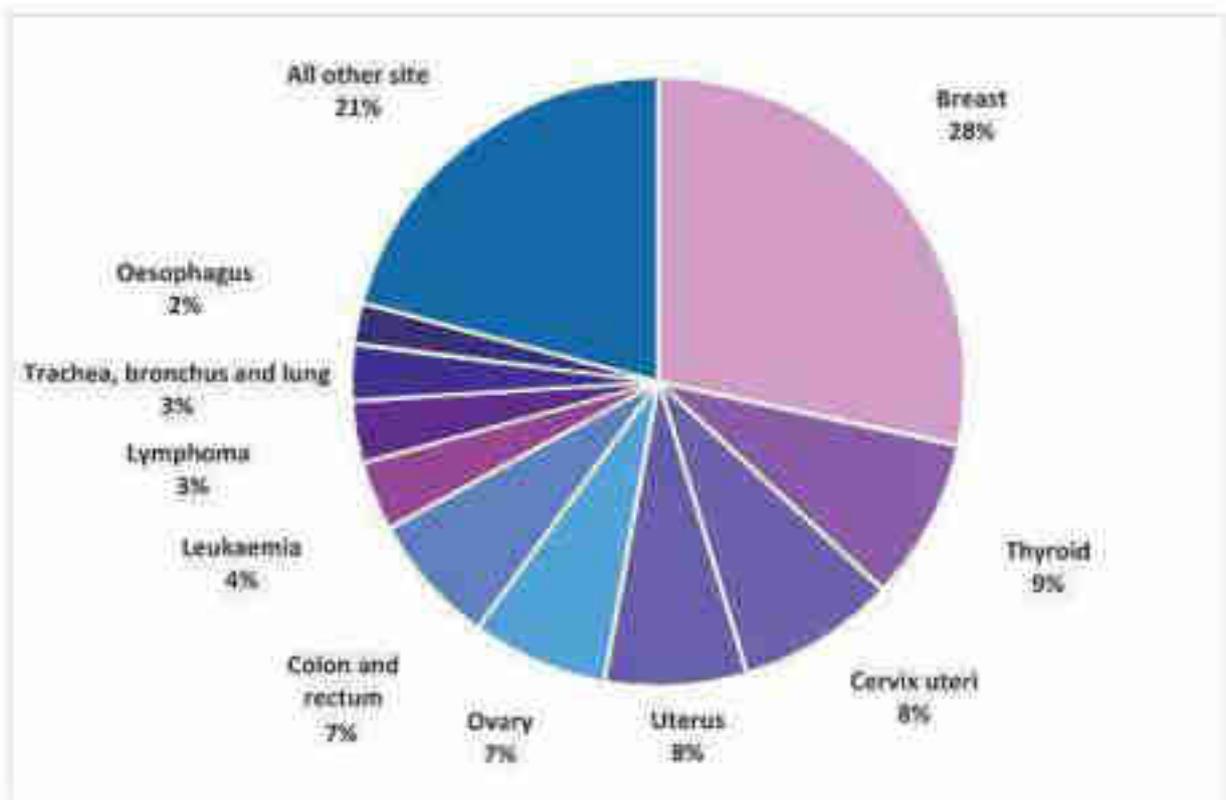


Figure 6: Proportion of incidence of leading cancers in the Colombo district-- Female 2014

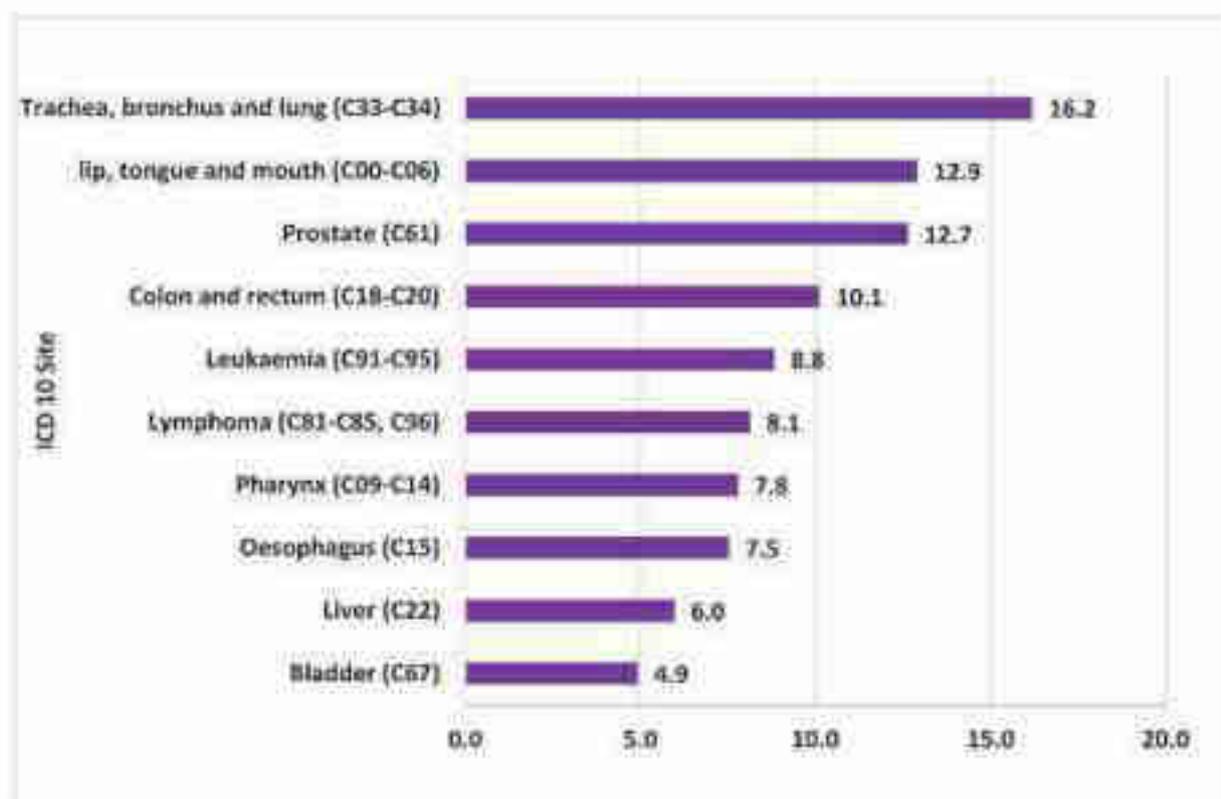


Figure 7: Crude incidence of leading cancers in the Colombo district– Male 2014

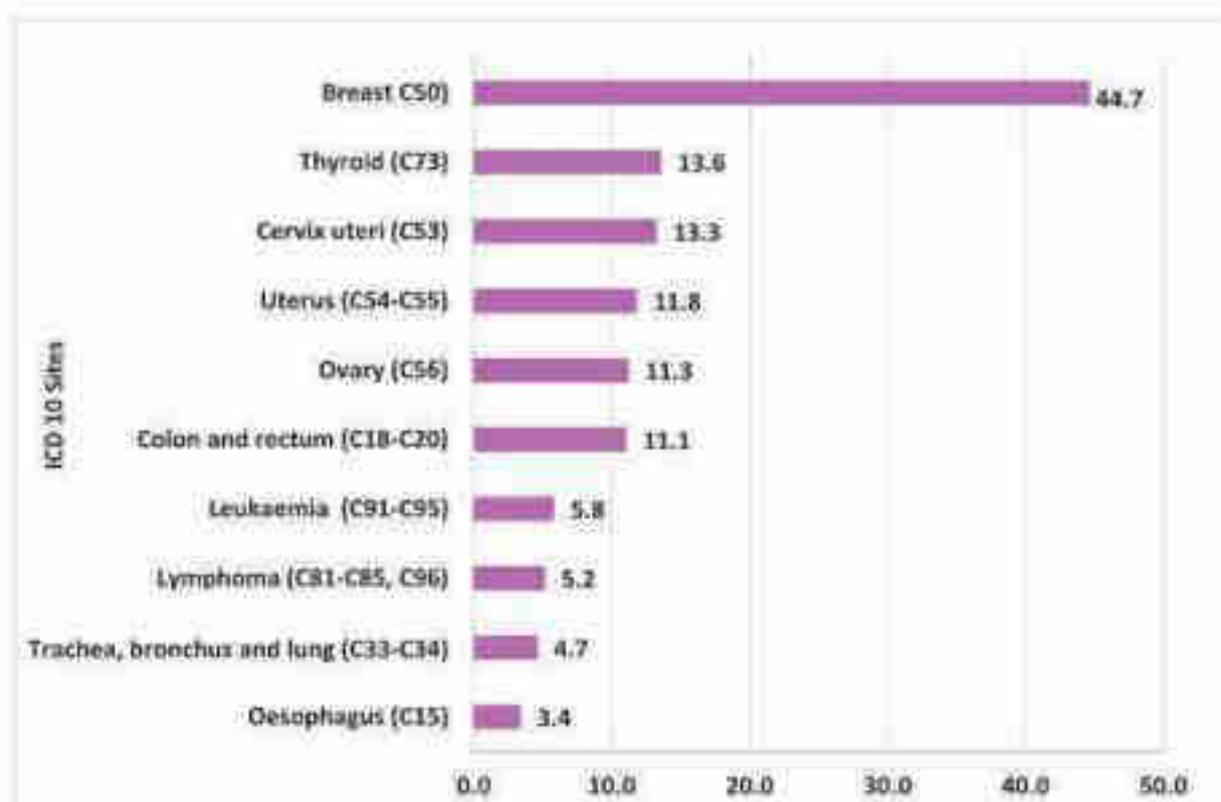


Figure 8: Crude incidence of leading cancers in the Colombo district– Female 2014

Comparison of age standardized cancer incidence rates of leading cancers of 'Population Based Cancer Registry of Colombo district' with the 'National Cancer Registry of Sri Lanka' – 2014

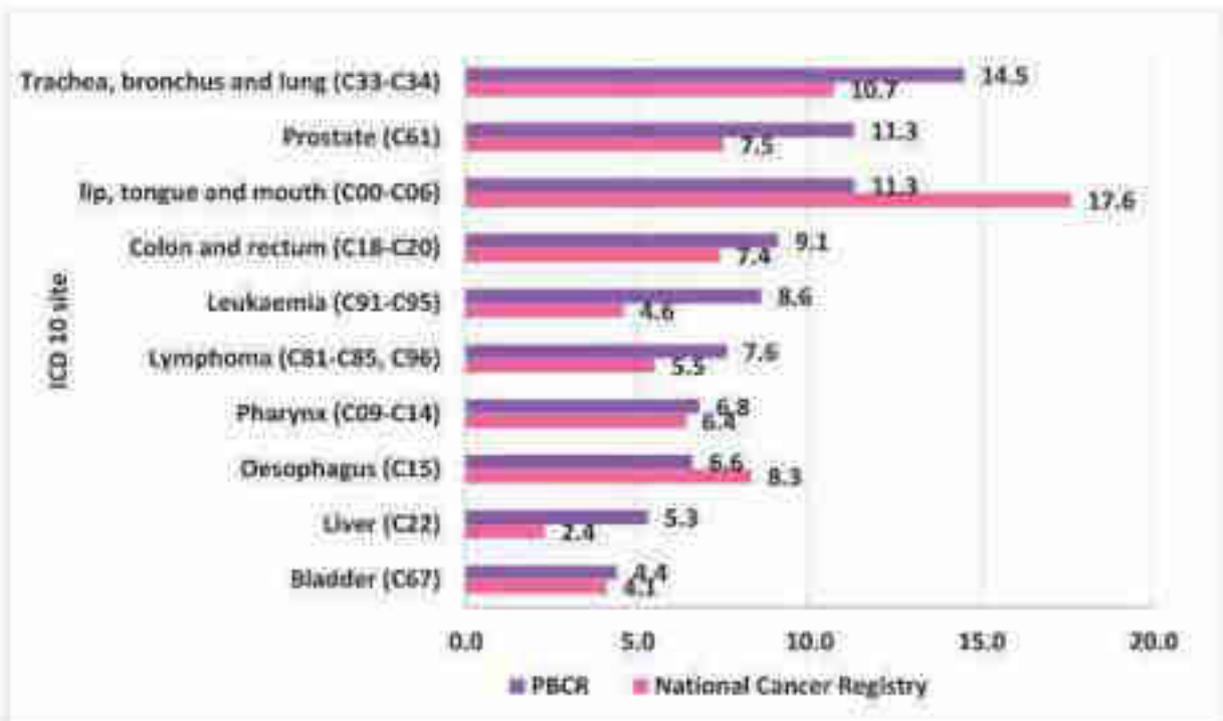


Figure 9: Age standardized incidence rates of leading cancers among males in year-2014 PBCR Colombo district vs National Cancer Registry

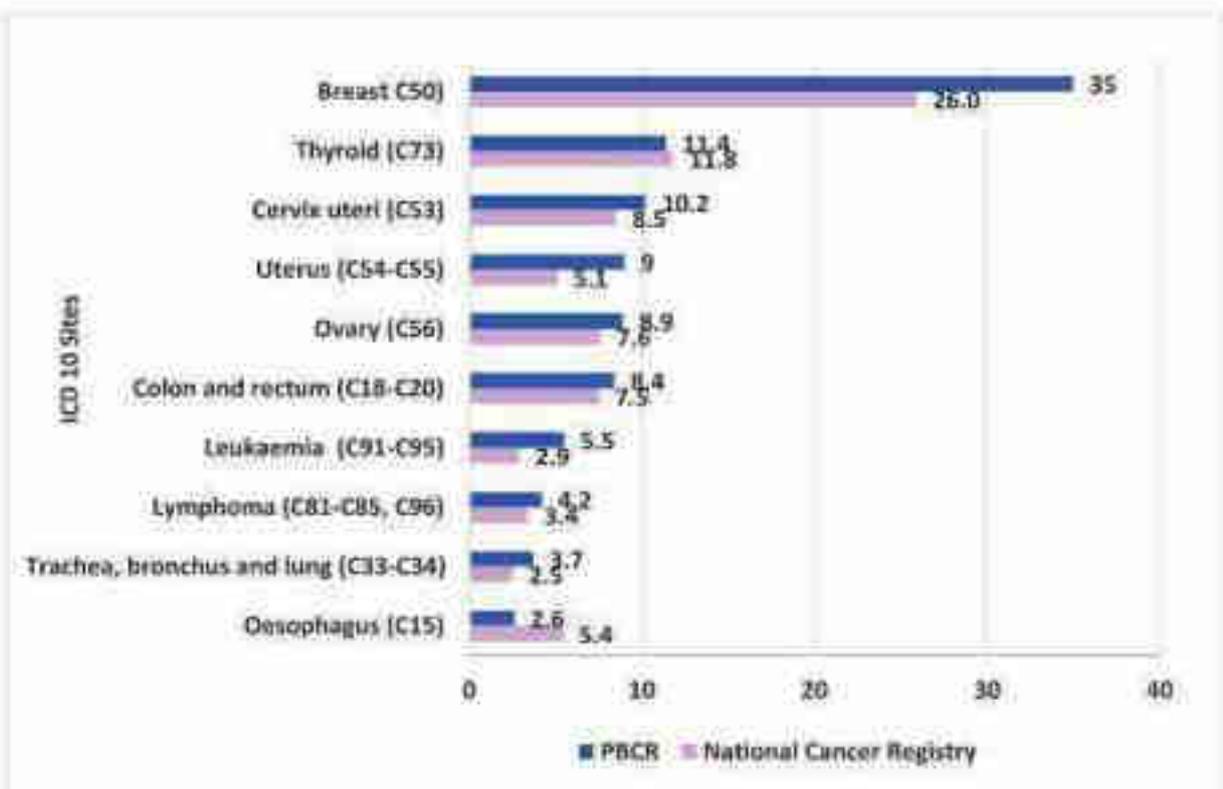


Figure 10: Age standardized incidence rates of leading cancers among females in year 2014 – PBCR Colombo district vs. National Cancer Registry, Sri Lanka

Mortality of Cancers

Table 9: Distribution of cancer related deaths reported by Divisional Death Registrars of Colombo district in year 2014

Resident district of the deceased person	No.	%
Colombo	1002	42.9
Another district other than Colombo	1085	46.4
District not known	249	10.7
Total	2336	100

Table 10: Distribution of no. of deaths, cancer related crude death rate and age standardized death rate among the residents of Colombo district in the year 2014

	Number	%	*CDR	**ASDR
Male	545	54.4	47.2	41.9
Female	457	45.6	38.1	28.8
Total	1002	100	42.6	34.5

*CDR- Cancer related crude death rate per 100,000 population.

**ASDR- Cancer related age standardized death rate per 100,000 population.

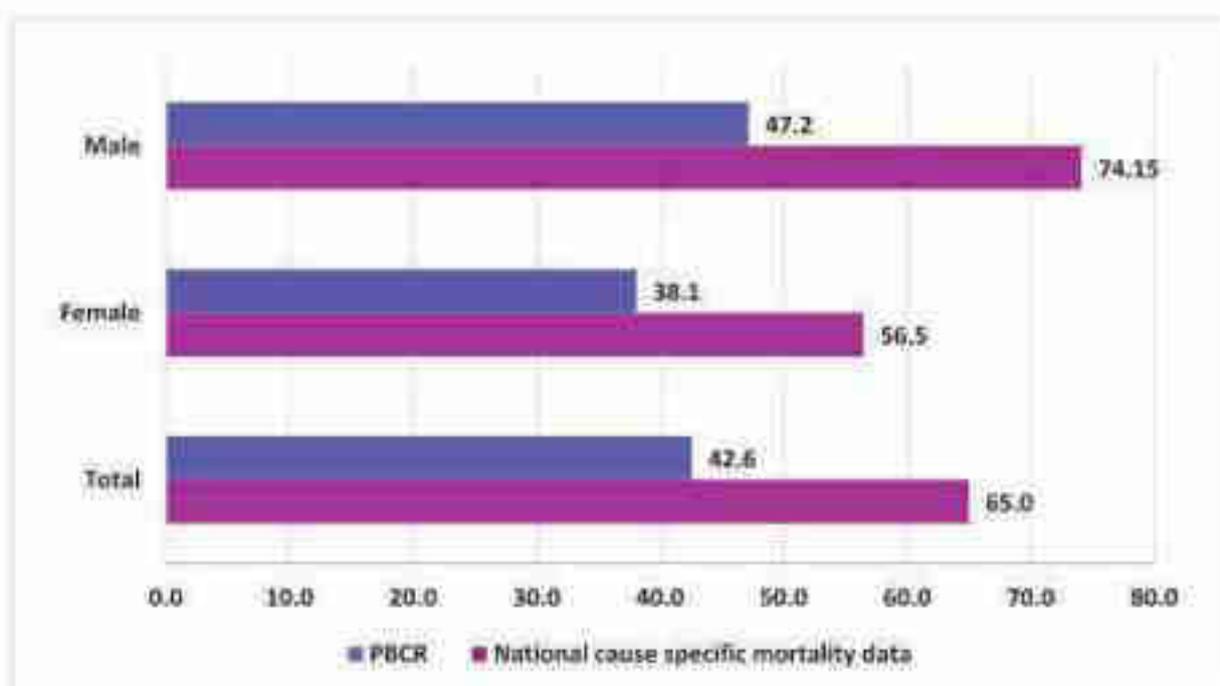


Figure 11: Cancer related crude death rates of Colombo district with national rates based on cause specific death data of Department of Census and Statistics 2014

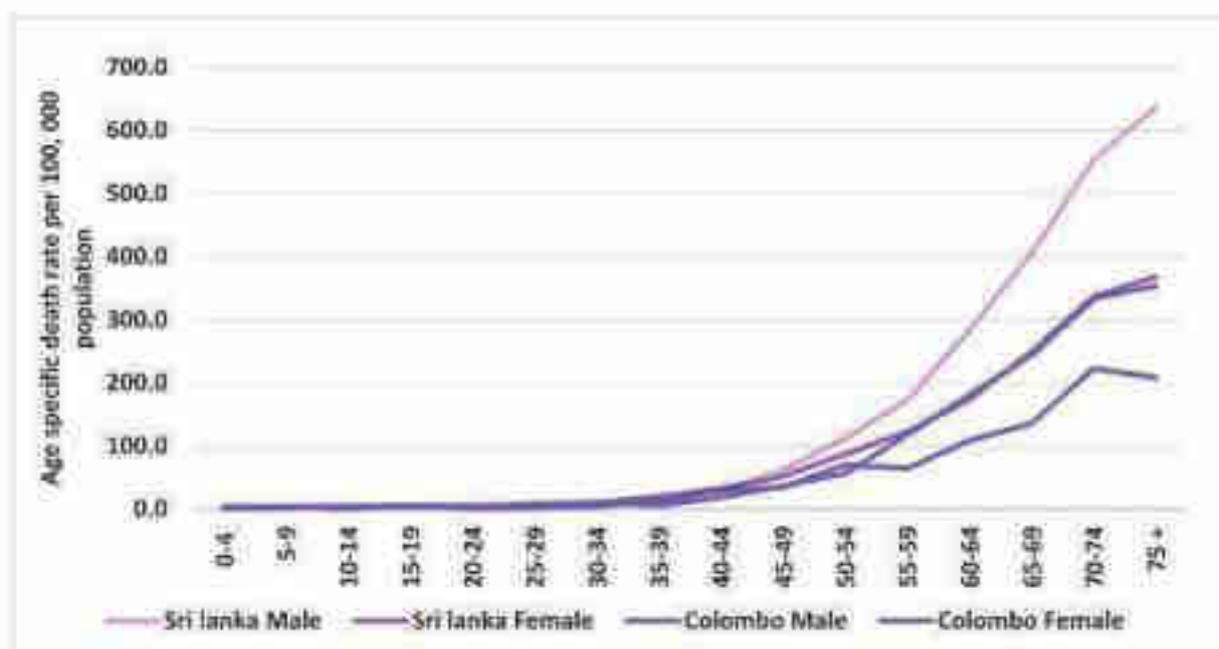


Figure 12: Distribution age specific death rates among males and females - 2014 Colombo district vs cause specific death data of Department of Census & Statistics covering whole country

Table 11: Cancer related deaths of Colombo district by age group and sex - 2014

Age group	Male			Female			Total		
	Cases	Population	Incidence	Cases	Population	Incidence	Cases	Population	Incidence
Unknown	1		0.0	0		0.0	1	0	0.0
00-04	1	85222	1.2	1	83435	1.2	2	168658	1.2
05-09	1	88456	1.1	2	86566	2.3	3	175023	1.7
10-14	2	84714	2.4	0	81717	0.0	2	166431	1.2
15-19	5	91716	5.5	4	86297	4.6	9	178013	5.1
20-24	2	98726	2.0	0	97688	0.0	2	196414	1.0
25-29	8	94825	8.4	1	94158	1.1	9	188983	4.8
30-34	10	97927	10.2	4	96052	4.2	14	193979	7.2
35-39	5	86482	5.8	11	86792	12.7	16	173275	9.2
40-44	15	83795	17.9	25	83870	29.8	40	167664	23.9
45-49	27	74672	36.2	27	79142	34.1	54	153814	35.1
50-54	38	69346	56.2	53	76166	69.6	92	145512	63.2
55-59	69	58722	117.5	43	66660	64.3	112	125382	89.3
60-64	94	51849	181.3	65	59993	108.3	159	111842	142.2
65-69	90	37016	243.1	62	45661	135.8	152	82677	183.8
70-74	76	22808	333.2	66	29683	222.3	142	52491	270.5
75+	100	28246	354.0	93	44581	208.6	193	72826	265.0
Total	545	1154522	47.2	497	1198462	38.1	1002	2352984	42.6

Ag.Sp.Rate- Age specific death rate per 100,000 population

Leading sites (ICD 10) of cancer mortality

Table 12: Leading sites of cancer mortality of Colombo district – male and female 2014

Male					Female				
ICD 10 code	Site	Cases	CR	ASR	ICD 10 code	Site	Cases	CR	ASR
C33-C34	Trachea, bronchus and lung	67	5.8	5.2	C50	Breast	90	7.5	5.7
C00-C06	Lip, tongue and mouth	46	4.0	3.5	C54-C55	Uterus	35	2.9	2.2
C91-C95	Leukaemia	44	3.8	3.4	C56	Ovary	34	2.8	2.1
C09-C14	Pharynx	38	3.3	2.9	C53	Cervix uteri	29	2.4	1.9
C15	Oesophagus	37	3.2	2.8	C91-C95	Leukaemia	25	2.1	1.8
C22	Liver	37	3.2	2.9	C18-C20	Colon and rectum	24	2.0	1.5
C61	Prostate	29	2.5	2.2	C33-C34	Trachea, bronchus and lung	21	1.8	1.2
C18-C20	Colon and rectum	24	2.1	1.9	C15	Oesophagus	18	1.5	1.1
C81-C85, C96	Lymphoma	18	1.6	1.3	C81-C85, C96	Lymphoma	15	1.3	1.0
C67	Bladder	16	1.4	1.3	C16	Stomach	11	0.9	0.6
	All sites	545	47.2	41.9		All sites	457	38.1	28.8

CR - Crude death rate per 100,000 population

ASR - Age standardized death rate per 100,000 population

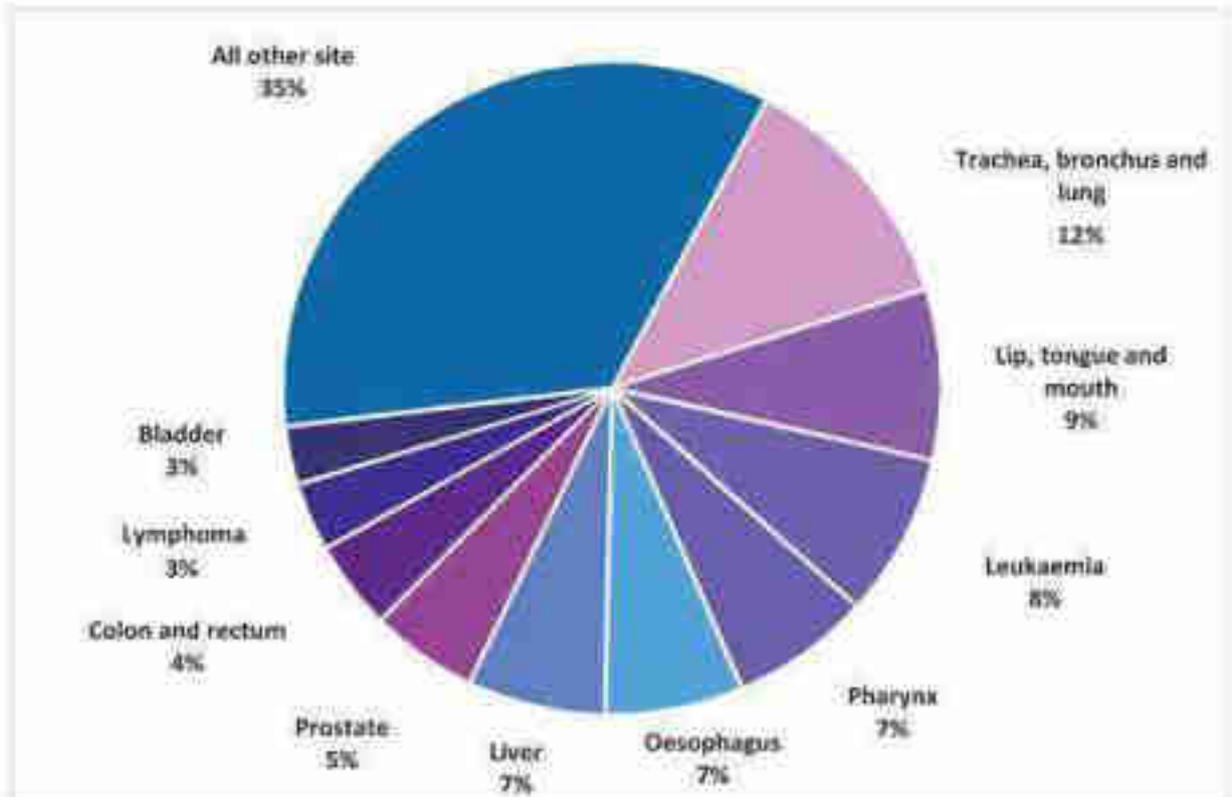


Figure 13: Proportion of leading cancer deaths, Male - 2014

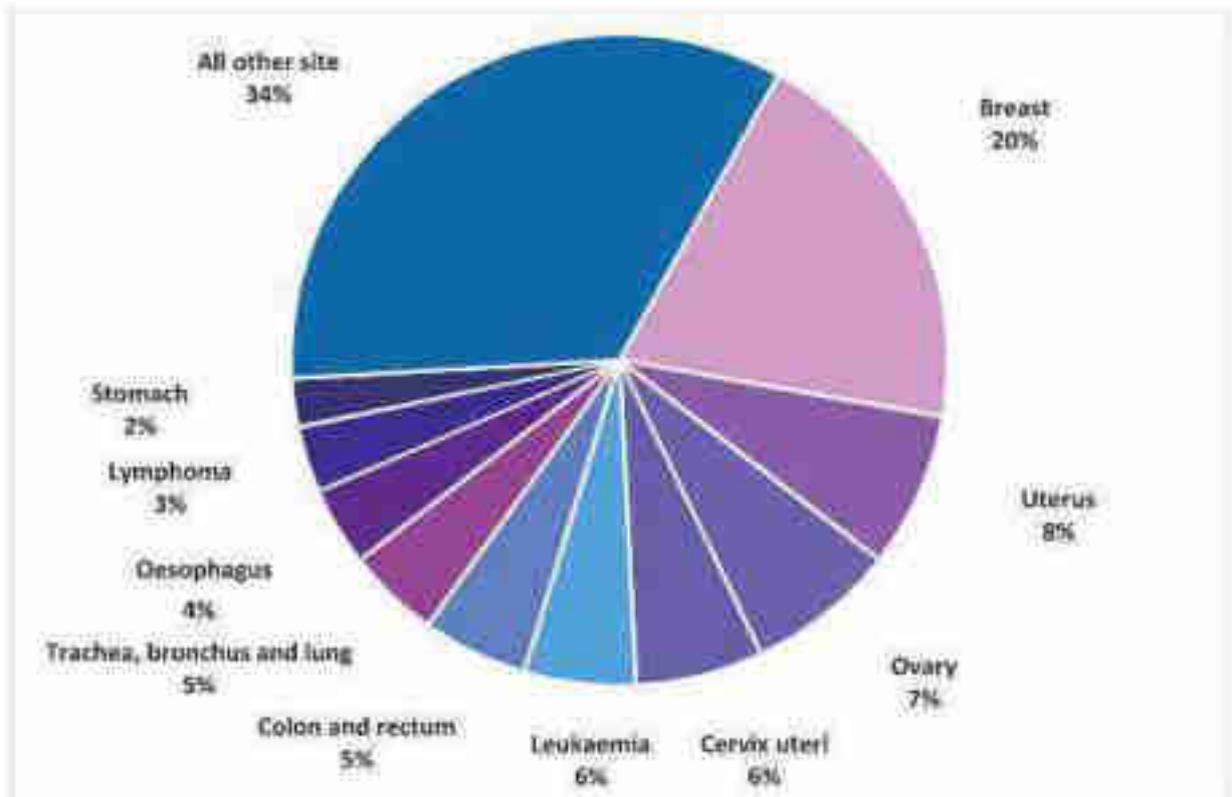


Figure 14: Proportion of leading cancer deaths, Female - 2014

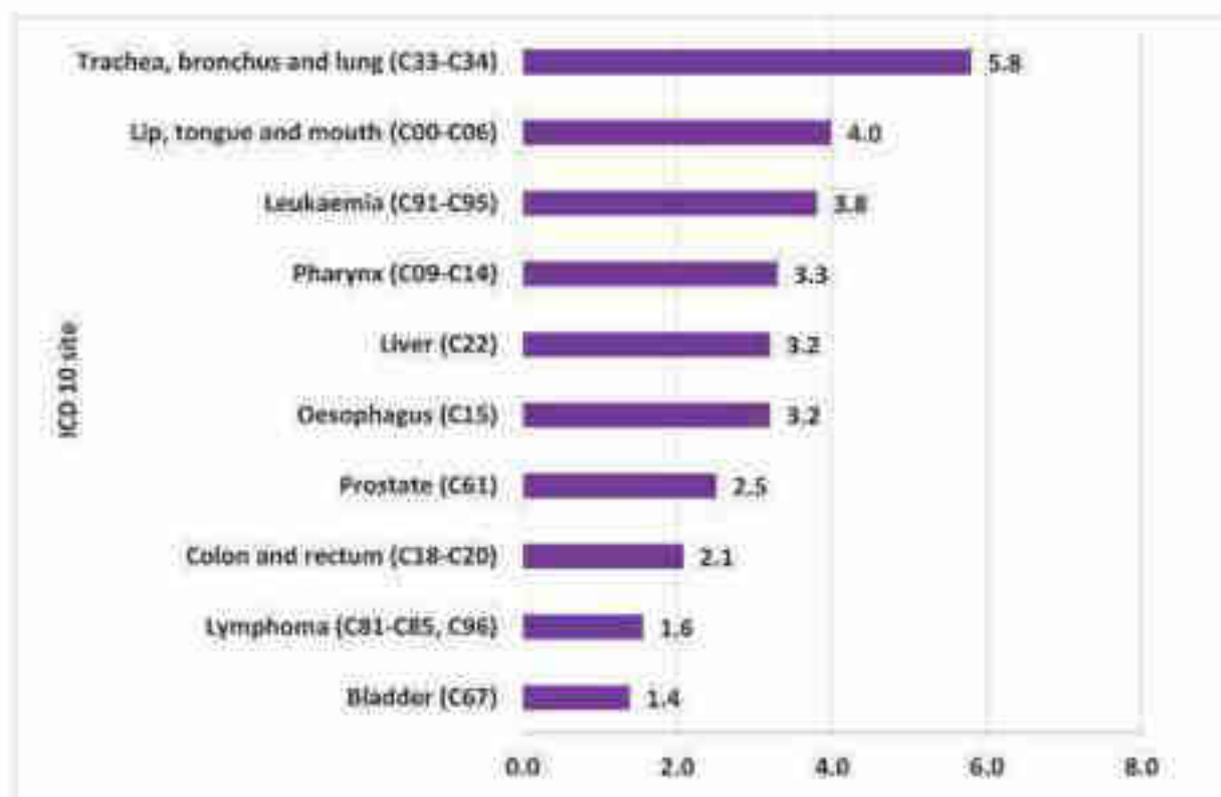


Figure 15: Crude death rate of leading cancer related deaths in the Colombo district- Male 2014

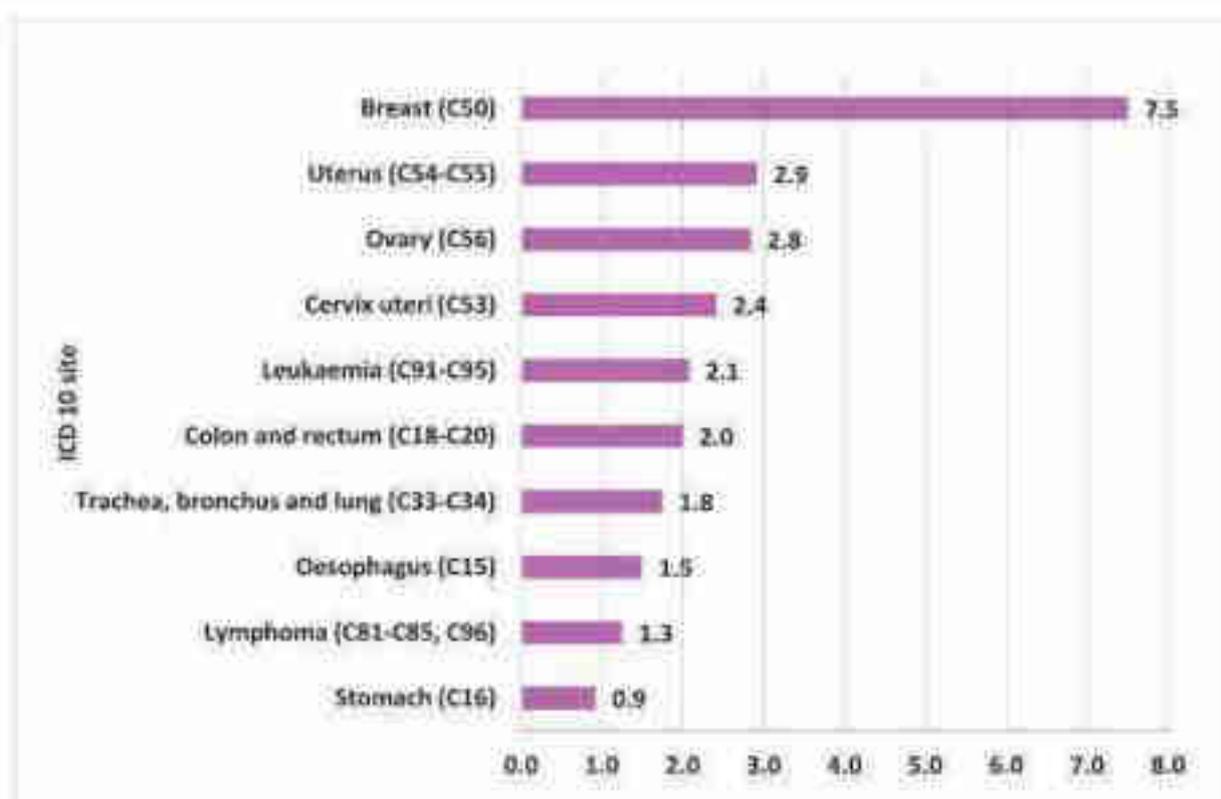


Figure 16: Crude death rate of leading cancer related deaths in the Colombo district- Female 2014

Comparison of age standardized cancer death rates of leading cancers of 'Population based cancer registry of Colombo district' with the 'National Cause Specific Death Data of Sri Lanka'

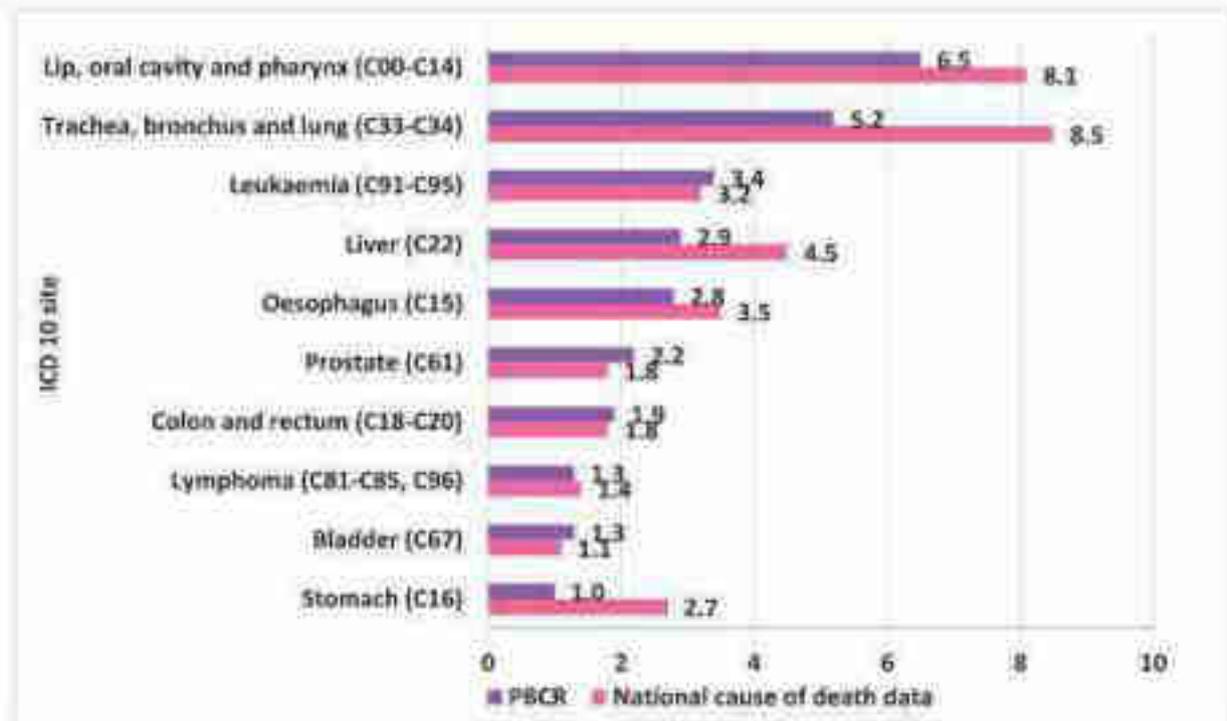


Figure 17: Age standardized death rates of leading cancers among males in year 2014 – PBCR Colombo district vs National Cause of Death Data

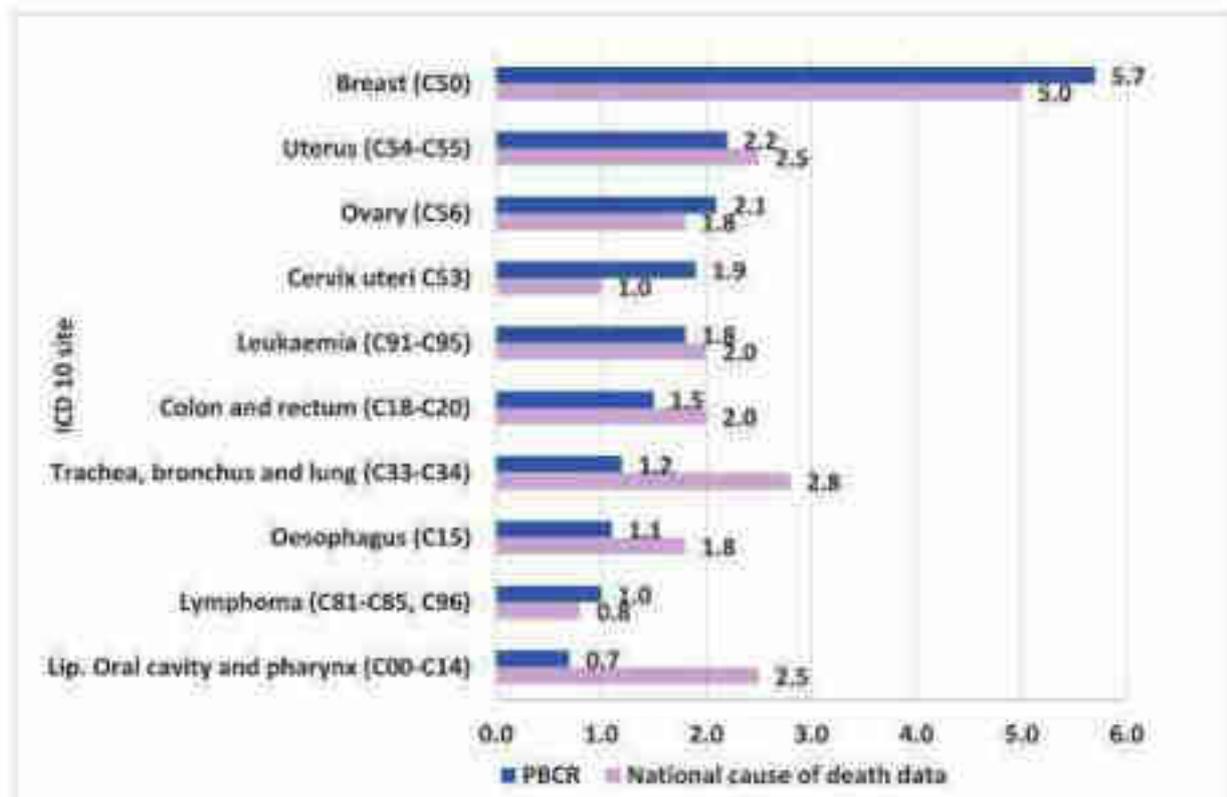


Figure 18: Age standardized death rates of leading cancers among females in year 2014 – PBCR Colombo district vs National Cause Specific Death Data

Incidence and Mortality of leading cancers – 2014

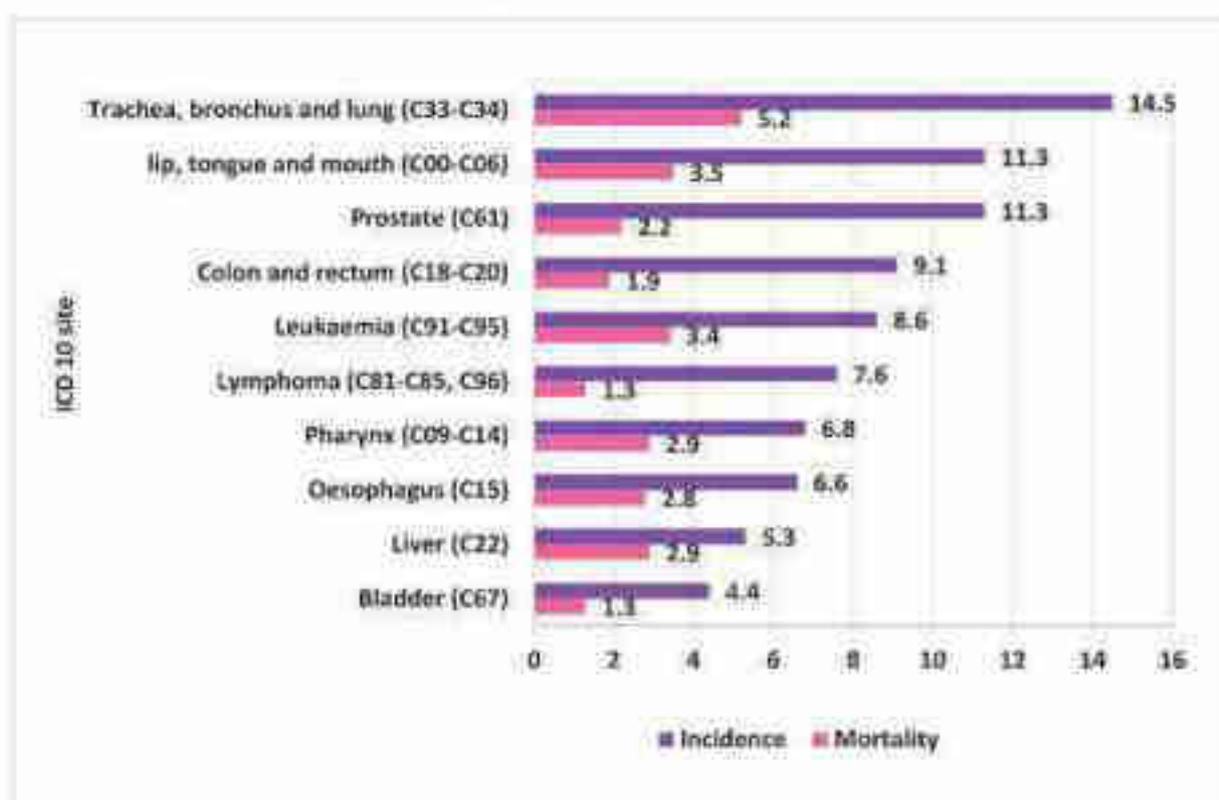


Figure 19: Age standardized incidence rates and death rates of leading cancers in Colombo District - Male 2014

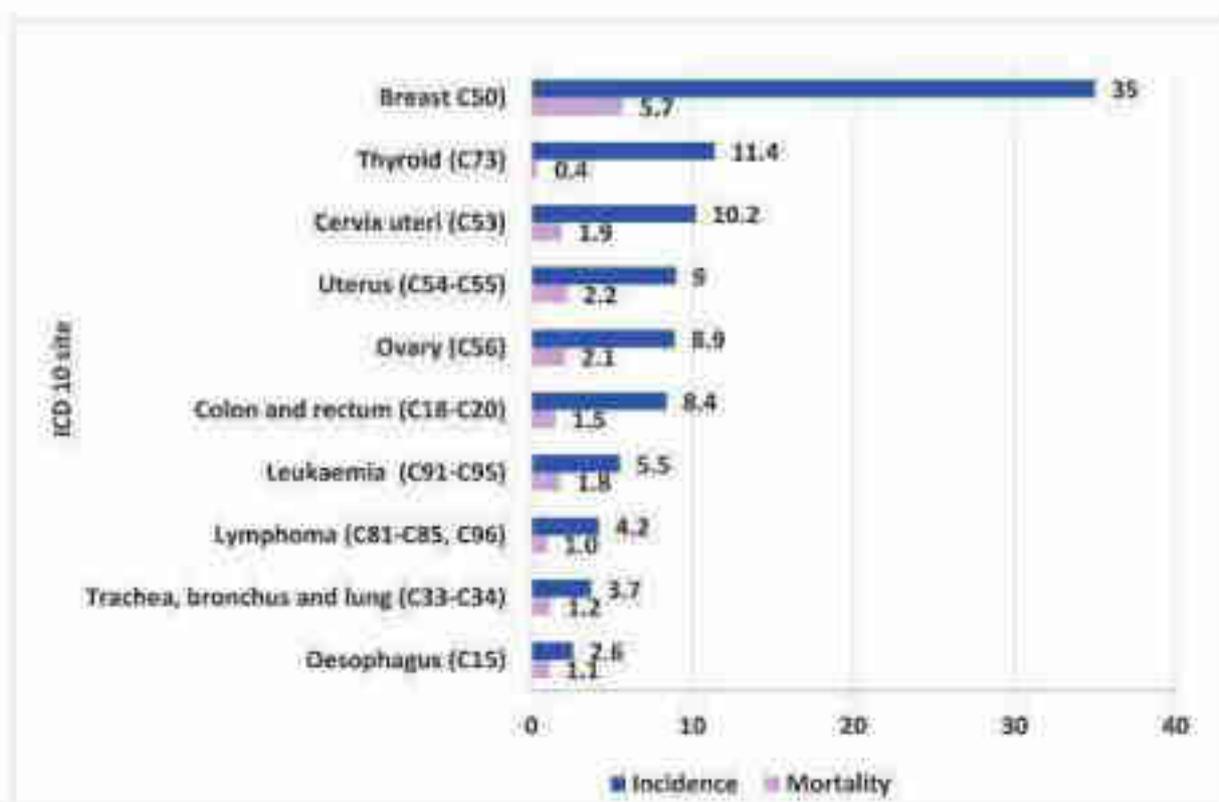


Figure 20: Age standardized incidence rates and death rates of leading cancers in Colombo District - Female 2014

Quality Control

Table 17: Mean values of data quality indicators for comparison of cancer registries in Central, East and South Asia – Male 2014

ICD-10 code and site		M:FC		M:FN		ASN	
		Mean	Colombo	Mean	Colombo	Mean	Colombo
C00-C14	Oral Cavity & Pharynx	88.9	86.6	37	34.4	17	18.4
C15	Esophagus	78.5	77.0	86.6	47.5	3.6	6.6
C16	Stomach	74.1	83.0	60.3	27.7	13.9	3.6
C18-C21	Large bowel	86.4	89.7	42.9	21.4	18.8	9.8
C22	Liver	29.2	60.9	86.7	53.6	16.5	5.3
C25	Pancreas	44.7	62.5	85.2	50.0	2.0	1.2
C32	Larynx	90.5	96.4	43.1	12.7	4.8	4.3
C33-C34	Trachea, Bronchus & Lung	68.2	85.0	81	35.5	36.4	14.4
C43	Melanoma of Skin	92.8	100	28	0	0.6	0.2
C50	Breast	76.8	93.8	44.4	16.8	0.6	1.2
C61	Prostate	83.1	90.4	27.6	19.9	11.5	11.3
C62	Testis	84.8	85.7	8.8	28.6	0.9	0.6
C64-C66	Kidney, Renal pelvis & Ureter	78.3	86.7	35	17.8	3	3.6
C67	Bladder	89.9	84.2	32	28.1	5.4	4.4
C70-C72	Brain, Central Nervous System	70.7	87.9	62	33.3	2.4	2.7
C73	Thyroid	88.9	92.1	11.2	10.5	1.6	2.9
C81-C85, C96	Lymphoma	90.4	100	38.7	17.3	6.3	10.1
C91-C95	Leukaemia	91	98.0	45.1	43.1	5.6	8.7
C76-C80	Unspecified	62.6	50.7	58.5	68.6	9	10.7
C00-C96 excluding C44	All sites (Excluding non-melanoma skin)	73.4	84.0	56.5	33.4	171.7	127.0

Table 18: Mean values of data quality indicators for comparison of cancer registries in Central, East and South Asia – Female 2014

ICD -10 Code and Site		MV% ¹		M:DC ²		ASR	
		Mean	Colombo	Mean	Colombo	Mean	Colombo
C00-C14	Oral Cavity & Pharynx	86	81.2	29.4	22.9	9.3	3.2
C15	Esophagus	77.3	78.1	66.2	42.9	2	2.6
C16	Stomach	73.1	70.0	57.6	55.0	7.4	1.2
C18-C21	Large bowel	86.4	90.7	44.2	19.3	14	8.9
C22	Liver	28.5	50.0	95.1	62.5	5	1.0
C25	Pancreas	45.8	42.9	82.8	57.1	2.2	0.9
C32	Larynx	83.9	77.9	40.7	22.2	0.7	0.6
C33-C34	Trachea, Bronchus & Lung	88.1	78.6	78.5	37.5	10.3	3.7
C43	Melanoma of Skin	93.3	100.0	36.7	0.0	0.3	0.1
C50	Breast	91	89.9	23.4	16.8	40.2	35.0
C53	Cervix uteri	89.5	89.4	30	18.2	15.7	10.2
C54-C55	Corpus Uteri & Uterus unspecified.	85.2	83.1	17.1	24.4	6.6	9.0
C56	Ovary	82.5	88.1	37.1	25.2	6	8.9
C64-C65	Kidney, Renal pelvis & Ureter	73.8	92.3	37.5	30.8	1.5	0.9
C67	Bladder	86.2	85.7	34	14.3	1.3	0.4
C70-C72	Brain, Central Nervous System	66.6	82.4	64	17.6	1.8	1.2
C73	Thyroid	92.4	98.8	8.6	3.7	5.1	11.9
C81-C85, C96	Lymphoma	89.2	98.9	41.3	25.8	5.3	6.1
C91-C95	Leukaemia	89.6	100.0	54.1	35.7	4.4	5.6
C76-C80	Unspecified	60.8	46.7	55	76.6	6.4	6.5
C00-C96 excluding C44	All sites (Excluding non-melanoma skin)	82	87.4	42.1	24.3	156.6	124.1

The percentage of 'Other and unspecified sites', including primary site unknown is related to the quality of diagnostic information and quality of documentation of the medical records.

Table 19: Distribution of ICD -10 and 'Other and unspecified sites' by Sex Colombo District - 2014

ICD -10 code & site	Male		Female	
	No.	%	No.	%
C26 Other & ill defined digestive organs	8	0.5	6	0.3
C48 Retroperitoneum & peritoneum	1	0.1	6	0.3
C76 Other and ill defined sites	19	1.2	15	0.8
C80 Unknown primary	121	7.3	92	4.9
Total	149	9.1	119	6.3



**Cancer Incidence and Mortality Data
Colombo District, Sri Lanka
2015**



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2015

Incidence of Cancers – Colombo District, Sri Lanka

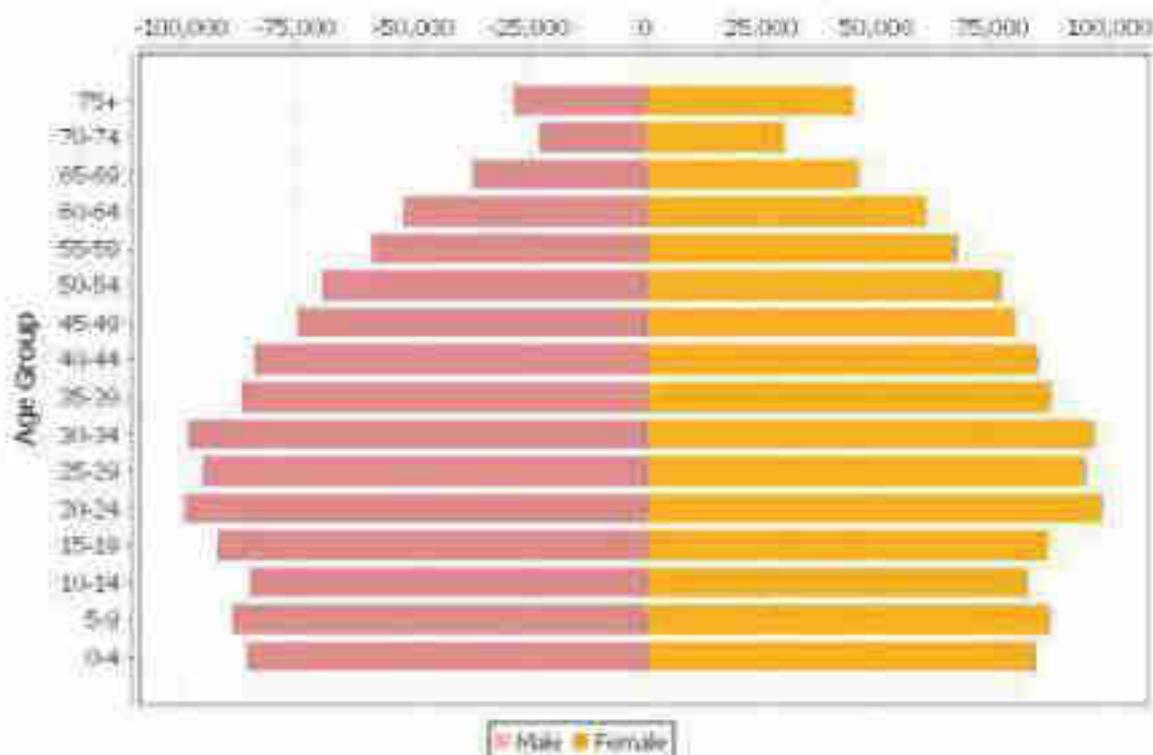


Figure 1: Population pyramid of Colombo district in 2015 by 5-year age groups

Table 1: Distribution of population according to sex in Colombo district and Sri Lanka- 2015

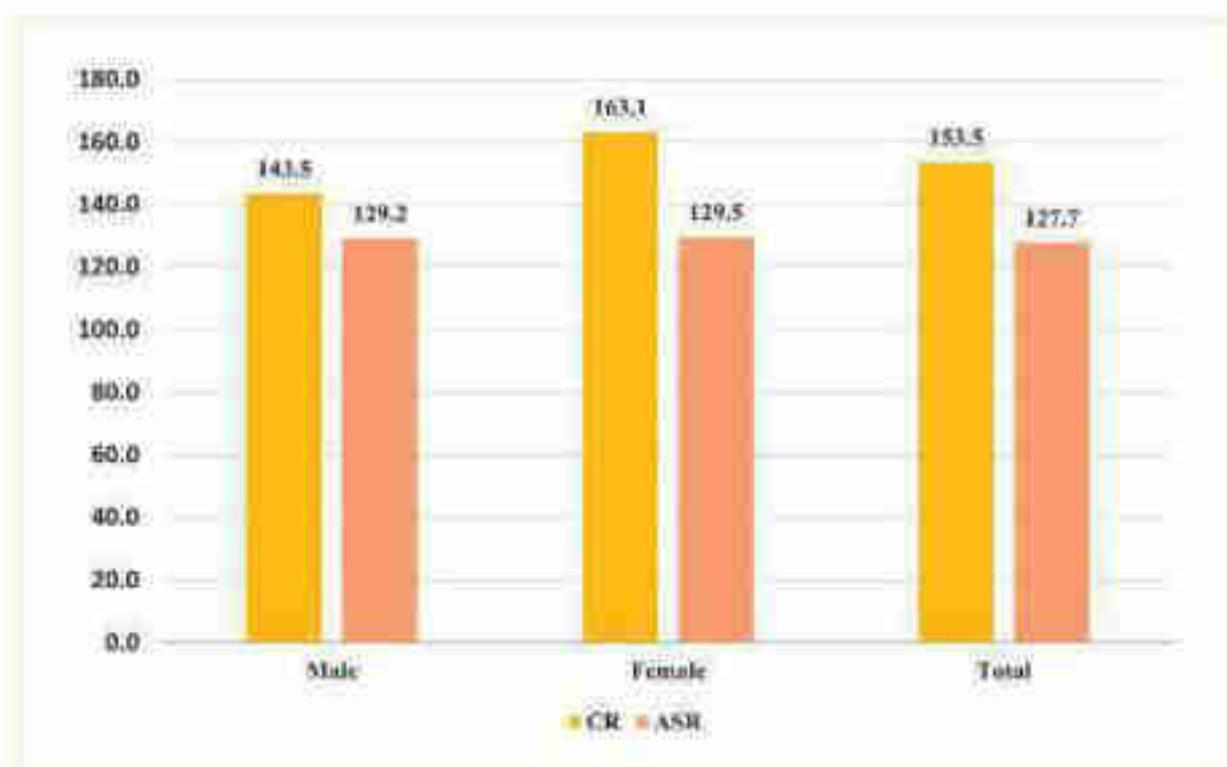
	Male	Female	Total
Colombo district	1161598 (49.1%)	1205807 (50.9%)	2367405 (100%)
Sri Lanka	10152762 (48.4%)	10817726 (51.6%)	20970488 (100%)

Table 2: Cancer incidence in Colombo district – 2015

	Number	%	*CIR	**ASR
Male	1,667	45.9	143.5	129.2
Female	1,967	54.1	163.1	129.5
Total	3,634	100.0	153.5	127.7

*CIR - Crude cancer incidence rate per 100,000 population

**ASR- age standardized cancer incidence rate per 100,000 population



* CR - Crude cancer incidence rate per 100,000 population

**ASR- Age Standardized cancer incidence rate per 100,000 population

Figure 2: Cancer incidence rates, Colombo districts- 2015

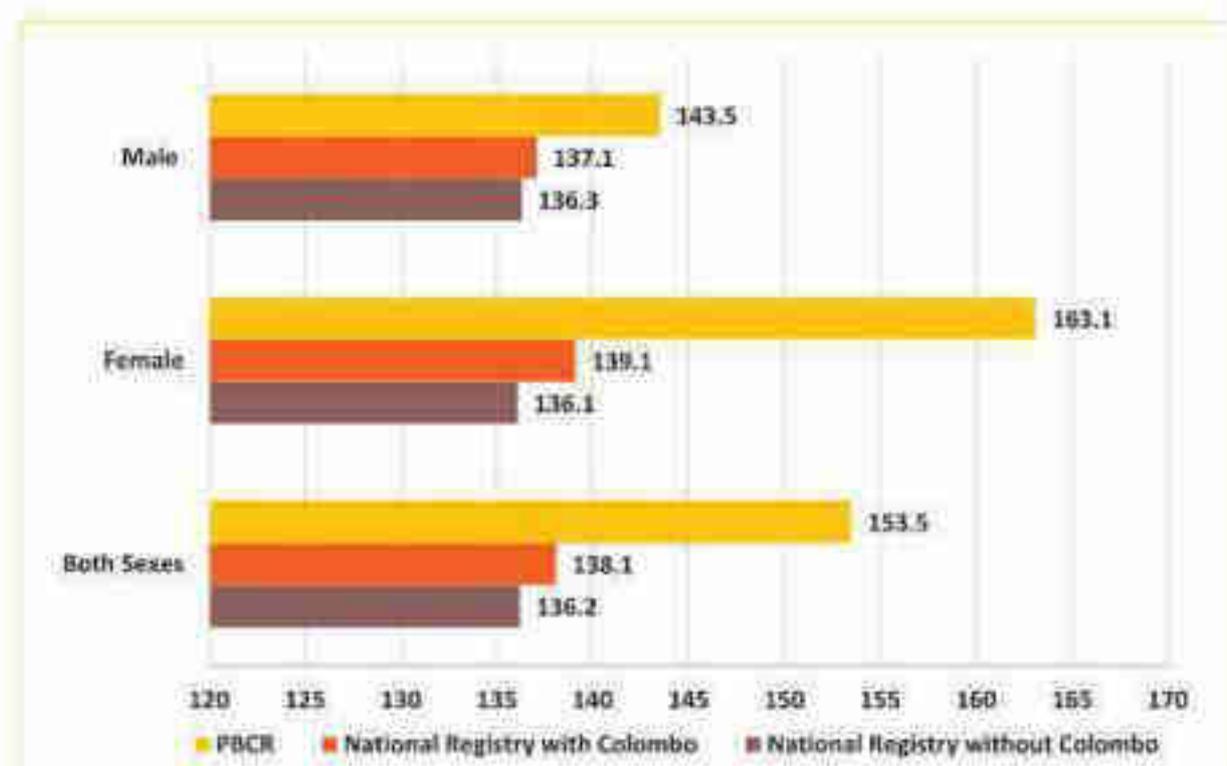


Figure 3: Comparison of crude incidence rates of Colombo PBCR, National Cancer Registry (including Colombo district) and National Cancer Registry (without Colombo district) - 2015

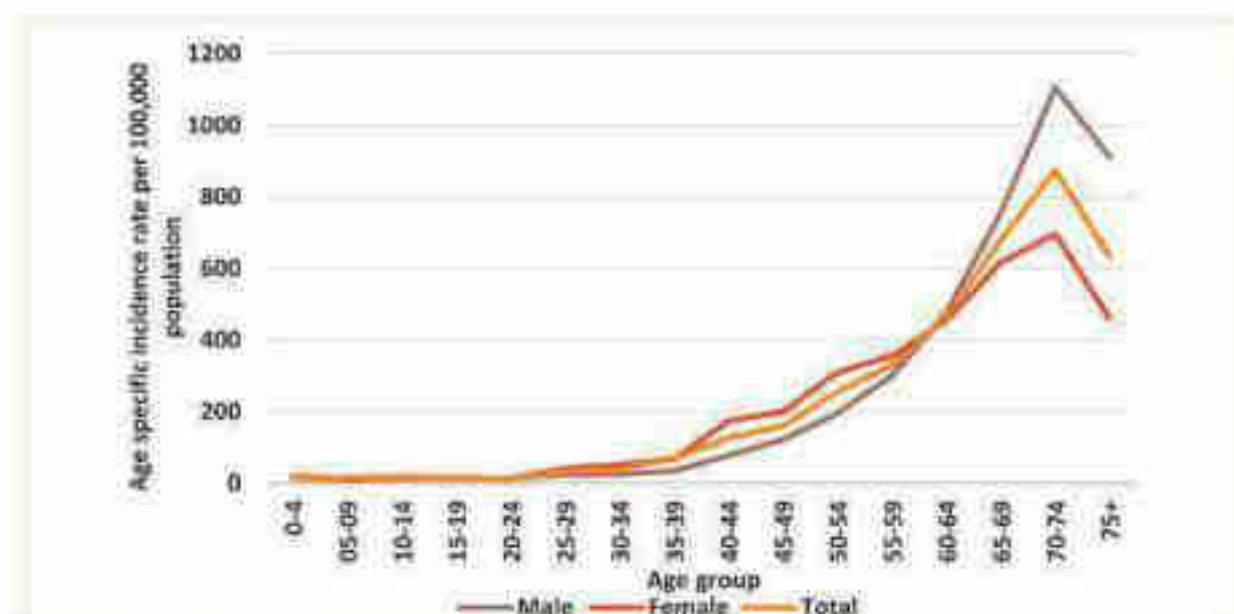


Figure 4: Age specific cancer incidence rates of Colombo district – 2015

Table 3: Cancer incidence of Colombo district by age and sex-2015

Age group	Male			Female			Total		
	Cases	Population	Incidence	Cases	Population	Incidence	Cases	Population	Incidence
Unknown	4			0			4		
00-04	13	85744	15.2	18	83947	21.4	31	169691	18.3
05-09	13	88999	14.6	7	87097	8.0	20	176096	11.4
10-14	14	85233	16.4	10	82218	12.2	24	167451	14.3
15-19	14	92278	15.2	13	86826	15.0	27	179104	15.1
20-24	13	99332	13.1	13	98287	13.2	26	197618	13.2
25-29	24	95406	25.2	39	94735	41.2	63	190141	33.1
30-34	25	98527	25.4	50	96641	51.7	75	195168	38.4
35-39	31	87012	35.6	60	87324	68.7	91	174337	52.2
40-44	65	84308	77.1	148	84384	175.4	213	168692	126.9
45-49	92	75129	122.5	159	79627	199.7	251	154757	161.5
50-54	137	69771	196.4	238	76633	310.6	375	146404	256.1
55-59	178	59082	301.3	239	67069	356.4	417	126150	330.6
60-64	249	52167	477.3	274	60361	453.9	523	112528	464.8
65-69	282	37243	757.2	284	45941	618.2	566	83184	680.4
70-74	254	22947	1106.9	208	29865	696.5	462	52813	874.8
75+	259	28419	911.4	207	44854	461.5	466	73273	636.0
Total	1667	1161598	143.5	1967	1205807	163.1	3634	2367405	153.3

Age Sp. In.rate – Age specific incidence rate per 100,000 population.

Leading cancer sites

Table 4: Leading sites of cancer incidence of Colombo district by sex – 2015

Male					Female				
ICD-10 code	Site	Cases	CR	ASR	ICD-10 code	Site	Cases	CR	ASR
C33-C34	Trachea, bronchus and lung	178	15.3	13.7	C50	Breast	542	44.9	35.2
C61	Prostate	148	12.7	11.4	C73	Thyroid	185	15.3	12.9
C00-C06	Lip, tongue and mouth	146	12.6	11.0	C56	Ovary	171	14.2	11.6
C18-C20	Colon and rectum	113	9.7	8.6	C18-C20	Colon and rectum	151	12.5	9.3
C81-C85, C96	Lymphoma	92	7.9	7.4	C53	Cervix uteri	143	11.9	9.1
C09-C14	Pharynx	87	7.4	6.7	C54-C55	Uterus	123	10.2	7.9
C67	Bladder	84	7.2	6.5	C33-C34	Trachea, bronchus and lung	68	5.6	4.3
C15	Oesophagus	75	6.5	5.8	C91-C95	Leukaemia	57	4.7	4.5
C91-C95	Leukaemia	70	6.0	6.0	C00-C06	Lip, tongue and mouth	51	4.3	3.3
C16	Stomach	64	5.5	4.8	C15	Oesophagus	49	4.1	2.9
	All sites	1667	143.5	129.2		All sites	1967	163.1	129.5

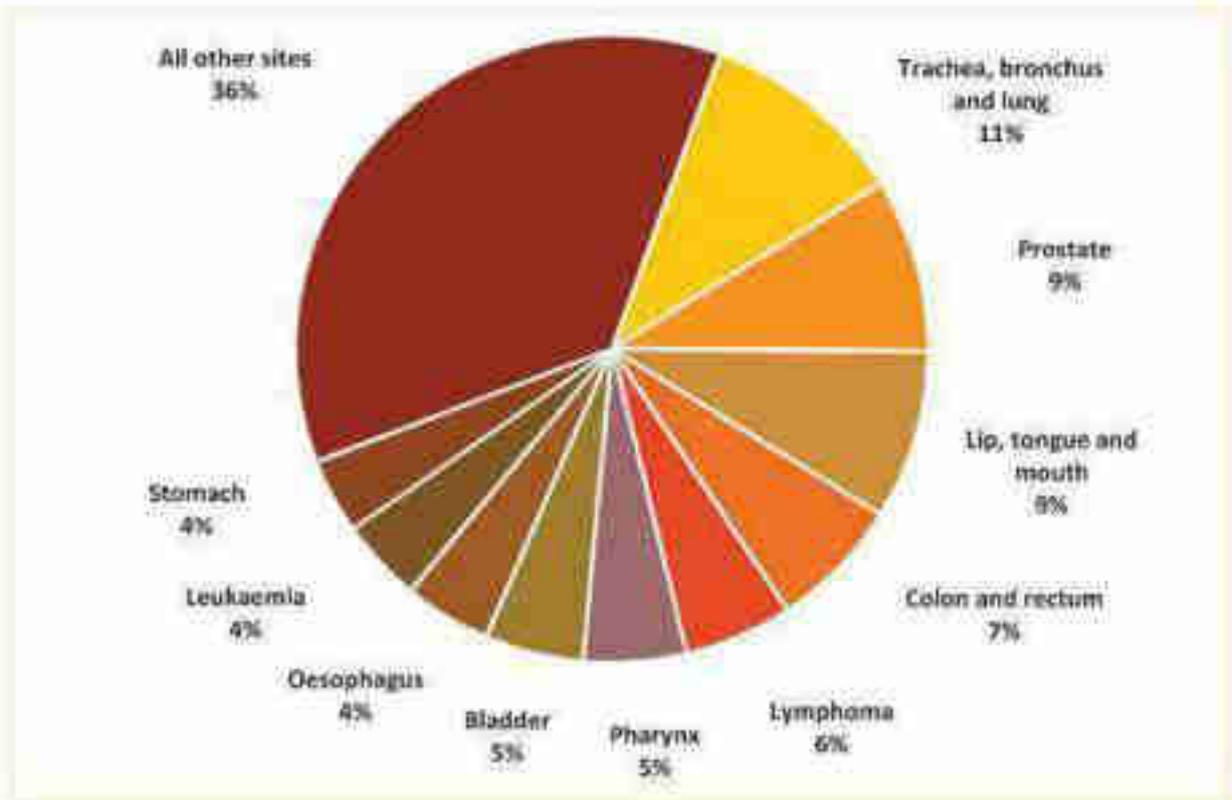


Figure 5: Proportion of incidence of leading cancers in the Colombo district– Male 2015

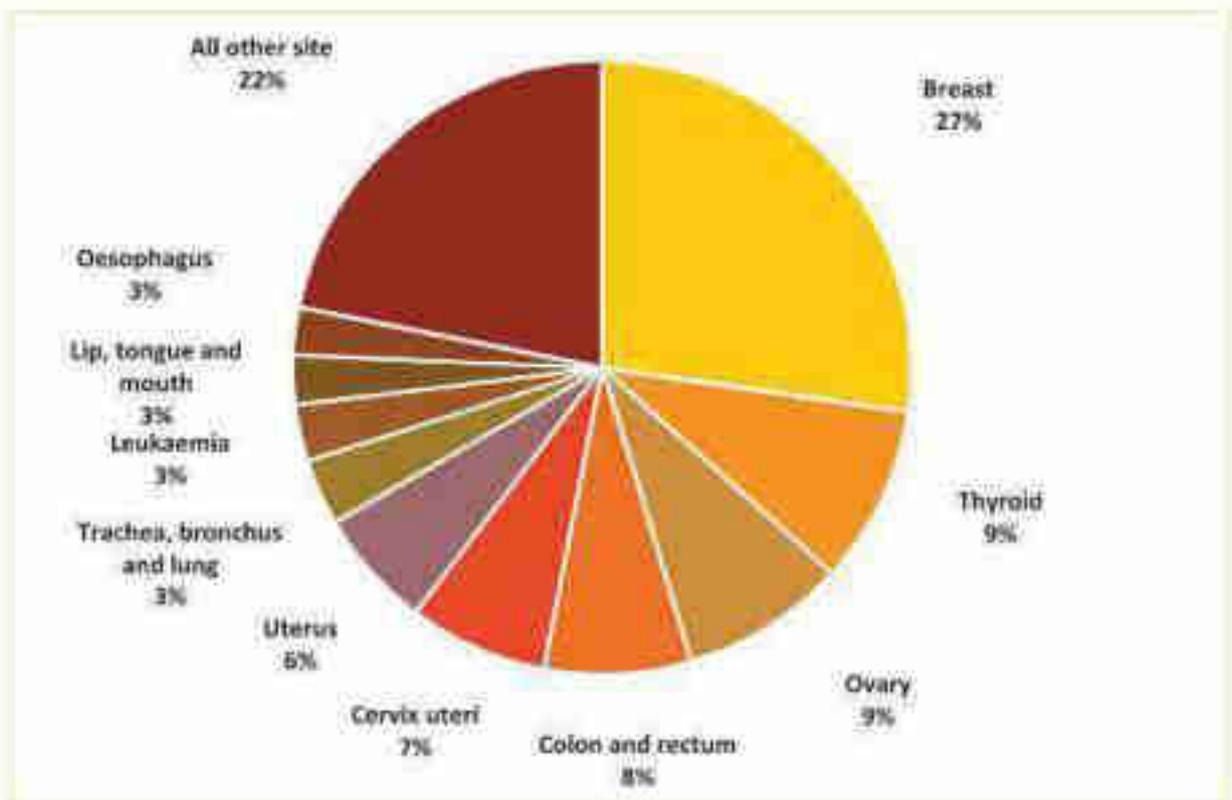


Figure 6: Proportion of incidence of leading cancers in the Colombo district– Female 2015

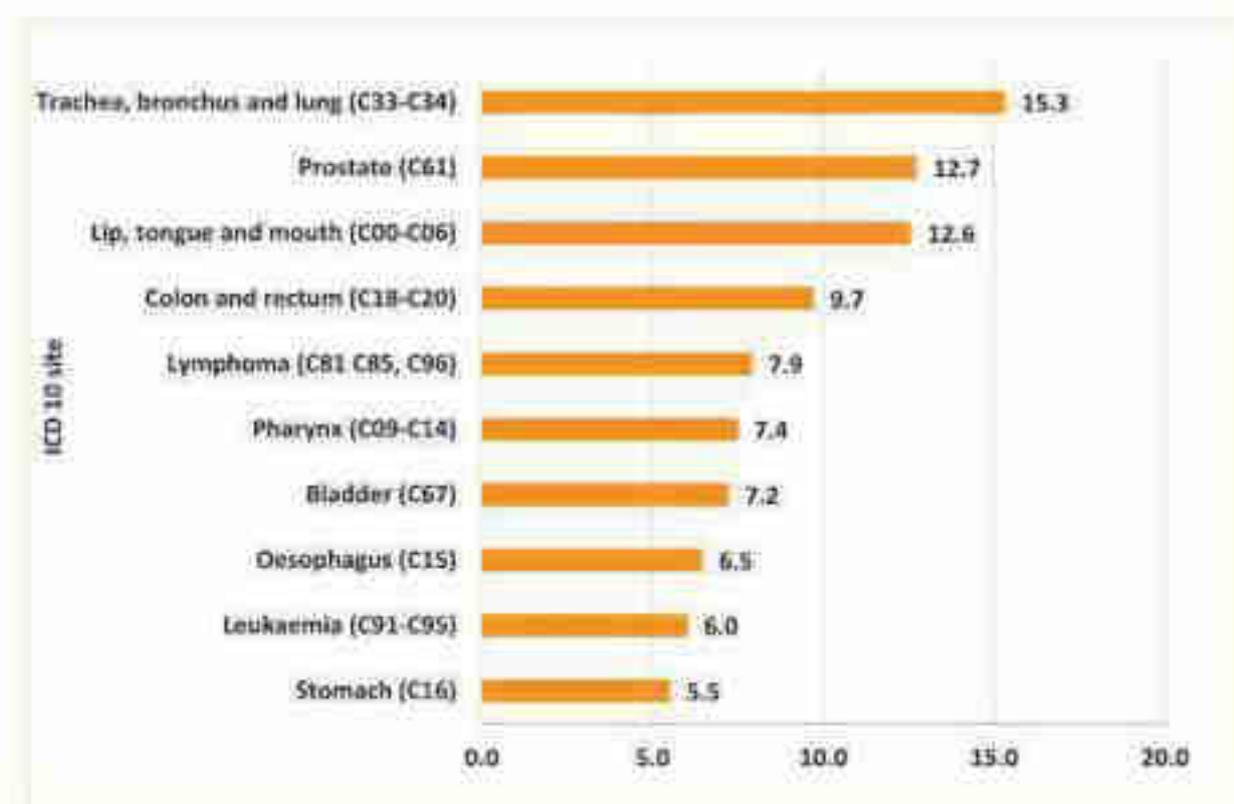


Figure 7: Crude incidence of leading cancers in the Colombo district– Male 2015

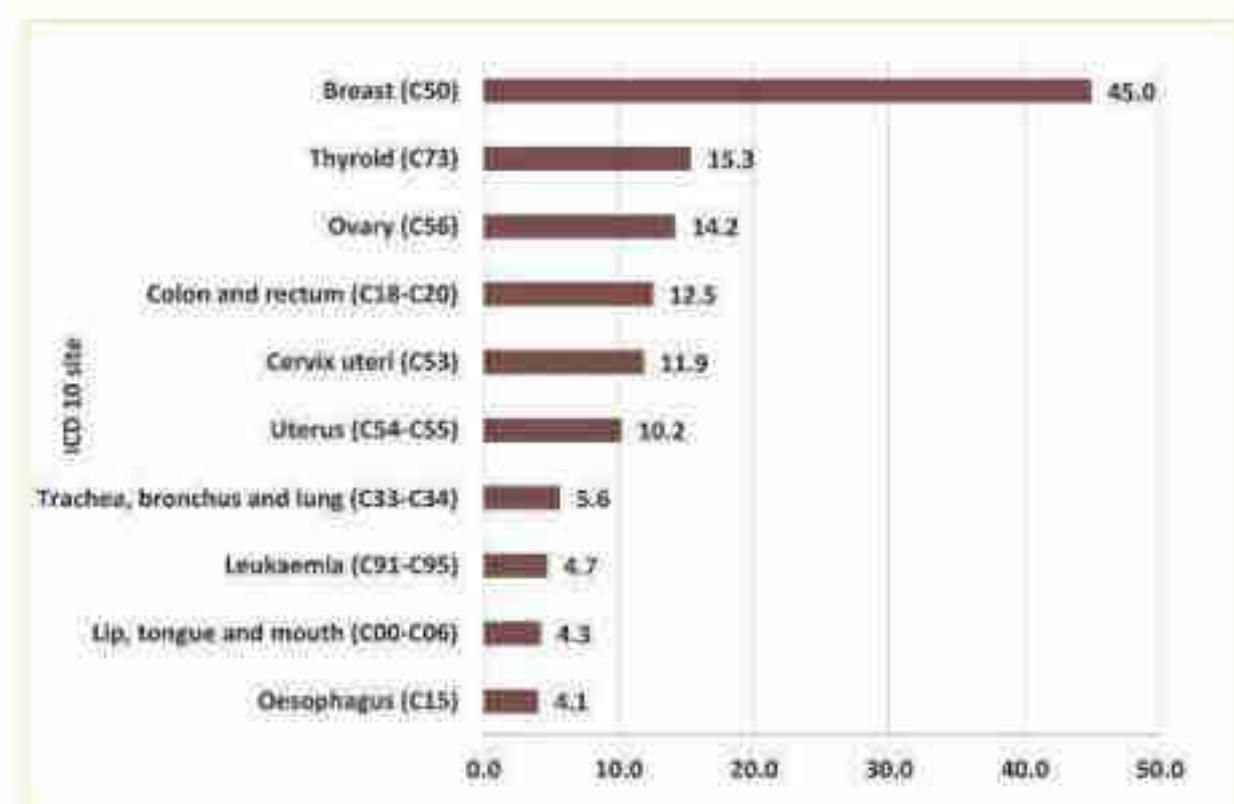


Figure 8: Crude incidence of leading cancers in the Colombo district– Female 2015

Comparison of age standardized cancer incidence rates of leading cancers of 'Population based cancer registry of Colombo district' with the 'National Cancer Registry of Sri Lanka' - 2015

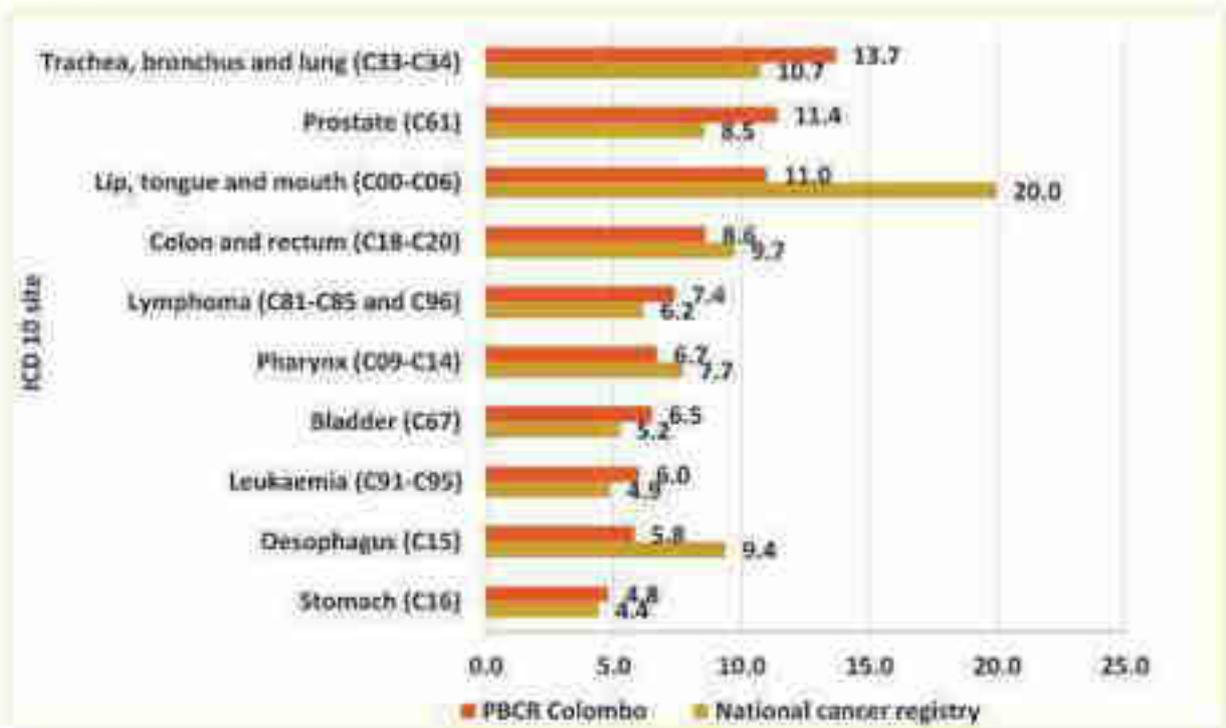


Figure 9: Age standardized incidence rates of leading cancers among males in year 2015 - PBCR Colombo district vs National Cancer Registry

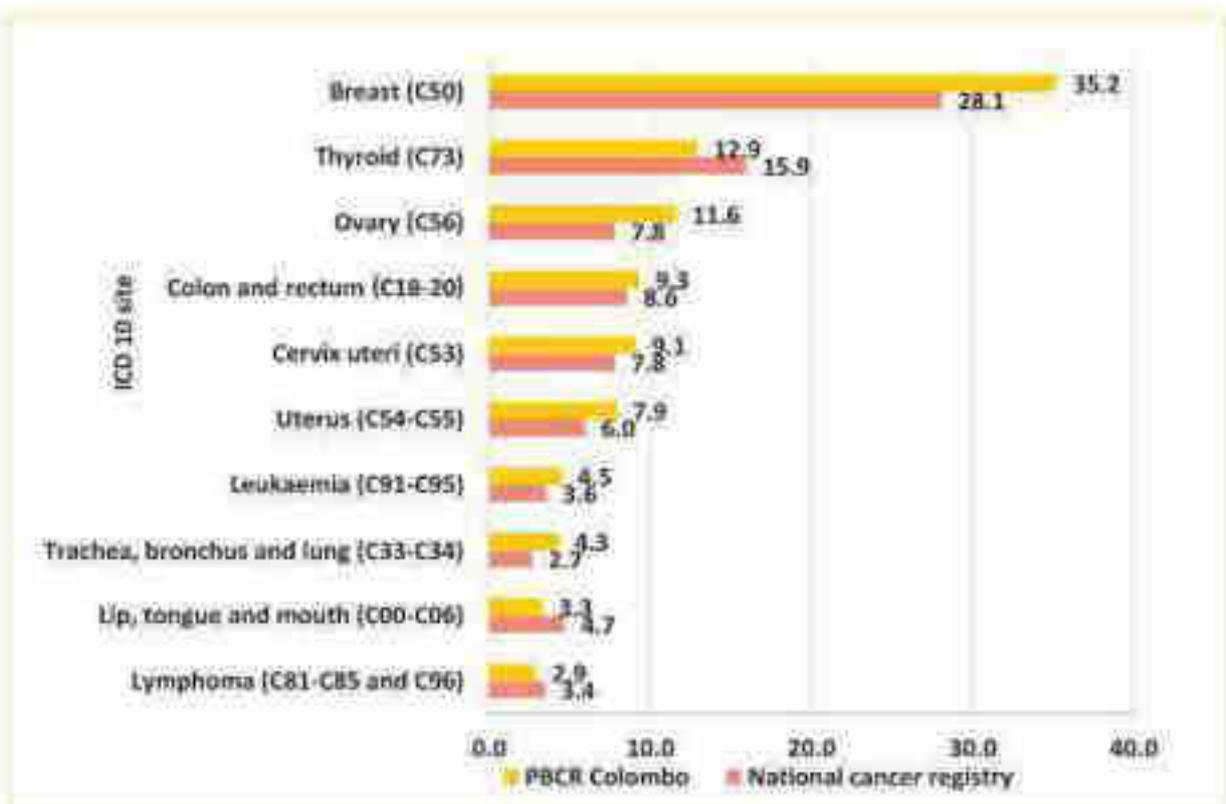


Figure 10: Age standardized incidence rates of leading cancers among females in year 2015 - PBCR Colombo district vs National Cancer Registry, Sri Lanka

Table 6: Number of incidence cancers by five-year age group and site (ICD 10): 2015 -- Females Colombo district
Population Based Cancer registry Colombo district 2015

Colombo District - 2015

Cases by age group (thous) - Female

TYPE	ALL AGE	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	ICD
Leuk	2																	C82
Lymph	23																	C81
Melan	2																	C86
Indiv. glist	2																	C80
Tumor	2																	C80
Other myeloid	8																	C82
Neuroblast	3																	C89
Hypopharynx	3																	C15
Esophagus	3																	C15
Bladder	2																	C57
Ovary	49																	C68
Uterus	14																	C69
Small intestine	4																	C68
Colon	23																	C68
Rectum	7																	C68
Anal	2																	C61
Esophagus	22																	C15
Stomach	18																	C16
Bladder	38																	C57
Prostate	3																	C61
Rectum	3																	C61
Esophagus	28																	C15
Stomach	2																	C16
Other digestive	2																	C15
Small	18																	C68
Rectum	2																	C61
Other site	2																	C61
Bladder	2																	C57
Esophagus	2																	C15
Stomach	2																	C16
Other digestive	2																	C15
Rectum	34																	C61
Bladder	2																	C57
Esophagus	2																	C15
Stomach	2																	C16
Other digestive	2																	C15
Rectum	2																	C61
Bladder	2																	C57
Esophagus	2																	C15
Stomach	2																	C16
Other digestive	2																	C15
Rectum	2																	C61
Bladder	2																	C57
Esophagus	2																	C15
Stomach	2																	C16
Other digestive	2																	C15
Rectum	2																	C61
Bladder	2																	C57
Esophagus	2																	C15
Stomach	2																	C16
Other digestive	2																	C15
Rectum	2																	C61
Bladder	2																	C57
Esophagus	2																	C15
Stomach	2																	C16
Other digestive	2																	C15
Rectum	2																	C61
Bladder	2																	C57
Esophagus	2																	C15
Stomach	2																	C16
Other digestive	2																	C15
Rectum	2																	C61
Bladder	2																	C57
Esophagus	2																	C15
Stomach	2																	C16
Other digestive	2																	C15
Rectum	2																	C61
Bladder	2																	C57
Esophagus	2																	C15
Stomach	2																	C16
Other digestive	2																	C15
Rectum	2																	C61
Bladder	2																	C57
Esophagus	2																	C15
Stomach	2																	C16
Other digestive	2																	C15
Rectum	2																	C61
Bladder	2																	C57
Esophagus	2																	C15
Stomach	2																	C16
Other digestive	2																	C15
Rectum	2																	C61
Bladder	2																	C57
Esophagus	2																	C15
Stomach	2																	C16
Other digestive	2																	C15
Rectum	2																	C61
Bladder	2																	C57
Esophagus	2																	C15
Stomach	2																	C16
Other digestive	2																	C15
Rectum	2																	C61
Bladder	2																	C57
Esophagus	2																	C15
Stomach	2																	C16
Other digestive	2																	C15
Rectum	2																	C61
Bladder	2																	C57
Esophagus	2																	C15
Stomach	2																	C16
Other digestive	2																	C15
Rectum	2																	C61
Bladder	2																	C57
Esophagus	2																	C15
Stomach	2																	C16
Other digestive	2																	C15
Rectum	2																	C61
Bladder	2																	C57
Esophagus	2			</														

Table 8: Age specific incidence rate, Crude incidence rate (CR), Age standardized incidence rate (ASIR) per 100,000 population & Cumulative risk of cancers by five-year age group and site (ICD 10) : 2015 – Females Colombo district

Population Based Cancer Registry Colombo district 2015

Cancer Incidence Data 2015
Incidence per 100,000 by Age group (Female) - Female

ICD-10	Age	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85-89	90-94	95-99	Crude Rate	ASIR (95% CI)	ASIR (95% CI)
00													0.2	0.1	0.0
01													1.9	1.2	0.7
02													2.2	1.3	0.8
03													0.4	0.1	0.0
04													0.5	0.1	0.0
05													0.0	0.0	0.0
06													0.2	0.1	0.0
07													0.4	0.1	0.0
08													0.3	0.1	0.0
09													4.1	2.1	1.4
10													1.9	1.0	0.6
11													0.1	0.0	0.0
12													6.2	3.0	2.0
13													6.3	3.0	2.0
14													6.3	3.0	2.0
15													6.3	3.0	2.0
16													6.3	3.0	2.0
17													6.3	3.0	2.0
18													6.3	3.0	2.0
19													6.3	3.0	2.0
20													6.3	3.0	2.0
21													6.3	3.0	2.0
22													6.3	3.0	2.0
23													6.3	3.0	2.0
24													6.3	3.0	2.0
25													6.3	3.0	2.0
26													6.3	3.0	2.0
27													6.3	3.0	2.0
28													6.3	3.0	2.0
29													6.3	3.0	2.0
30													6.3	3.0	2.0
31													6.3	3.0	2.0
32													6.3	3.0	2.0
33													6.3	3.0	2.0
34													6.3	3.0	2.0
35													6.3	3.0	2.0
36													6.3	3.0	2.0
37													6.3	3.0	2.0
38													6.3	3.0	2.0
39													6.3	3.0	2.0
40													6.3	3.0	2.0
41													6.3	3.0	2.0
42													6.3	3.0	2.0
43													6.3	3.0	2.0
44													6.3	3.0	2.0
45													6.3	3.0	2.0
46													6.3	3.0	2.0
47													6.3	3.0	2.0
48													6.3	3.0	2.0
49													6.3	3.0	2.0
50													6.3	3.0	2.0
51													6.3	3.0	2.0
52													6.3	3.0	2.0
53													6.3	3.0	2.0
54													6.3	3.0	2.0
55													6.3	3.0	2.0
56													6.3	3.0	2.0
57													6.3	3.0	2.0
58													6.3	3.0	2.0
59													6.3	3.0	2.0
60													6.3	3.0	2.0
61													6.3	3.0	2.0
62													6.3	3.0	2.0
63													6.3	3.0	2.0
64													6.3	3.0	2.0
65													6.3	3.0	2.0
66													6.3	3.0	2.0
67													6.3	3.0	2.0
68													6.3	3.0	2.0
69													6.3	3.0	2.0
70													6.3	3.0	2.0
71													6.3	3.0	2.0
72													6.3	3.0	2.0
73													6.3	3.0	2.0
74													6.3	3.0	2.0
75													6.3	3.0	2.0
76													6.3	3.0	2.0
77													6.3	3.0	2.0
78													6.3	3.0	2.0
79													6.3	3.0	2.0
80													6.3	3.0	2.0
81													6.3	3.0	2.0
82													6.3	3.0	2.0
83													6.3	3.0	2.0
84													6.3	3.0	2.0
85													6.3	3.0	2.0
86													6.3	3.0	2.0
87													6.3	3.0	2.0
88													6.3	3.0	2.0
89													6.3	3.0	2.0
90													6.3	3.0	2.0
91													6.3	3.0	2.0
92													6.3	3.0	2.0
93													6.3	3.0	2.0
94													6.3	3.0	2.0
95													6.3	3.0	2.0
96													6.3	3.0	2.0
97													6.3	3.0	2.0
98													6.3	3.0	2.0
99													6.3	3.0	2.0
00													6.3	3.0	2.0

Mortality of Cancers

Table 9: Distribution of cancer related deaths reported by Divisional Death Registrars of Colombo district in year 2015

Resident district of the deceased person	No.	%
Colombo	897	36.0
Another district other than Colombo	1029	41.6
District not known	554	22.4
Total	2480	100

Table 10: Distribution of no. of deaths, cancer related crude death rate and age standardized death rate among the residents of Colombo district in the year 2015

	Number	%	CR	ASDR
Male	490	54.6	42.2	37.8
Female	407	45.4	33.8	25.8
Total	897	100	37.9	31.0

CR: Cancer related crude death rate per 100,000 population.

ASDR - Cancer related age standardized death rate per 100,000 population.

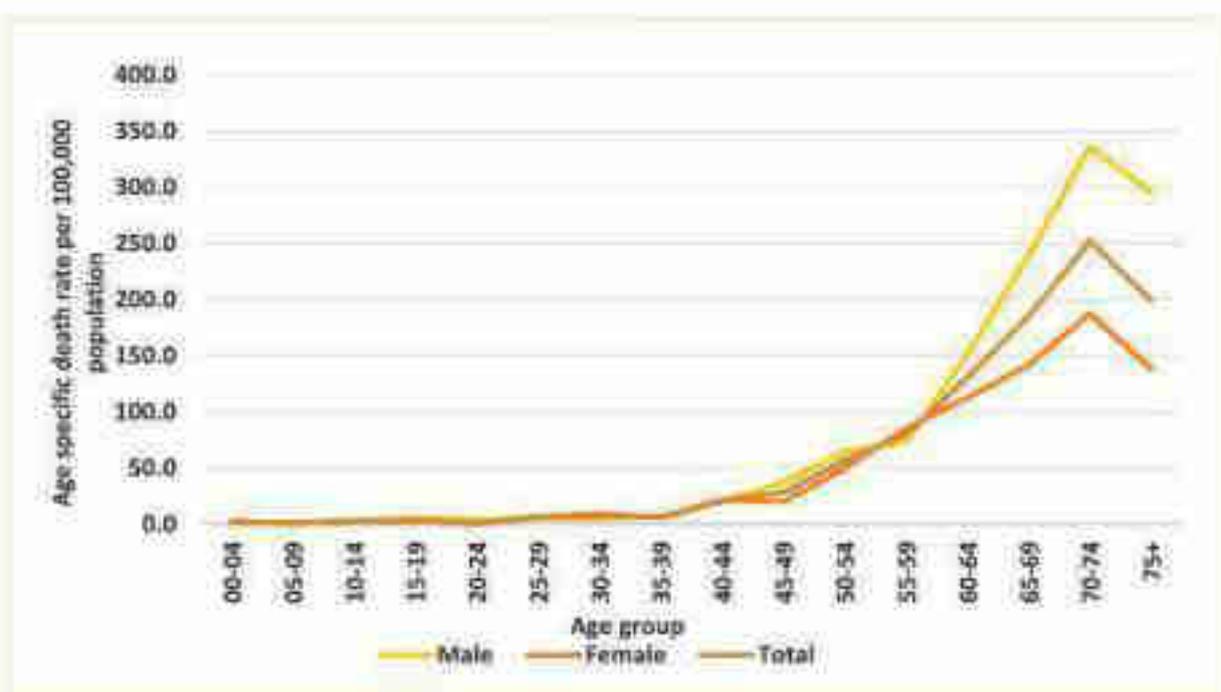


Figure 11: Age specific cancer deaths rates of Colombo district – 2015

Table 11: Cancer related deaths of Colombo district by age group and sex – 2015

Age group	Male			Female			Total		
	Cases	Population	Incidence	Cases	Population	Incidence	Cases	Population	Incidence
Unknown	0			1			1		
00-04	1	85744	1.2	2	83947	2.4	3	169691	1.8
05-09	1	88999	1.1	0	87097	0.0	1	176096	0.6
10-14	2	85233	2.3	2	82218	2.4	4	167451	2.4
15-19	5	92278	5.4	2	86826	2.3	7	179104	3.9
20-24	3	99332	3.0	0	98287	0.0	3	197618	1.5
25-29	5	95406	5.2	6	94735	6.3	11	190141	5.8
30-34	5	98527	5.1	9	96641	9.3	14	195168	7.2
35-39	6	87032	6.9	5	87324	5.7	11	174337	6.3
40-44	17	84308	20.2	18	84384	21.3	35	168692	20.7
45-49	28	75129	37.3	16	79627	20.1	44	154757	28.4
50-54	45	69771	64.5	38	76633	49.6	83	146404	56.7
55-59	43	59082	72.8	57	67069	85.0	100	126150	79.3
60-64	79	52167	151.4	68	60361	112.7	147	112528	130.6
65-69	89	37243	239.0	65	45941	141.5	154	83184	185.1
70-74	77	22947	335.6	56	29865	187.5	133	52813	251.8
75+	84	28419	295.6	62	44854	138.2	146	73273	199.3
Total	490	1161598	42.2	407	1205807	33.8	897	2367405	37.9

Ag.Sp.Rate- Age specific death rate per 100,000 population

Leading sites (ICD 10) of cancer mortality

Table 12: Leading sites of cancer mortality of Colombo district – male and female 2015

Male					Female				
ICD 10 code	Site	Cases	CR	ASR	ICD 10 code	Site	Cases	CR	ASR
C33-C34	Trachea, bronchus and lung	79	6.8	6.1	C50	Breast	93	7.7	5.9
C61	Prostate	36	3.1	2.8	C56	Ovary	37	3.1	2.3
C22	Liver	36	3.1	2.8	C53	Cervix uteri	26	2.2	1.6
C00-C06	Lip, tongue and mouth	34	3.0	2.6	C33-C34	Trachea, bronchus and lung	23	1.9	1.5
C09-C14	Pharynx	26	2.3	2.0	C54-C55	Uterus	22	1.9	1.4
C15	Oesophagus	25	2.2	2.0	C18-C20	Colon and rectum	19	1.6	1.2
C32	Larynx	16	1.4	1.2	C15	Oesophagus	16	1.3	1.0
C18-C20	Colon and rectum	15	1.3	1.1	C70-72	Brain, nervous system	14	1.2	0.9
C70-C72	Brain, nervous system	15	1.3	1.2	C00-C06	Lip, tongue and mouth	10	0.8	0.6
C16	Stomach	14	1.2	1.0	C91-C95	Leukaemia	9	0.7	0.6
	All sites	490	42.2	37.8		All sites	407	33.8	25.8

CR - Crude death rate per 100,000 population

ASR - Age standardized death rate per 100,000 population

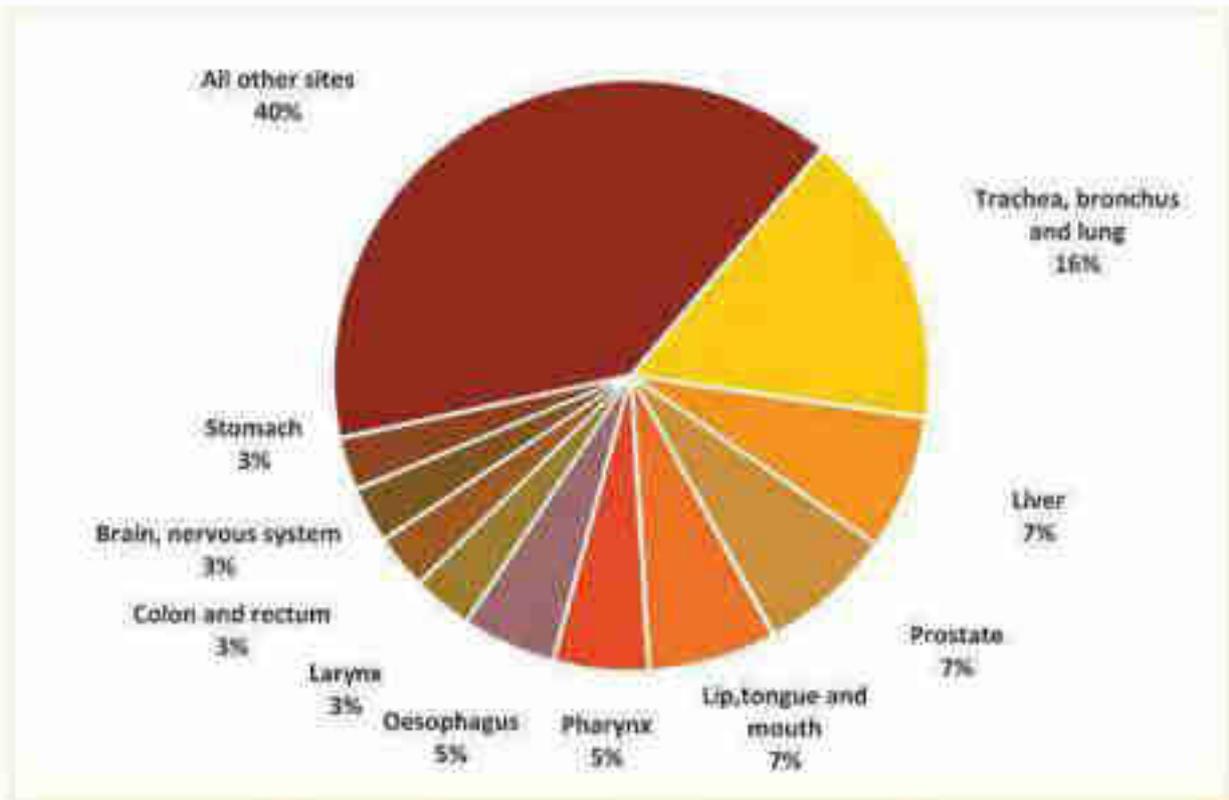


Figure 12: Proportion of leading cancer deaths, Male – 2015

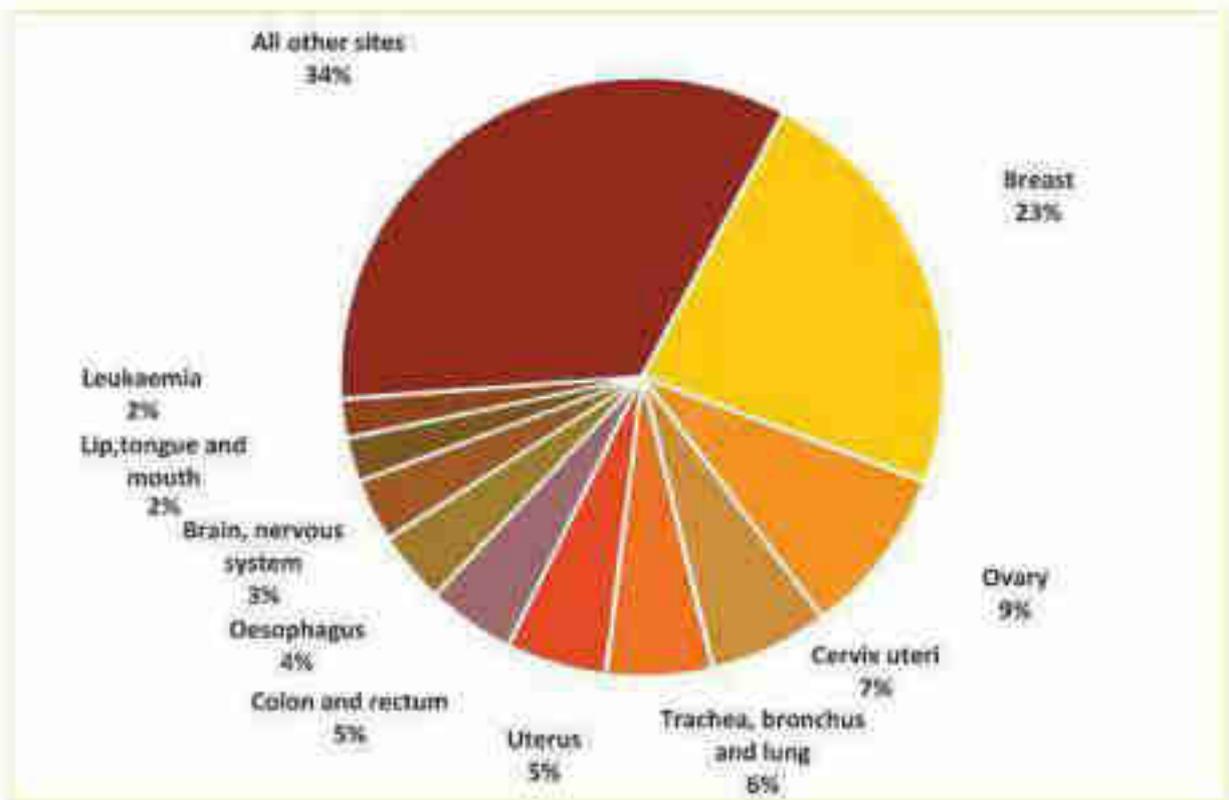


Figure 13: Proportion of leading cancer deaths, Female - 2015

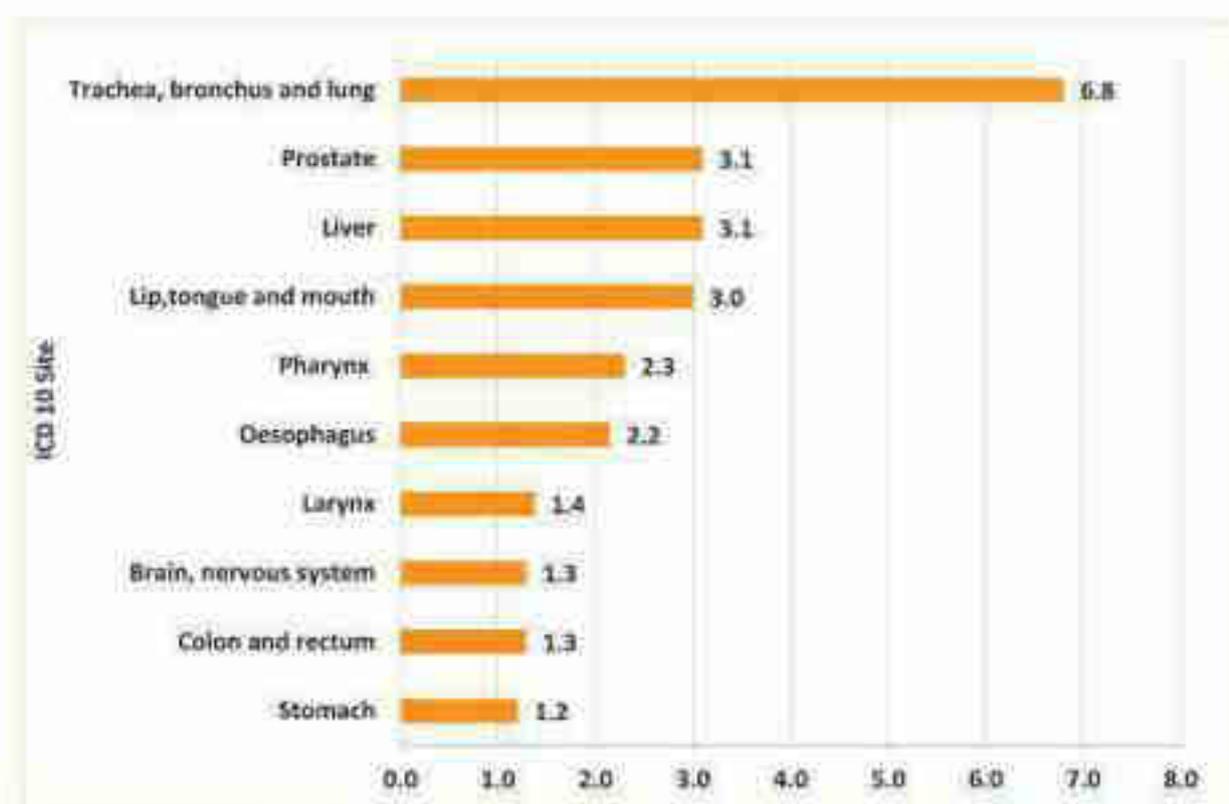


Figure 14: Crude death rate of leading cancer related deaths in the Colombo district- Male 2015

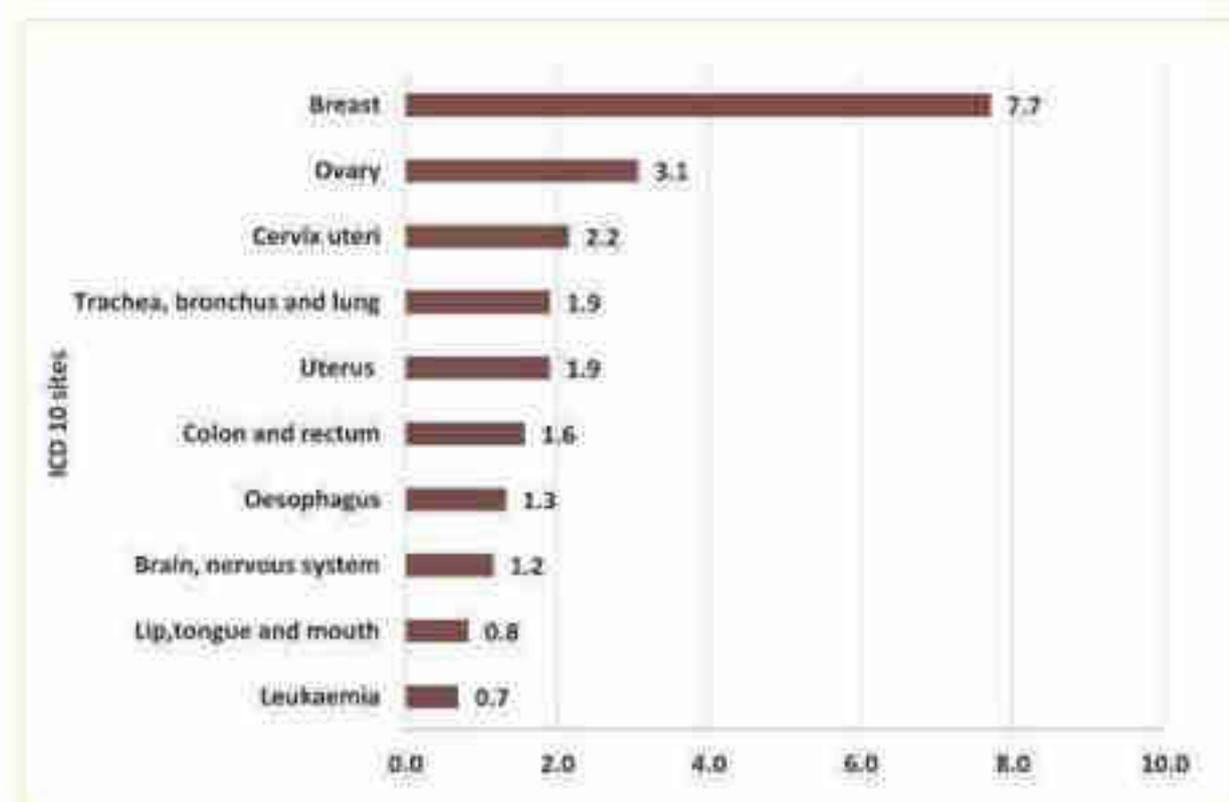


Figure 15: Crude death rate of leading cancer related deaths in the Colombo district- Female 2015

Table 14: Number of Cancer deaths by five year age group and ICD 10 site in Colombo district - Female 2015
Population Based Cancer Registry Colombo district 2015

Cancer Mortality year 2015
Cases by age group (years) - Female

ICD 10	ALL AGE GROUP	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85-89	90-94	95-99	Total	ICD 10
L01	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C08
L02	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C09
L03	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C10
L04	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C11
L05	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C12
L06	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C13
L07	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C14
L08	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C15
L09	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C16
L10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C17
L11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C18
L12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C19
L13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C20
L14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C21
L15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C22
L16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C23
L17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C24
L18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C25
L19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C26
L20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C27
L21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C28
L22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C29
L23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C30
L24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C31
L25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C32
L26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C33
L27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C34
L28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C35
L29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C36
L30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C37
L31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C38
L32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C39
L33	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C40
L34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C41
L35	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C42
L36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C43
L37	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C44
L38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C45
L39	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C46
L40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C47
L41	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C48
L42	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C49
L43	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C50
L44	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C51
L45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C52
L46	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C53
L47	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C54
L48	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C55
L49	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C56
L50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C57
L51	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C58
L52	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C59
L53	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C60
L54	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C61
L55	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C62
L56	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C63
L57	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C64
L58	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C65
L59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C66
L60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C67
L61	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C68
L62	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C69
L63	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C70
L64	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C71
L65	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C72
L66	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C73
L67	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C74
L68	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C75
L69	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C76
L70	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C77
L71	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C78
L72	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C79
L73	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C80
L74	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C81
L75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C82
L76	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C83
L77	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C84
L78	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C85
L79	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C86
L80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C87
L81	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C88
L82	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C89
L83	0	0	0	0	0																	

Incidence and Mortality of leading cancers – 2015

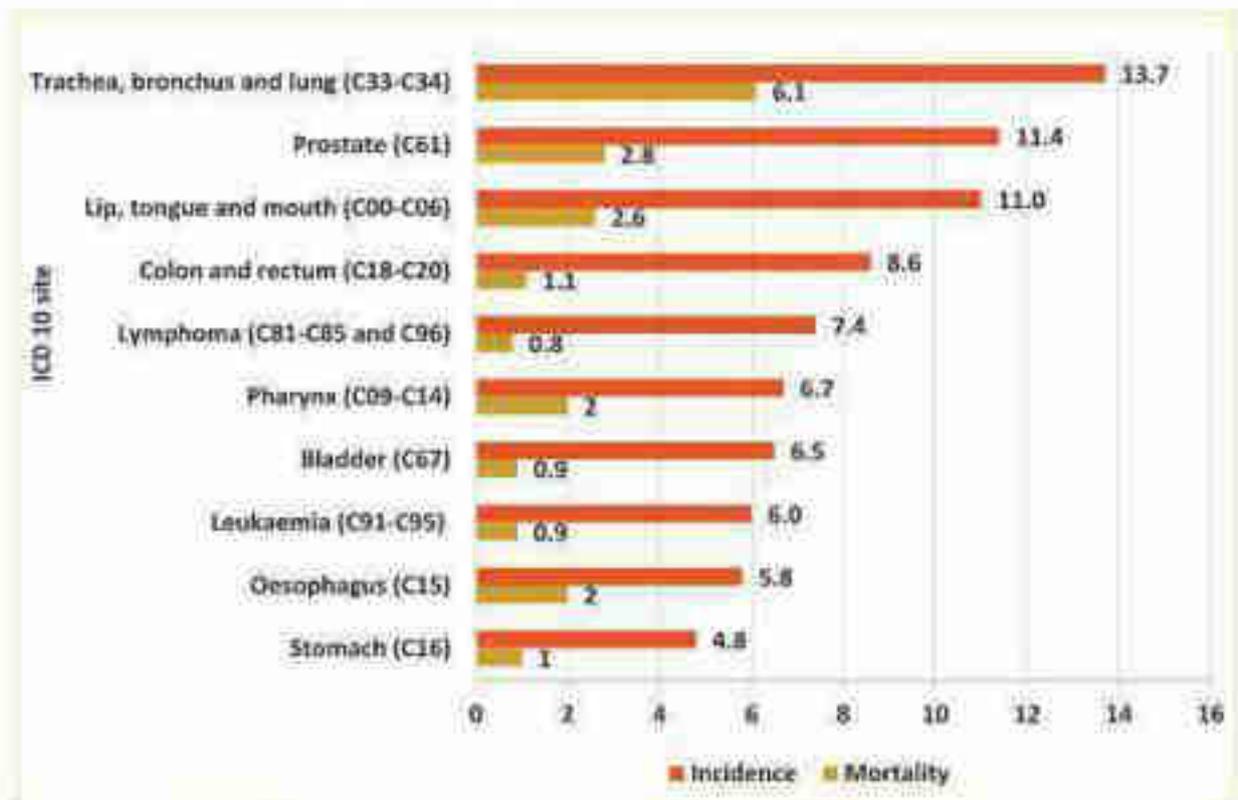


Figure 16: Age standardized incidence rates and death rates of leading cancers in Colombo district - Male, 2015

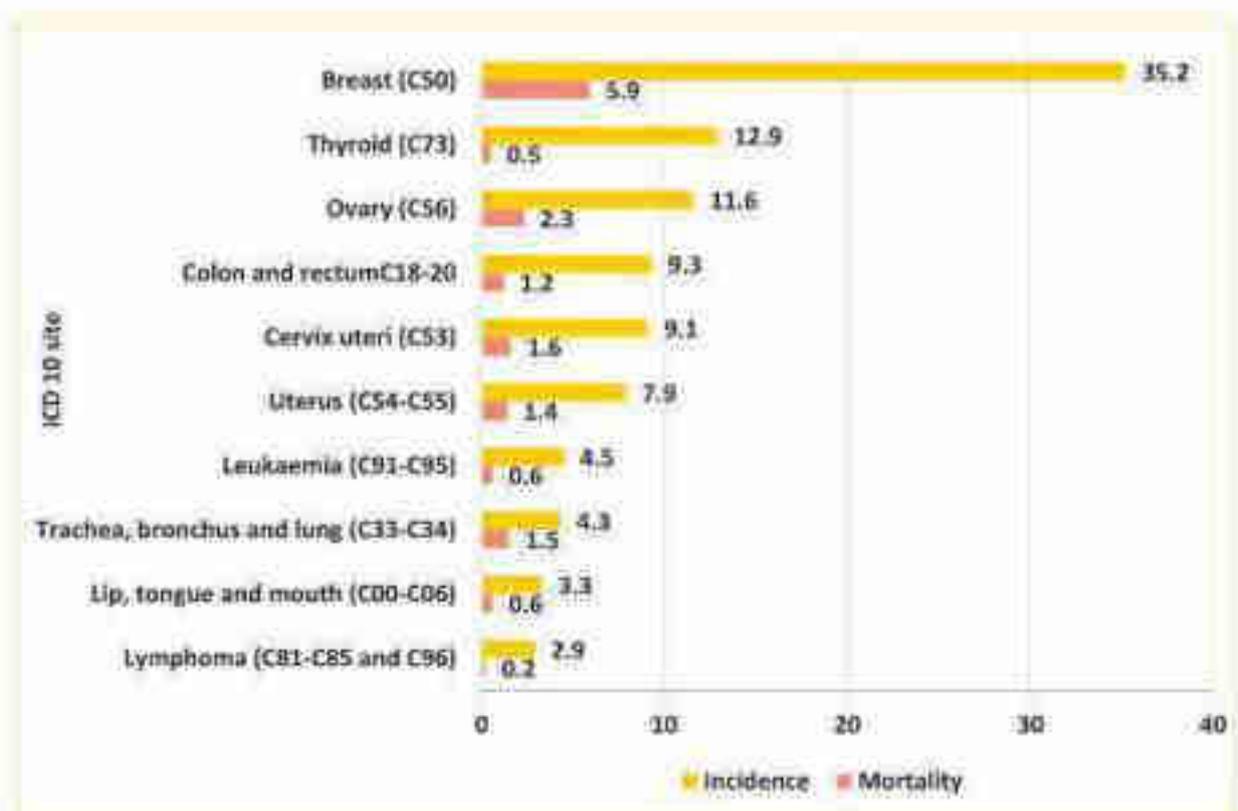


Figure 17: Age standardized incidence rates and death rates of leading cancers in Colombo district - Female, 2015

Quality Control

Table 17: Mean values of data quality indicators for comparison of cancer registries in Central, East and South Asia – Male 2015

ICD-10 code and site	MYS		SE-19		ASR	
	Mean	Colombo	Mean	Colombo	Mean	Colombo
C00-C14 Oral Cavity & Pharynx	88.9	78.1	37	25.6	17	18.3
C15 Oesophagus	78.5	62.7	86.6	11.3	1.6	5.8
C16 Stomach	74.1	68.3	60.3	22.2	13.9	4.8
C18-C21 Large bowel	86.4	70.9	42.9	15.0	18.8	9.7
C22 Liver	29.2	83.8	86.7	97.3	16.5	3.0
C25 Pancreas	44.7	33.3	85.2	28.6	2.9	1.6
C32 Larynx	90.5	78.7	43.1	26.2	4.8	4.7
C33-C34 Trachea, Bronchus & Lung	68.2	59.0	81	44.4	36.4	13.7
C43 Melanoma of Skin	92.8	100	28	0.0	0.6	0.1
C50 Breast	76.8	70.0	44.4	40.0	0.6	0.7
C61 Prostate	83.1	44.6	27.6	24.3	11.5	11.4
C62 Testis	84.8	66.7	8.8	8.3	0.9	0.9
C64-C66 Kidney, Renal pelvis & Ureter	78.3	72.6	35	9.8	3	3.9
C67 Bladder	89.9	50.0	32	14.3	5.4	6.5
C70-C72 Brain, Central Nervous System	70.7	93.6	62	48.4	2.4	2.6
C73 Thyroid	88.9	86.4	11.2	2.1	1.6	3.1
C81-C88, C96 Lymphoma	90.4	96.4	38.7	13.6	8.3	11.1
C91-C95 Leukaemia	91	98.6	45.1	17.4	5.6	5.9
C76-C80 Unspecified	62.6	21.9	58.5	60.1	9	13.8
C00-C96 excluding C44 All sites (Excluding non-melanoma skin)	73.4	65.3	56.5	29.6	171.7	127.5

Table 18: Mean values of data quality indicators for comparison of cancer registries in Central, East and South Asia – Female 2015

ICD-10 Code and site	MVA		MIR		ASR	
	Mean	Colombo	Mean	Colombo	Mean	Colombo
C00-C14 Oral Cavity & Pharynx	86	84.9	29.4	16.4	9.3	4.7
C15 Oesophagus	77.3	67.4	66.2	32.7	2	2.9
C16 Stomach	73.1	57.9	57.6	42.1	7.4	1.2
C18-C21 Large bowel	86.4	73.4	44.2	13.6	14	9.5
C22 Liver	28.5	88.2	95.1	47.1	5	1.2
C25 Pancreas	45.6	72.2	82.8	44.4	2.2	1.1
C32 Larynx	83.9	100	40.7	0	0.7	0.3
C33-C34 Trachea, Bronchus & Lung	69.1	57.4	78.5	32.4	10.3	4.3
C43 Melanoma of Skin	93.3	100	36.7	0.0	0.3	0.1
C50 Breast	91	79.0	23.4	17.2	40.2	35.2
C53 Cervix uteri	89.5	82.5	30	18.2	15.7	9.1
C54-C55 Corpus Uteri & Uterus unspecified	85.2	75.6	17.1	17.9	6.6	8.0
C56 Ovary	82.5	71.4	37.1	21.6	8	11.6
C64-C66 Kidney, Renal pelvis & Ureter	73.8	57.9	37.5	21.1	1.5	1.3
C67 Bladder	86.2	50.0	34	6.3	1.3	1.0
C70-C72 Brain, Central Nervous System	66.6	96.3	64	51.9	1.8	1.9
C73 Thyroid	92.4	88.1	8.6	4.3	5.1	12.9
C81-C88,C96 Lymphoma	89.2	96.2	41.3	5.1	5.3	5.1
C91-C95 Leukaemia	89.6	96.5	54.1	15.8	4.4	4.3
C76-C80 Unspecified	60.8	23.0	55	67.0	6.4	6.4
C00-C96 excluding C44 All sites (Excluding non-melanoma skin)	82	75.6	42.1	20.7	156.6	129.1

The percentage of 'Other and unspecified sites', including primary site unknown is related to the quality of diagnostic information and quality of documentation of the medical records.

Table 19: Distribution of 'Other and unspecified sites' by Sex Colombo District 2015.

ICD-10 code & site	Male		Female	
	No.	%	No.	%
C26 Other & ill defined digestive organs	3	0.2	2	0.1
C48 Retroperitoneum & peritoneum	1	0.1	8	0.4
C76 Other and ill defined sites	13	0.8	6	0.3
C80 Unknown primary	155	9.9	95	4.8
Total	182	10.9	111	5.6

**Cancer Incidence and Mortality Data
Colombo District, Sri Lanka
2016**



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2016

Incidence of Cancers – Colombo District, Sri Lanka

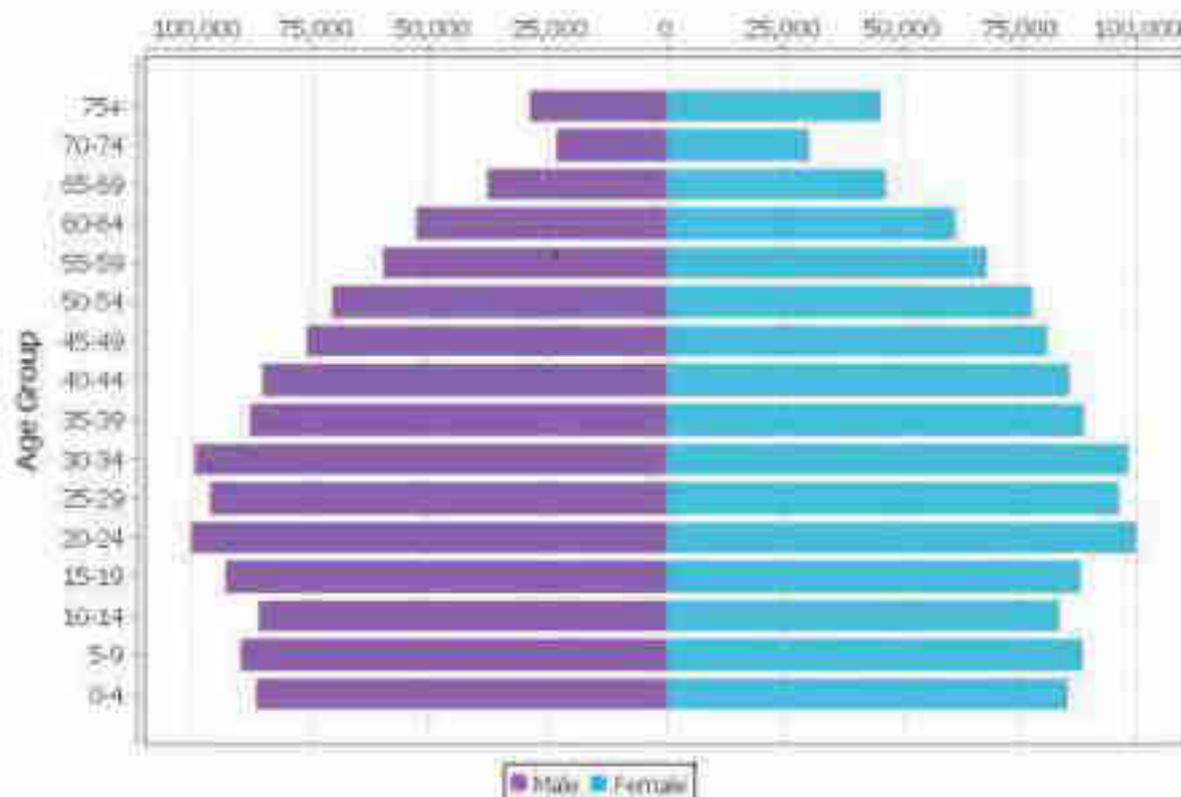


Figure 1: Population pyramid of Colombo district in 2016 by 5-year age groups

Table 1: Distribution of population according to sex in Colombo district and Sri Lanka-2016

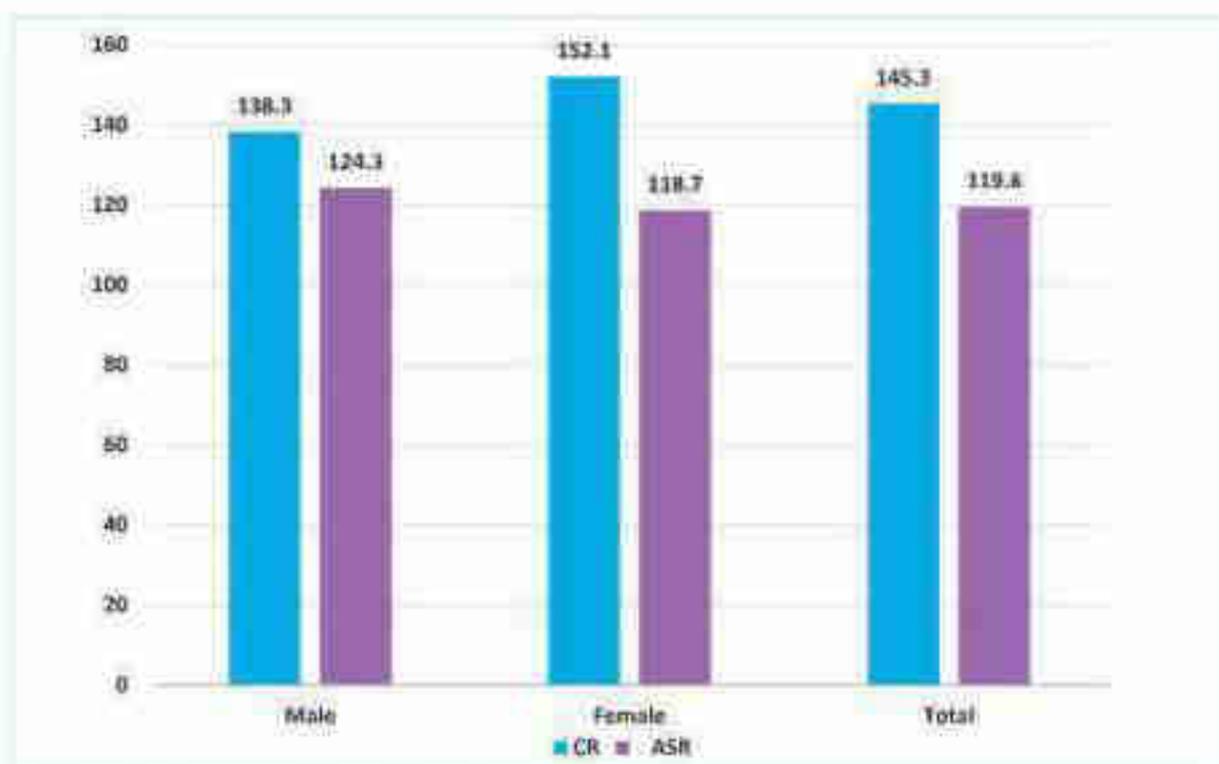
	Male	Female	Total
Colombo district	1175386 (49.1%)	1220119 (50.9%)	2395505 (100%)
Sri Lanka	10265304 (48.4%)	10937361 (51.6%)	21202665 (100%)

Table 2: Cancer incidence in Colombo district – 2016

	Number	%	*CI	**ASR
Male	1,625	46.7	138.3	124.3
Female	1,856	53.3	152.1	118.7
Total	3,481	100.0	145.3	119.6

*CI – Crude cancer incidence rate per 100,000 population

**ASR- age standardized cancer incidence rate per 100,000 population



CR - Crude cancer incidence rate per 100,000 population
 ASR - Age Standardized cancer incidence rate per 100,000 population

Figure 2: Cancer incidence rates, Colombo districts- 2016

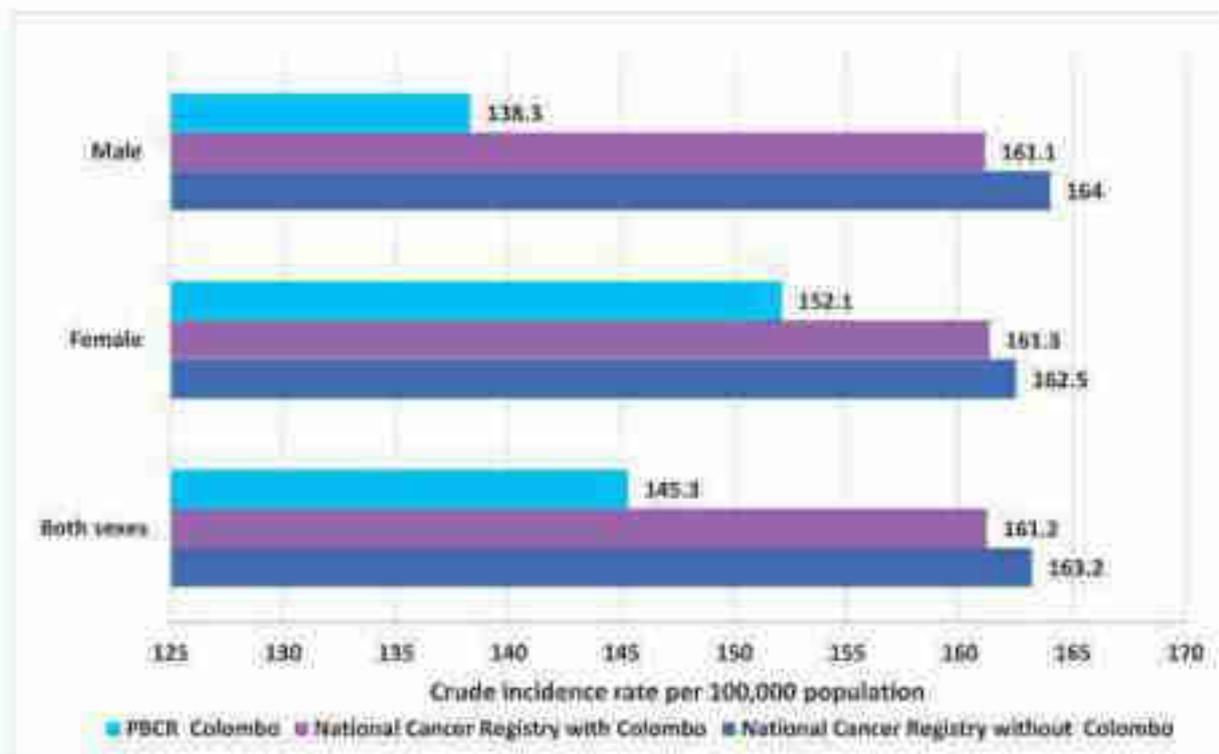


Figure 3: Comparison of crude incidence rates of Colombo PBCR, National Cancer Registry (including Colombo district) and National Cancer Registry (without Colombo district) – 2016

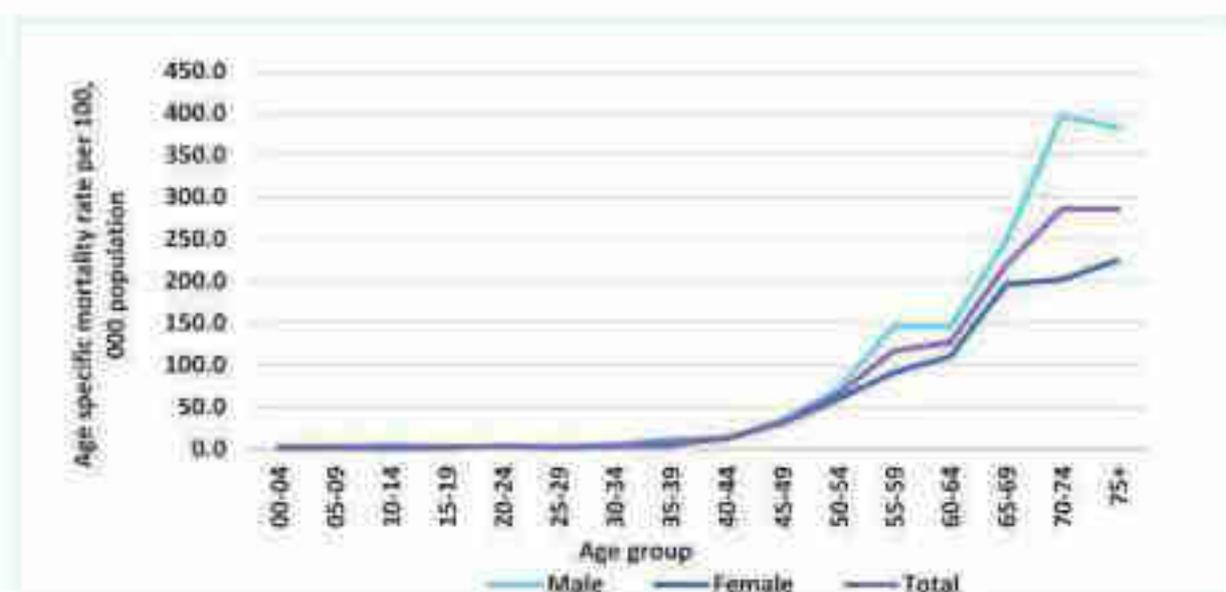


Figure 4: Age specific cancer incidence rates of Colombo district – 2016

Table 3: Cancer incidence of Colombo district by age and sex-2016

Age group	Male			Female			Total		
	Cases	Population	Incidence	Cases	Population	Incidence	Cases	Population	Incidence
Unknown	4			9			13		
0-4	10	86762	11.5	10	84943	11.8	20	171705	11.6
5-9	10	90055	11.1	5	88131	5.7	15	178186	8.4
10-14	12	86245	13.9	9	83194	10.8	21	169439	12.4
15-19	20	93374	21.4	13	87857	14.8	33	181230	18.2
20-24	17	100511	16.9	21	99453	21.1	38	199964	19.0
25-29	15	96539	15.5	13	95859	13.6	28	192398	14.6
30-34	19	99696	19.1	41	97788	41.9	60	197484	30.4
35-39	43	88045	51.1	59	88361	66.8	104	176406	59.0
40-44	41	85309	48.1	102	85385	119.5	143	170694	83.8
45-49	88	76021	115.8	159	80572	197.3	247	156593	157.7
50-54	139	70599	196.9	213	77542	274.7	352	148141	237.6
55-59	179	59783	299.4	235	67865	346.3	414	127648	324.3
60-64	241	52786	456.6	249	61077	407.7	490	113863	430.3
65-69	290	37685	769.5	294	46486	632.4	584	84171	693.8
70-74	244	23220	1050.8	181	30220	598.9	425	53439	795.3
75+	251	28756	872.9	243	45386	535.4	494	74142	666.3
Total	1625	1175386	138.3	1856	1220119	152.1	3481	2395505	145.3

Age Sp. In. rate – Age specific incidence rate per 100,000 population

Leading cancer sites

Table 4: Leading sites of cancer incidence of Colombo district by sex – 2016

Male					Female				
ICD 10 code	Site	No.	CR	ASR	ICD 10 code	Site	No.	CR	ASR
C33-C34	Trachea, bronchus and lung	202	17.2	15.4	C50	Breast	528	43.3	33.5
C00-C06	Lip, tongue & mouth	139	11.8	10.4	C56	Ovary	152	12.5	9.7
C61	Prostate	136	11.6	10.5	C73	Thyroid	149	12.2	10.2
C18-C20	Colon & rectum	134	11.4	10	C18-C20	Colon & rectum	128	10.5	7.9
C22	Liver	91	7.7	7.1	C54-C55	Uterus	121	9.9	7.4
C15	Oesophagus	77	6.6	5.7	C53	Cervix uteri	119	9.8	7.5
C67	Bladder	64	5.4	4.8	C33-34	Trachea, bronchus and lung	67	5.5	4.2
C81-C85, C96	Lymphoma	61	5.2	5.0	C81-C85, C96	Lymphoma	56	4.6	3.9
C91-C95	Leukaemia	60	5.1	5.0	C91-C95	Leukaemia	50	4.1	3.6
C09-C14	Pharynx	54	4.6	4.0	C00-C06	Lip, tongue & mouth	44	3.6	2.7
	All sites	1625	138.3	124.3		All sites	1856	152.1	118.7

*CR - Crude incidence rate per 100,000 populations.

**ASR - Age standardized incidence rate per 100,000 populations.

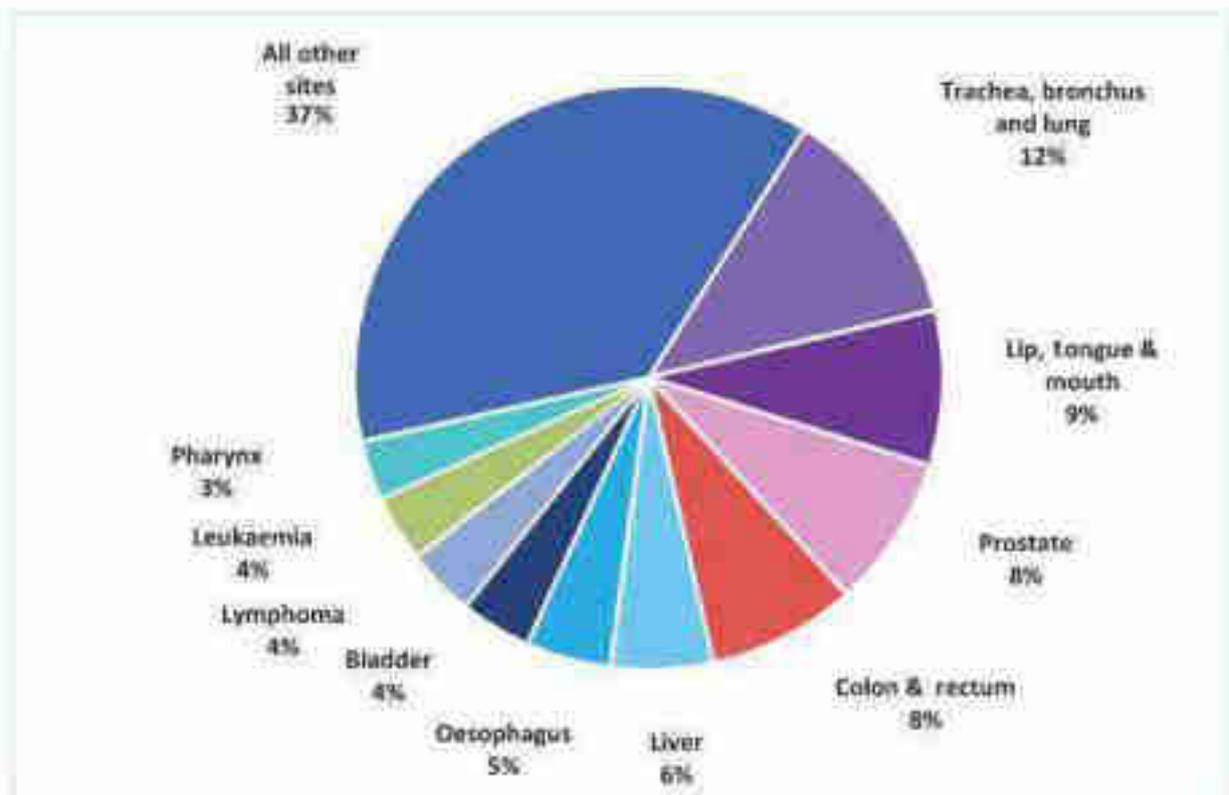


Figure 5: Proportion of incidence of leading cancers in the Colombo district-- Male 2016

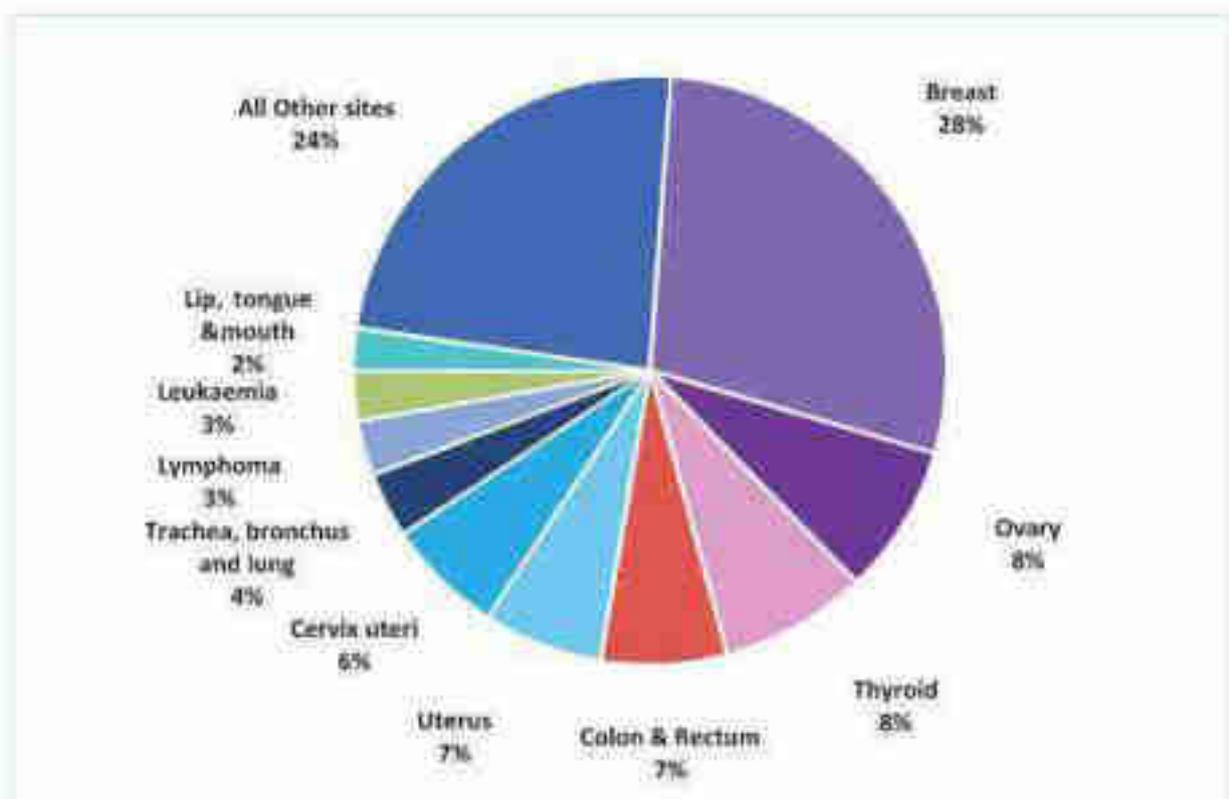


Figure 6: Proportion of incidence of leading cancers in the Colombo district-- Female 2016

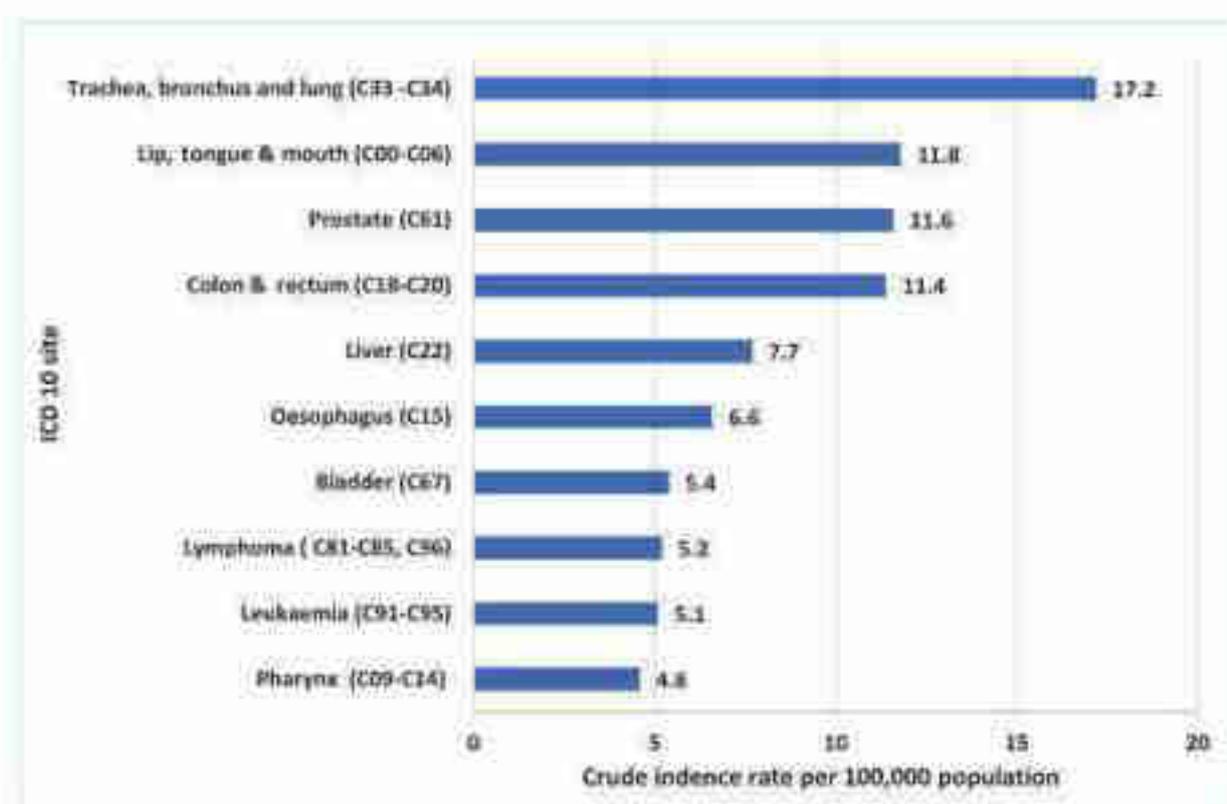


Figure 7: Crude incidence of leading cancers in the Colombo district– Male 2016

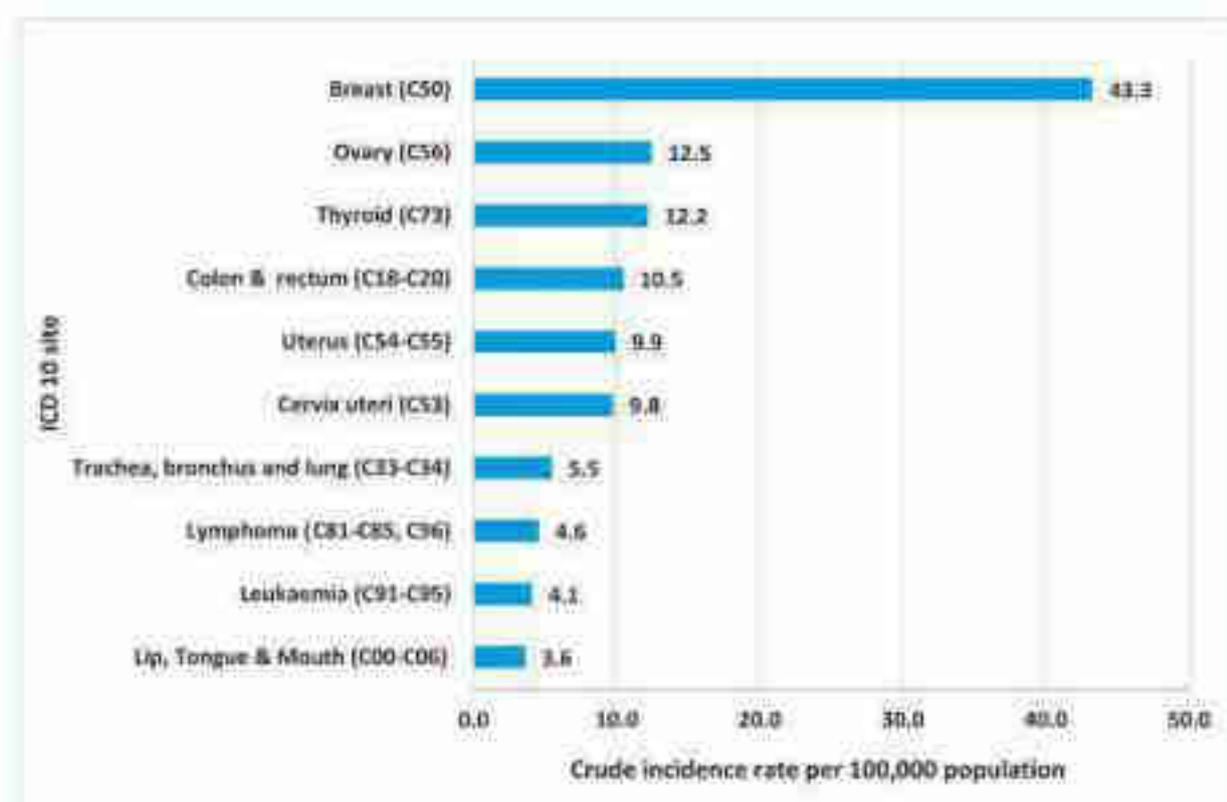


Figure 8: Crude incidence of leading cancers in the Colombo district– Female 2016

Comparison of age standardized cancer incidence rates of leading cancers of 'Population based cancer registry of Colombo district' with the 'National Cancer Registry of Sri Lanka – 2016'



Figure 9: Age standardized incidence rates of leading cancers among males in year-2016 PBCR Colombo district vs National Cancer Registry

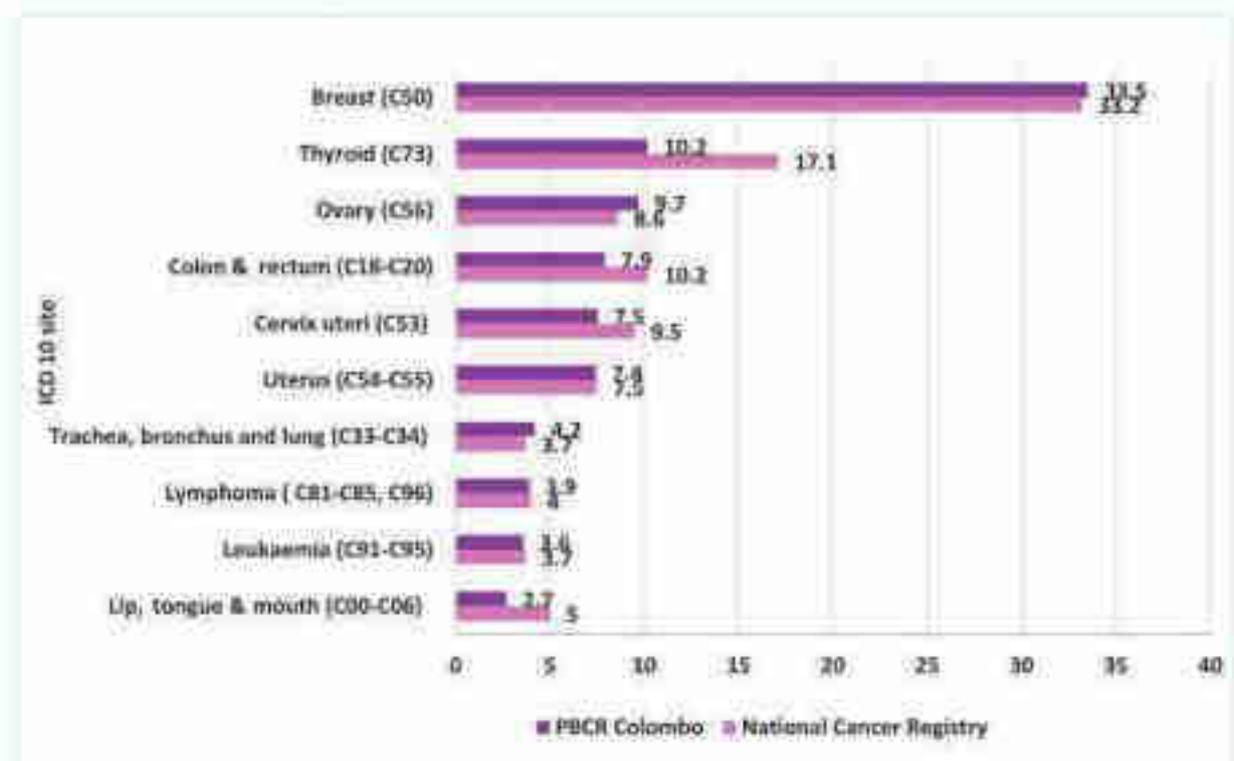


Figure 10: Age standardized incidence rates of leading cancers among females in year-2016 PBCR Colombo district vs National Cancer Registry

Table 8: Age specific incidence rate, Crude incidence rate (CR), Age standardized incidence rate (ASR) per 100,000 population & Cumulative risk of cancers by five-year age group and site (ICD 10) : 2016 – Females Colombo district
Population Based Cancer Registry Colombo District 2016

Cancer Incidence Data 2016

Incidence per 100,000 by age group (Female) - Female

ICD-10	All sites (Age)	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	CR	ASR	ASR (95% CI)	ICD-10	
01	1																				0.0	0.2	0.01	0.04	C18
02	1																				1.2	0.8	0.07	0.15	C19
03	26									12	39	29	14	98	13	23					3.1	1.9	0.04	0.31	C20
04	2									18				35	19	15					0.7	0.3	0.01	0.05	C21
05	1																				0.1	0.1	0.00	0.04	C22
06	0																				0.1	0.1	0.01	0.01	C23
07	0																				0.0	0.0	0.00	0.00	C24
08	6									13	13	38	13	43							0.4	0.5	0.03	0.05	C25
09	5																				0.4	0.5	0.03	0.05	C26
10	32									12	24	29	33	29	26	19					3.5	1.7	0.08	0.22	C27
11	2									12											1.8	1.2	0.06	0.13	C28
12	2									12											0.1	0.1	0.01	0.01	C29
13	46									25	41	38	147	104	82	64					3.4	2.9	0.08	0.47	C30
14	23									33	33	38	164	95	123	176					3.1	3.4	0.13	0.47	C31
15	4																				0.3	0.2	0.02	0.05	C32
16	33									12	39	44	61	113	163	181					3.7	1.8	0.09	0.18	C33
17	30									13	32	13	48	99	48	33					1.6	1.1	0.07	0.16	C34
18	0																				1.3	0.8	0.03	0.11	C35
19	7									14											0.3	0.2	0.01	0.02	C36
20	4									12											0.2	0.4	0.01	0.06	C37
21	7									12											0.2	0.4	0.01	0.06	C38
22	4									12											0.2	0.4	0.01	0.06	C39
23	67									18	33	47	58	23	45	22					5.5	2.6	0.23	0.53	C40
24	3																				0.2	0.1	0.01	0.01	C41
25	0																				0.0	0.0	0.00	0.00	C42
26	0																				0.0	0.0	0.00	0.00	C43
27	36									11	18	12									1.5	0.9	0.01	0.10	C44
28	58									13	25	44	58	104	143	183	136				4.3	2.7	0.31	0.61	C45
29	3																				0.0	0.2	0.00	0.02	C46
30	0																				0.0	0.0	0.00	0.00	C47
31	0																				0.0	0.0	0.00	0.00	C48
32	119									12	21	112	33	33	31	24					7.6	1.6	0.07	0.14	C49
33	0																				0.0	0.0	0.00	0.00	C50
34	0																				0.0	0.0	0.00	0.00	C51
35	0																				0.0	0.0	0.00	0.00	C52
36	0																				0.0	0.0	0.00	0.00	C53
37	0																				0.0	0.0	0.00	0.00	C54
38	0																				0.0	0.0	0.00	0.00	C55
39	0																				0.0	0.0	0.00	0.00	C56
40	0																				0.0	0.0	0.00	0.00	C57
41	0																				0.0	0.0	0.00	0.00	C58
42	0																				0.0	0.0	0.00	0.00	C59
43	0																				0.0	0.0	0.00	0.00	C60
44	0																				0.0	0.0	0.00	0.00	C61
45	0																				0.0	0.0	0.00	0.00	C62
46	0																				0.0	0.0	0.00	0.00	C63
47	0																				0.0	0.0	0.00	0.00	C64
48	0																				0.0	0.0	0.00	0.00	C65
49	0																				0.0	0.0	0.00	0.00	C66
50	0																				0.0	0.0	0.00	0.00	C67
51	0																				0.0	0.0	0.00	0.00	C68
52	0																				0.0	0.0	0.00	0.00	C69
53	0																				0.0	0.0	0.00	0.00	C70
54	0																				0.0	0.0	0.00	0.00	C71
55	0																				0.0	0.0	0.00	0.00	C72
56	0																				0.0	0.0	0.00	0.00	C73
57	0																				0.0	0.0	0.00	0.00	C74
58	0																				0.0	0.0	0.00	0.00	C75
59	0																				0.0	0.0	0.00	0.00	C76
60	0																				0.0	0.0	0.00	0.00	C77
61	0																				0.0	0.0	0.00	0.00	C78
62	0																				0.0	0.0	0.00	0.00	C79
63	0																				0.0	0.0	0.00	0.00	C80
64	0																				0.0	0.0	0.00	0.00	C81
65	0																				0.0	0.0	0.00	0.00	C82
66	0																				0.0	0.0	0.00	0.00	C83
67	0																				0.0	0.0	0.00	0.00	C84
68	0																				0.0	0.0	0.00	0.00	C85
69	0																				0.0	0.0	0.00	0.00	C86
70	0																				0.0	0.0	0.00	0.00	C87
71	0																				0.0	0.0	0.00	0.00	C88
72	0																								

Mortality of Cancers

Table 9: Distribution of cancer related deaths reported by Divisional Death Registrars of Colombo district in year 2016

Resident district of the deceased person	No.	%
Colombo	1053	36.9
Another district other than Colombo	1801	63.1
Total	2854	100.0

Table 10: Distribution of no. of deaths, cancer related crude death rate and age standardized death rate among the residents of Colombo district in the year 2016

	Number	%	*CR	**ASR
Male	575	54.6	48.9	43.4
Female	478	45.4	39.2	29.1
Total	1053	100	44.0	35.4

*CR - Cancer related crude death rate per 100,000 population.

**ASR - Cancer related age-standardized death rate per 100,000 population.

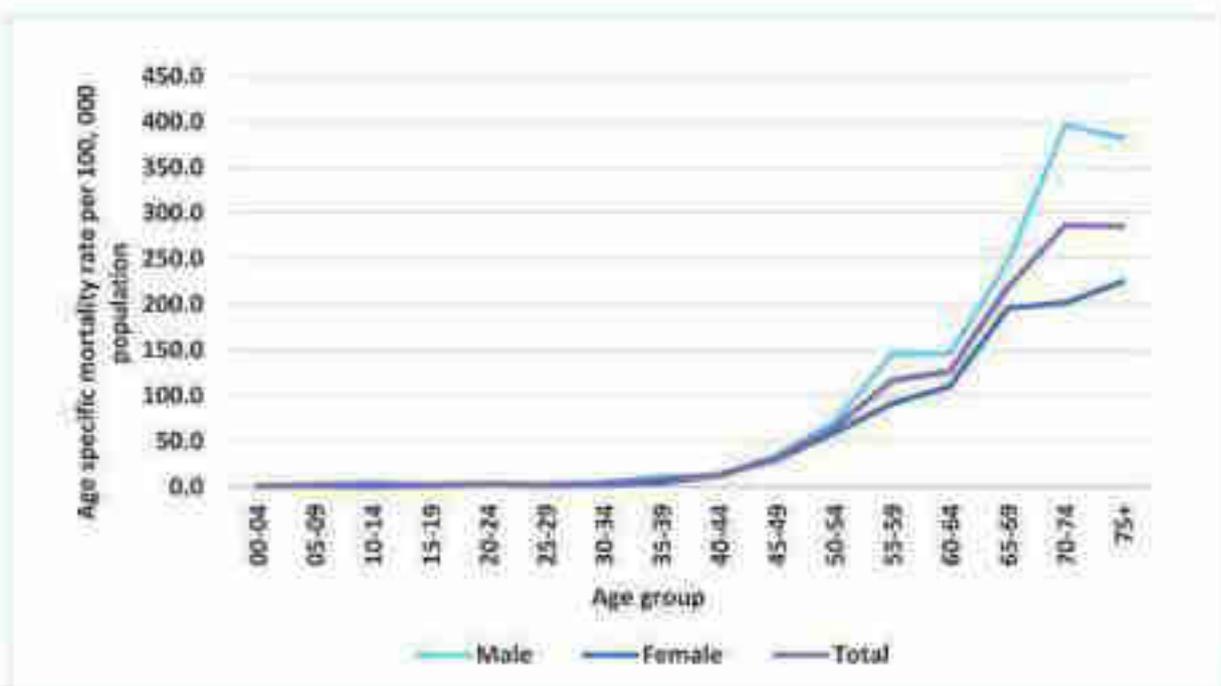


Figure 11: Age specific cancer deaths rates of Colombo district - 2016

Table 11: Cancer related deaths of Colombo district by age group and sex - 2016

Age group	Male			Female			Total		
	Cases	Population	Incidence	Cases	Population	Incidence	Cases	Population	Incidence
Unknown	0			1			1		
00-04	1	86762	1.2	1	84943	1.2	2	171705	1.2
05-09	2	90055	2.2	1	88181	1.1	3	178186	1.7
10-14	4	86245	4.6	0	83194	0.0	4	169439	2.4
15-19	2	93374	2.1	1	87857	1.1	3	181230	1.7
20-24	3	100511	3.0	3	99453	3.0	6	199964	3.0
25-29	3	96539	3.1	1	95859	1.0	4	192398	2.1
30-34	5	99696	5.0	2	97788	2.0	7	197484	3.5
35-39	10	88045	11.4	4	88361	4.5	14	176406	7.9
40-44	10	85309	11.7	11	85385	12.9	21	170694	12.3
45-49	26	76021	34.2	24	80572	29.8	50	156593	31.9
50-54	50	70599	70.8	46	77542	59.3	96	148141	64.8
55-59	87	59783	145.5	82	87865	91.4	149	127648	116.7
60-64	77	52786	145.9	67	61077	109.7	144	113863	126.5
65-69	93	37685	246.8	91	46486	195.8	184	84171	218.0
70-74	92	23220	396.2	61	30220	201.9	153	53439	286.3
75+	110	28756	382.5	102	45386	224.7	212	74142	285.9
Total	575	1175386	48.9	478	1220119	39.2	1053	2395505	44.0

Ag.Sp.Rate- Age specific death rate per 100,000 population

Leading sites (ICD 10) of cancer mortality

Table 12: Leading sites of cancer mortality of Colombo district – male and female 2016

Male					Female				
ICD 10 code	Site	Cases	CR	ASR	ICD 10 code	Site	Cases	CR	ASR
C33-C34	Trachea, bronchus and lung	87	7.4	6.6	C50	Breast	112	9.2	6.8
C00-C06	Lip, tongue & mouth	49	4.2	3.6	C56	Ovary	34	2.8	2.1
C22	Liver	46	3.9	3.5	C18-C20	Colon & rectum	31	2.6	1.9
C61	Prostate	37	3.2	2.8	C33-C34	Trachea, bronchus and lung	31	2.5	2.0
C15	Oesophagus	32	2.7	2.4	C53	Cervix uteri	25	2.1	1.6
C18-C20	Colon & rectum	31	2.6	2.3	C54-C55	Uterus	21	1.7	1.2
C09-C14	Pharynx	28	2.4	2.1	C22	Liver	19	1.6	1.1
C32	Larynx	15	1.3	1.1	C25	Pancreas	13	1.1	0.8
C16	Stomach	13	1.1	1	C00-C06	Lip, tongue, & mouth	11	0.9	0.7
C67	Bladder	11	0.9	0.8	C16	Stomach	11	0.9	0.6
	All sites	575	48.9	43.4		All sites	478	39.2	29.1

CR - Crude death rate per 100,000 population

ASR - Age standardized death rate per 100,000 population

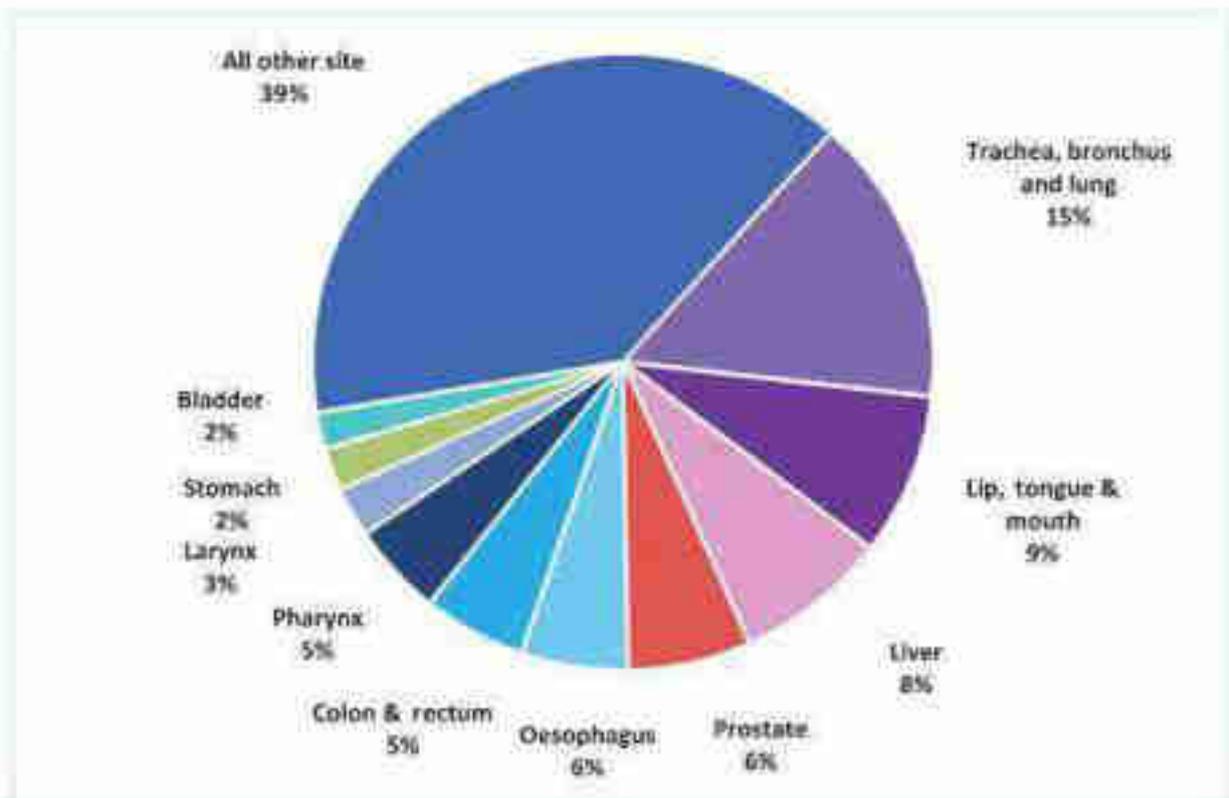


Figure 12: Proportion of leading cancer deaths, Male – 2016

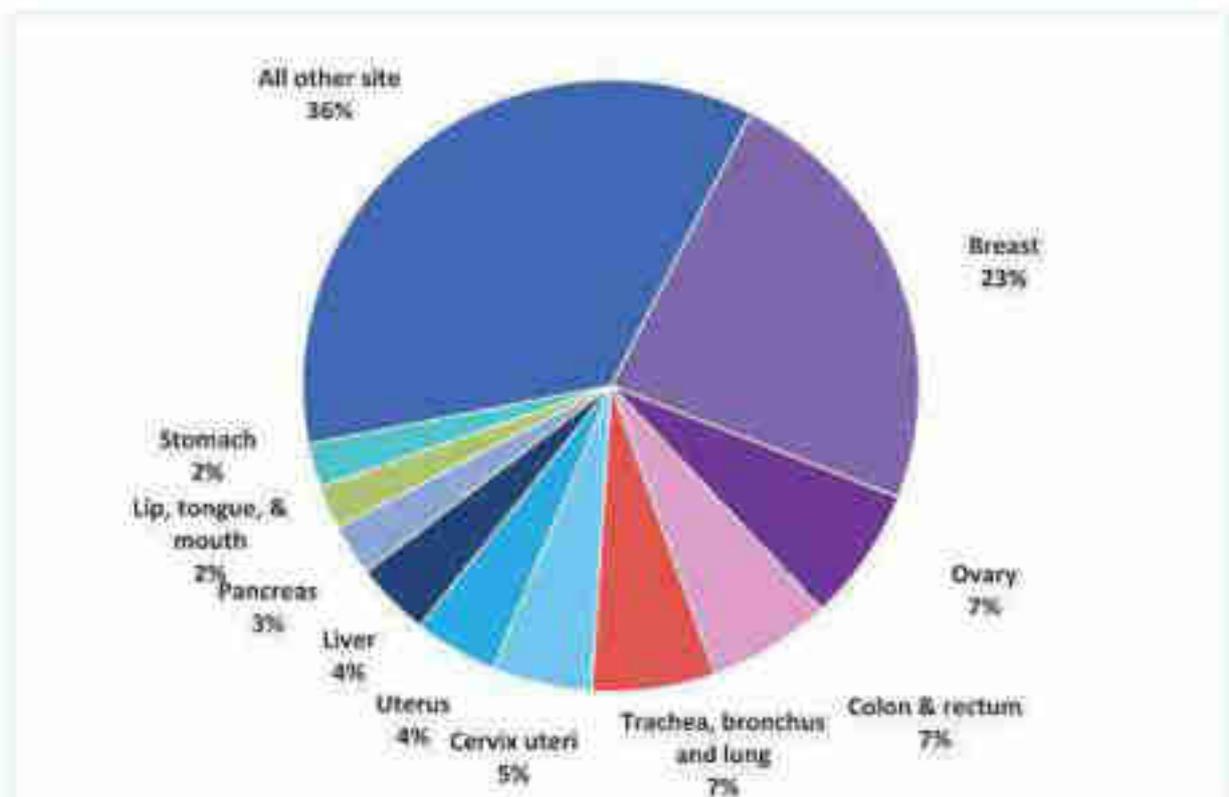


Figure 13: Proportion of leading cancer deaths, Female - 2016

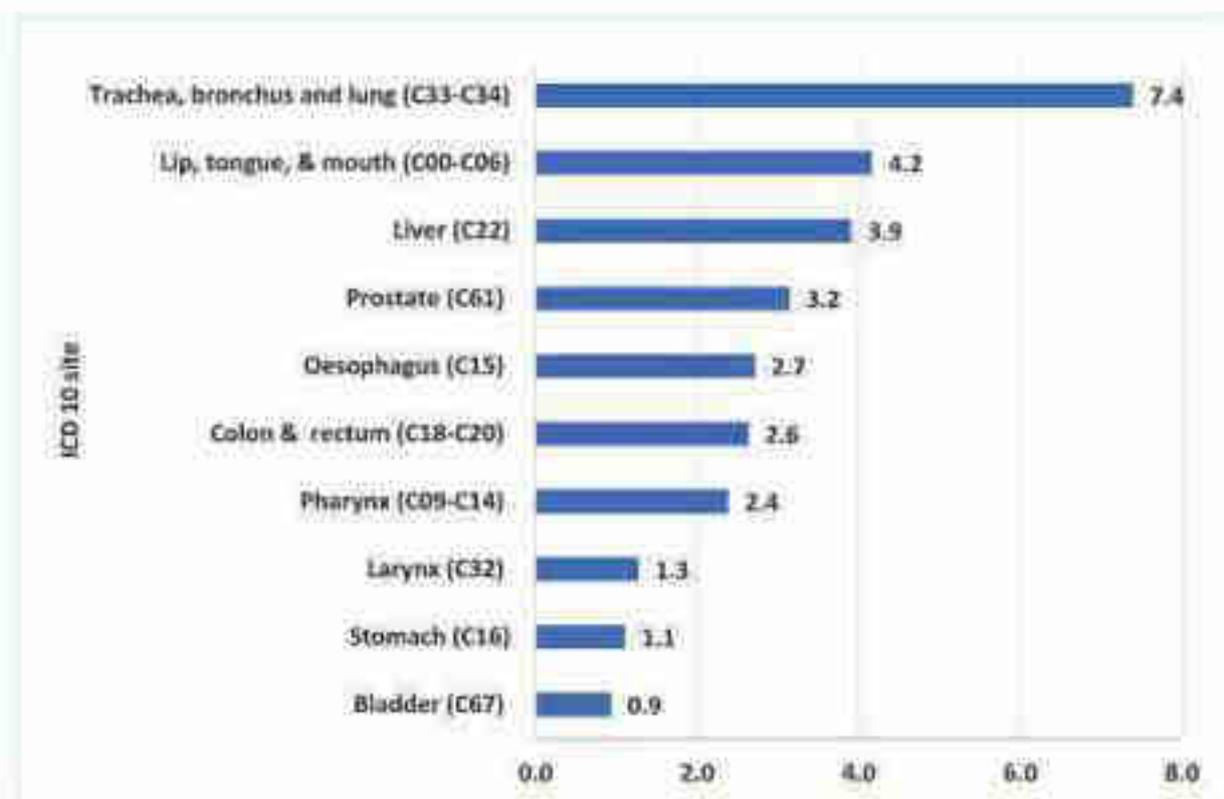


Figure 14: Crude death rate of leading cancer related deaths in the Colombo district – Male 2016

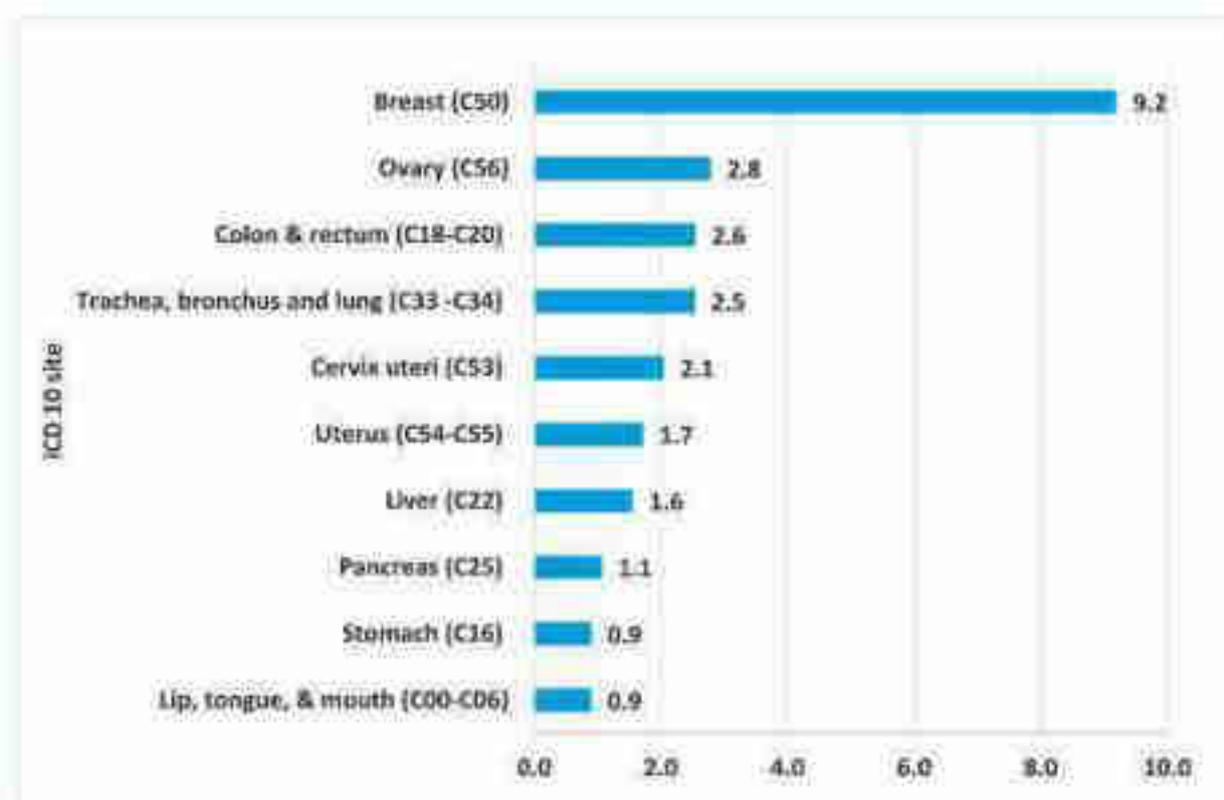


Figure 15: Crude death rate of leading cancer related deaths in the Colombo district – Female 2016

Incidence and Mortality of leading cancers – 2016

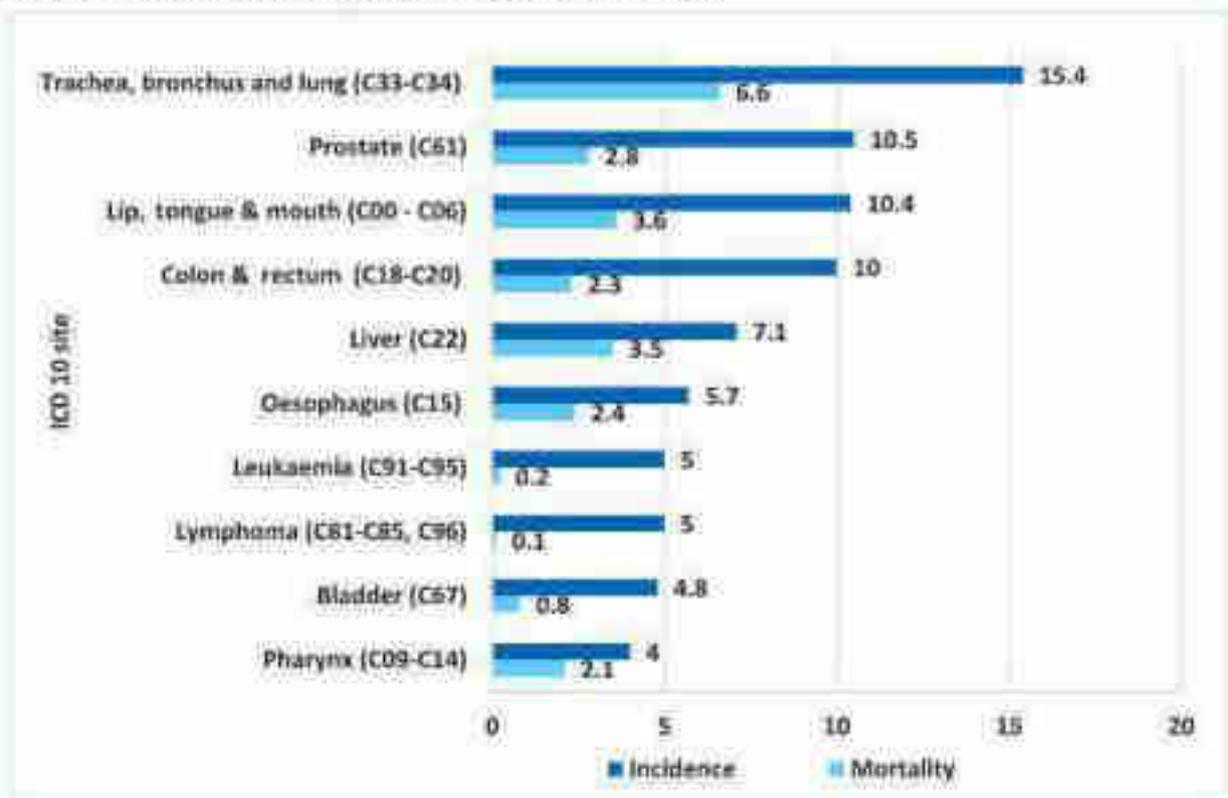


Figure 16: Age standardized incidence rates and death rates of leading cancers in Colombo district - Males 2016

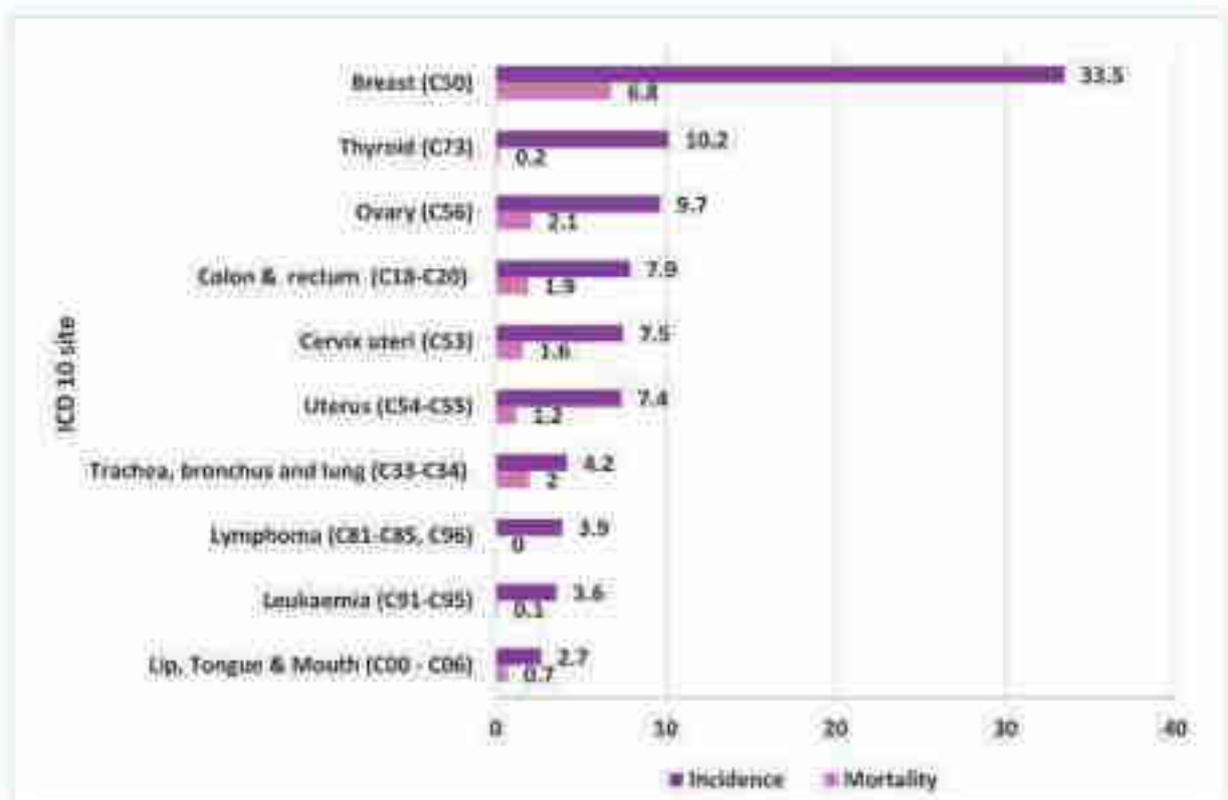


Figure 17: Age standardized incidence rates and death rates of leading cancers in Colombo district – Females 2016

Quality Control

Table 17: Mean values of data quality indicators for comparison of cancer registries in Central, East and South Asia – Male 2016

ICD - 10 code and site		NVIC		M: 75		ASR	
		Mean	Colombo	Mean	Colombo	Mean	Colombo
C00-C14	Oral Cavity & Pharynx	88.0	77.2	37	39.1	17	15.1
C15	Esophagus	78.5	72.4	86.6	41.6	3.6	5.8
C16	Stomach	74.1	75.9	60.0	24.1	13.9	4.0
C18-21	Large bowel	86.4	80.5	42.9	26.4	38.8	10.6
C22	Liver	29.2	45.1	86.7	50.5	16.5	7.1
C25	Pancreas	44.7	72.7	85.2	27.2	2.9	1.6
C32	Larynx	90.5	83.7	43.1	30.6	4.8	3.6
C33-C34	Trachea, Bronchus & Lung	68.2	67.8	81	43.1	36.4	15.4
C43	Melanoma of Skin	92.8	100.0	28	0	0.6	0.4
C50	Breast	76.8	92.3	44.4	19.2	0.6	1.9
C61	Prostate	83.1	77.8	27.6	27.2	11.5	10.5
C62	Testis	84.8	84.6	8.8	23.1	0.9	1.0
C64-C66	Kidney, Renal pelvis & Ureter	78.3	82.4	35	17.6	3	2.6
C67	Bladder	89.9	66.6	32	17.2	5.4	4.8
C70-C72	Brain, Central Nervous System	70.7	65.5	62	37.9	2.4	2.3
C73	Thyroid	88.9	92.2	11.2	11	1.6	3.7
C81-C88,C96	Lymphoma	90.4	99.0	38.7	1.6	8.3	5.0
C91-C95	Leukaemia	91	98.3	45.1	5.0	5.6	5.0
C76-C80	Unspecified	62.6	30.1	58.5	104.7	9	11.2
C00-C96 excluding C44	All sites (Excluding non-melanoma skin)	73.4	72.3	56.5	35.8	171.7	122.6

Table 18: Mean values of data quality indicators for comparison of cancer registries in Central, East and South Asia – Female 2016

ICD-10 Code and site		MPP%		MCI%		ASR	
		Mean	Colombo	Mean	Colombo	Mean	Colombo
C00-C14	Oral Cavity & Pharynx	86	83.1	29.4	25.8	9.3	4.3
C15	Esophagus	77.3	75.0	66.2	21.9	2	1.0
C16	Stomach	73.1	68.2	57.6	50.0	7.4	1.3
C18-C21	Large bowel	86.4	83.3	44.2	25.0	14	8.2
C22	Liver	28.5	21.2	95.1	57.6	5	2.0
C25	Pancreas	45.6	28.6	82.8	86.6	3.2	0.9
C32	Larynx	83.9	50.0	40.7	12.5	0.7	0.5
C33-C34	Trachea, Bronchus & Lung	69.1	63.6	78.5	46.3	10.3	4.3
C43	Melanoma of skin	93.3	100.0	36.7	0	0.3	0.2
C50	Breast	91	84.3	23.4	21.2	40.2	33.6
C53	Cervix uteri	89.5	89.9	30	25.2	15.7	7.5
C54-C55	Corpus Uteri & Uterus unspecified	85.2	84.2	17.1	17.4	6.6	7.5
C56	Ovary	82.5	84.1	37.1	22.3	8	9.8
C64-C66	Kidney, Renal pelvis & Ureter	73.8	68.8	37.5	37.5	1.5	1.0
C67	Bladder	86.2	50.0	34	25.0	1.3	0.7
C70-C72	Brain, Central Nervous System	66.6	72.7	64	30.4	1.8	1.6
C73	Thyroid	92.4	97.3	8.6	2.0	5.1	10.2
C81-C88, C96	Lymphoma	89.2	100.0	41.3	0	5.3	3.9
C91-C95	Leukaemia	89.6	98.0	54.1	2.0	4.4	3.5
C76-C80	Unspecified	60.8	23.8	55	93.2	6.4	7.2
C00-C96 excluding C44	All sites (Excluding non-melanoma skin)	82	79.7	42.1	25.9	156.6	117.6

The percentage of 'Other and unspecified sites', including primary site unknown is related to the quality of diagnostic information and quality of documentation of the medical records.

Table 19: Distribution of 'Other & unspecified sites' by sex in Colombo District 2016

ICD 10 code and site	Male		Female	
	No.	%	No.	%
C25 Other & ill defined digestive organs	1	0.1	4	0.2
C48 Retroperitoneum & peritoneum	3	0.2	9	0.5
C76 Other and ill defined sites	13	0.8	12	0.6
C80 Unknown primary	118	7.3	82	4.4
Total	135	8.3	107	5.7

**Cancer Incidence and Mortality Data
Colombo District, Sri Lanka
2017**

List of Tables

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2017

Incidence of Cancers – Colombo District, Sri Lanka

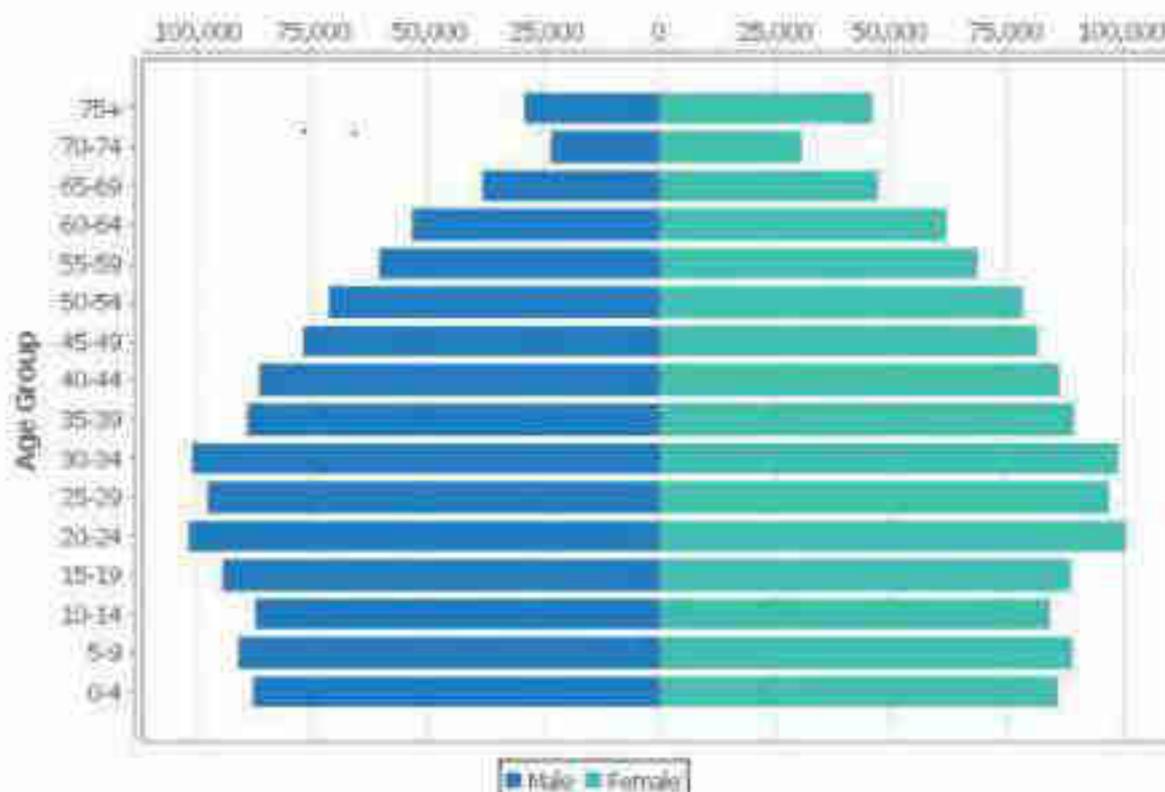


Figure 1: : Population pyramid of Colombo district in 2017 by 5-year age groups

Table 1: Distribution of population according to sex in Colombo district and Sri Lanka-2017

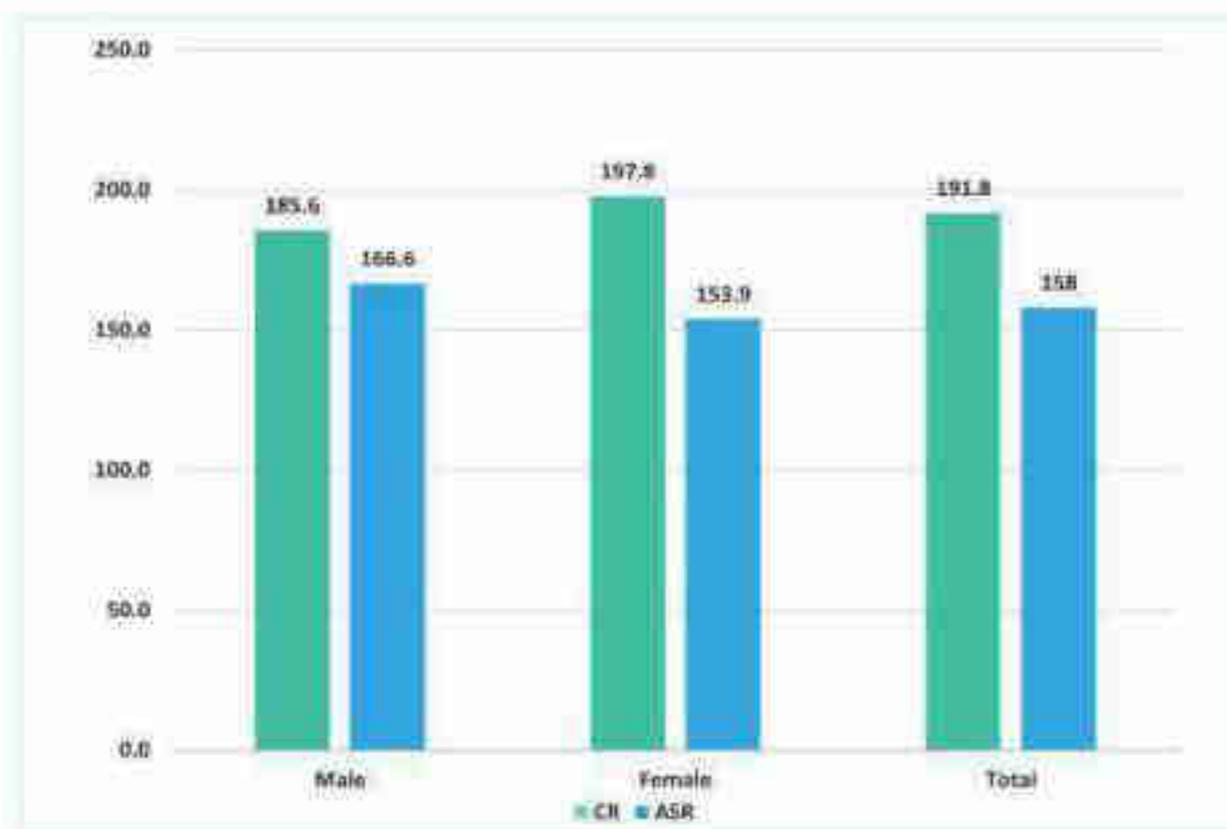
	Male	Female	Total
Colombo district	1186691 (49.1%)	1231854 (50.9%)	2418545 (100%)
Sri Lanka	10382372 (48.4%)	11061978 (51.6%)	21444350 (100%)

Table 2: Cancer incidence in Colombo district – 2017

	Number	%	*CR	**ASR
Male	2,202	47.5	185.6	166.6
Female	2,437	52.5	197.8	153.9
Total	4,639	100.0	191.8	158.0

*CR - Crude cancer incidence rate per 100,000 population

**ASR - age standardized cancer incidence rate per 100,000 population



* CI - Crude cancer incidence rate per 100,000 population

**ASR - Age Standardized cancer incidence Rate per 100,000 population

Figure 2: Cancer incidence rates, Colombo districts- 2017

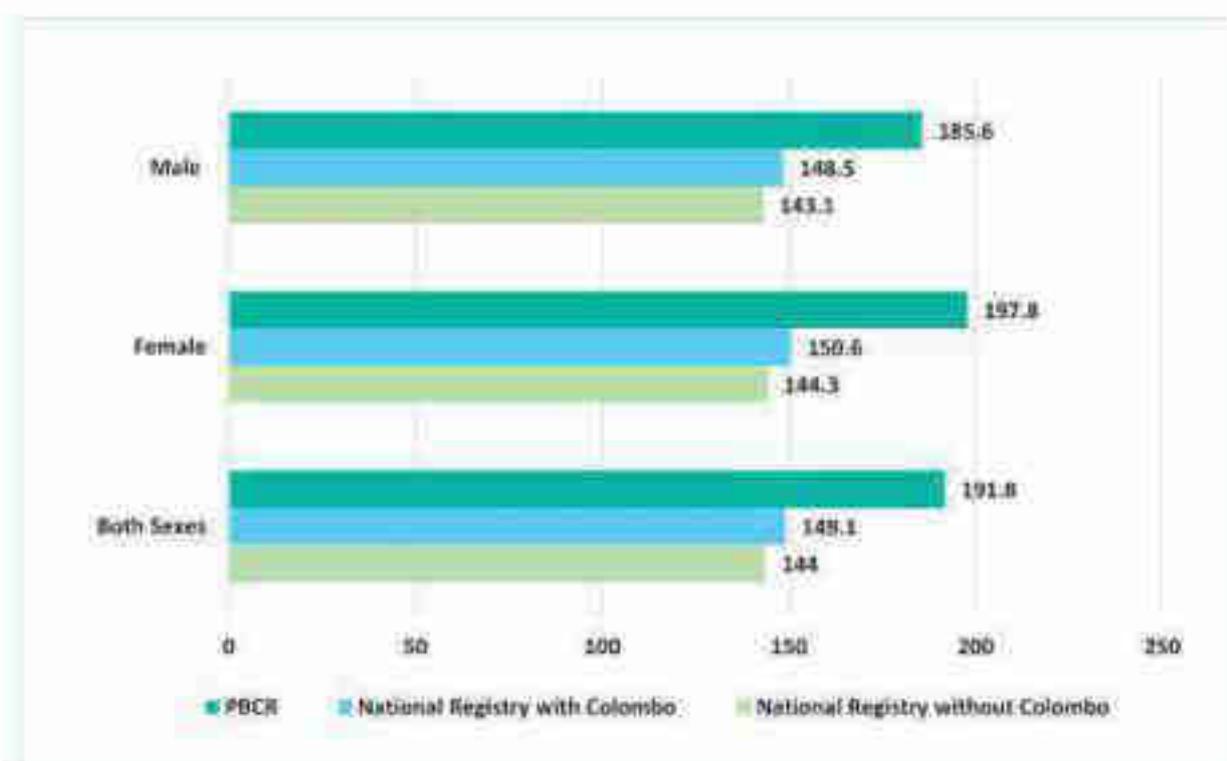


Figure 3 : Comparison of crude incidence rates of Colombo PBCR, National Cancer Registry (including Colombo district) and National Cancer Registry (without Colombo district) – 2017

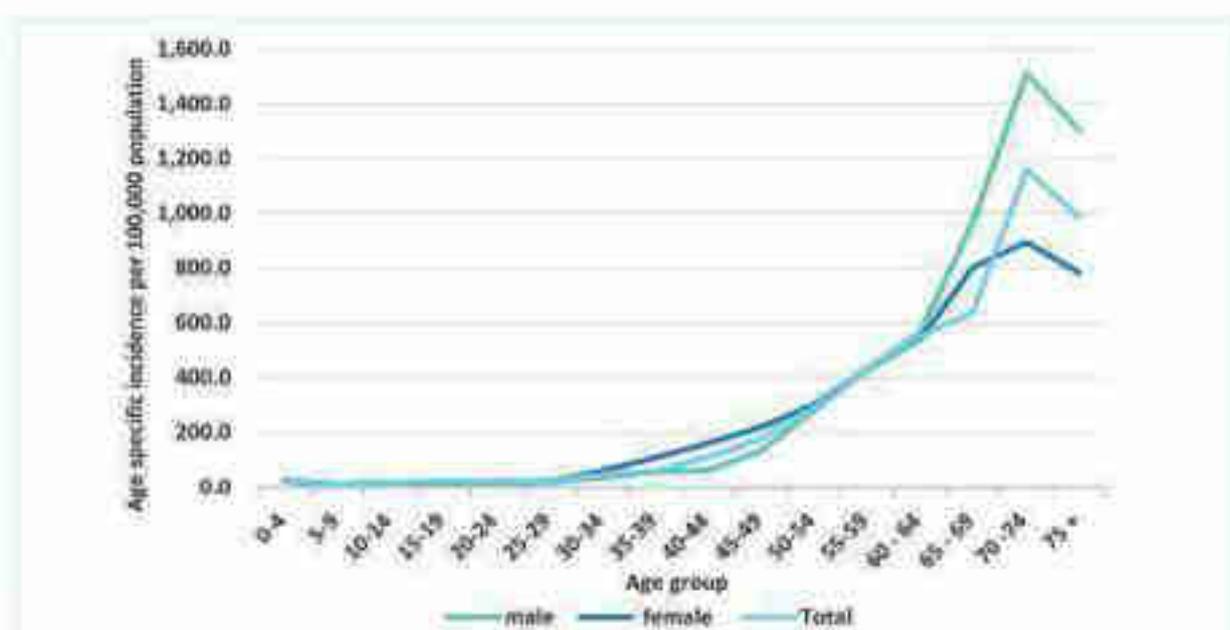


Figure 4: Age specific cancer incidence rates of Colombo district – 2017

Table 3: Cancer incidence of Colombo district by age and sex – 2017

Age group	Male			Female			Total		
	Cases	Population	Incidence	Cases	Population	Incidence	Cases	Population	Incidence
Unknown	2			0			2		
00-04	24	87,597	27.4	19	85,760	22.2	43	173,357	24.8
05-09	9	99,921	9.9	8	88,978	9.0	17	179,900	9.4
10-14	14	87,074	16.1	12	83,994	14.3	26	171,069	15.2
15-19	21	94,272	22.3	15	88,702	16.9	36	182,973	19.7
20-24	15	101,477	14.8	19	100,410	18.9	34	201,887	16.8
25-29	18	97,467	18.5	20	96,781	20.7	38	194,248	19.6
30-34	36	100,655	35.8	59	98,728	59.8	95	199,383	47.6
35-39	49	88,892	55.1	96	89,210	107.6	105	178,103	59.0
40-44	52	86,130	60.4	138	86,206	160.1	190	172,336	110.2
45-49	102	76,752	132.9	178	81,347	218.8	280	158,100	177.1
50-54	199	71,278	279.2	236	78,288	301.5	435	149,566	290.8
55-59	261	60,358	432.4	295	68,518	430.5	556	128,875	431.4
60-64	300	53,294	562.9	333	61,665	540.0	633	114,958	550.6
65-69	369	38,048	969.8	377	46,933	803.3	546	84,981	642.5
70-74	354	23,443	1,510	273	30,910	894.8	627	53,953	1,162.1
75+	377	29,013	1,305.4	359	45,823	782.5	736	74,835	985.9
Total	2202	1,186,691	185.6	2437	1,231,854	197.8	4639	2,418,545	191.8

Ag.Sp.Rate- Age specific death rate per 100,000 population

Leading cancer sites

Table 4: Leading sites of cancer incidence of Colombo district by sex – 2017

Male					Female				
ICD 10 code	Site	Cases	CR	ASR	ICD 10 code	Site	Cases	CR	ASR
C33-C34	Trachea, bronchus and lung	225	19.0	16.9	C50	Breast	627	50.9	39.5
C00-C06	Lip, tongue and mouth	222	18.7	16.4	C56	Ovary	196	15.9	12.4
C61	Prostate	211	17.8	16.0	C18-C20	Colon and rectum	196	15.9	11.8
C18-C20	Colon and rectum	197	16.5	14.7	C54-C55	Uterus	177	14.4	10.9
C22	Liver	110	9.3	8.5	C73	Thyroid	144	11.7	10.0
C15	Oesophagus	101	8.5	7.6	C53	Cervix uteri	121	9.8	7.4
C09-C14	Pharynx	93	7.8	6.9	C33-C34	Trachea, bronchus and lung	101	8.2	6.3
C67	Bladder	90	7.6	6.7	C81-C85, C96	Lymphoma	66	5.4	4.2
C32	Larynx	86	7.2	6.4	C00-C06	Lip, tongue and mouth	64	5.2	3.9
C81-C85, C96	Lymphoma	85	7.2	7.0	C15	Oesophagus	63	5.1	3.6
	All sites	2202	185.6	166.6		All sites	2437	197.8	153.9

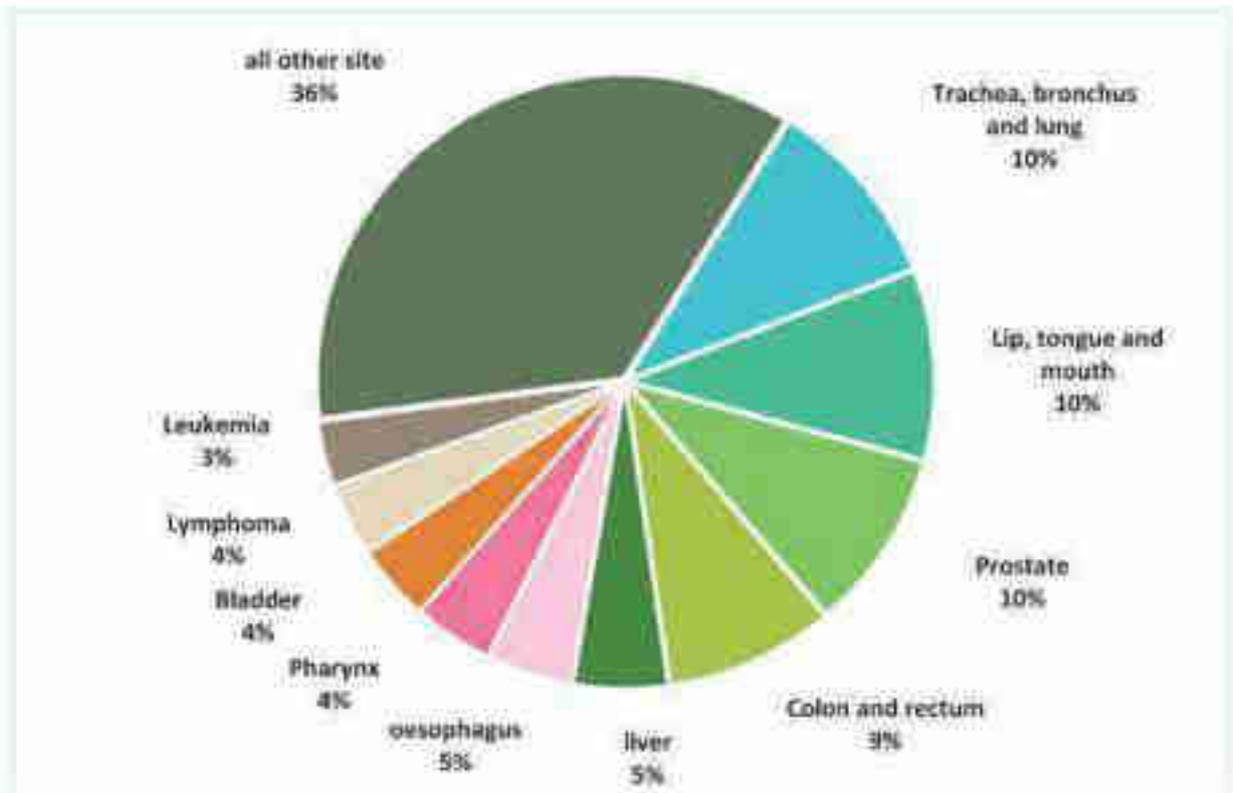


Figure 5: Proportion of incidence of leading cancers in the Colombo district– Male 2017

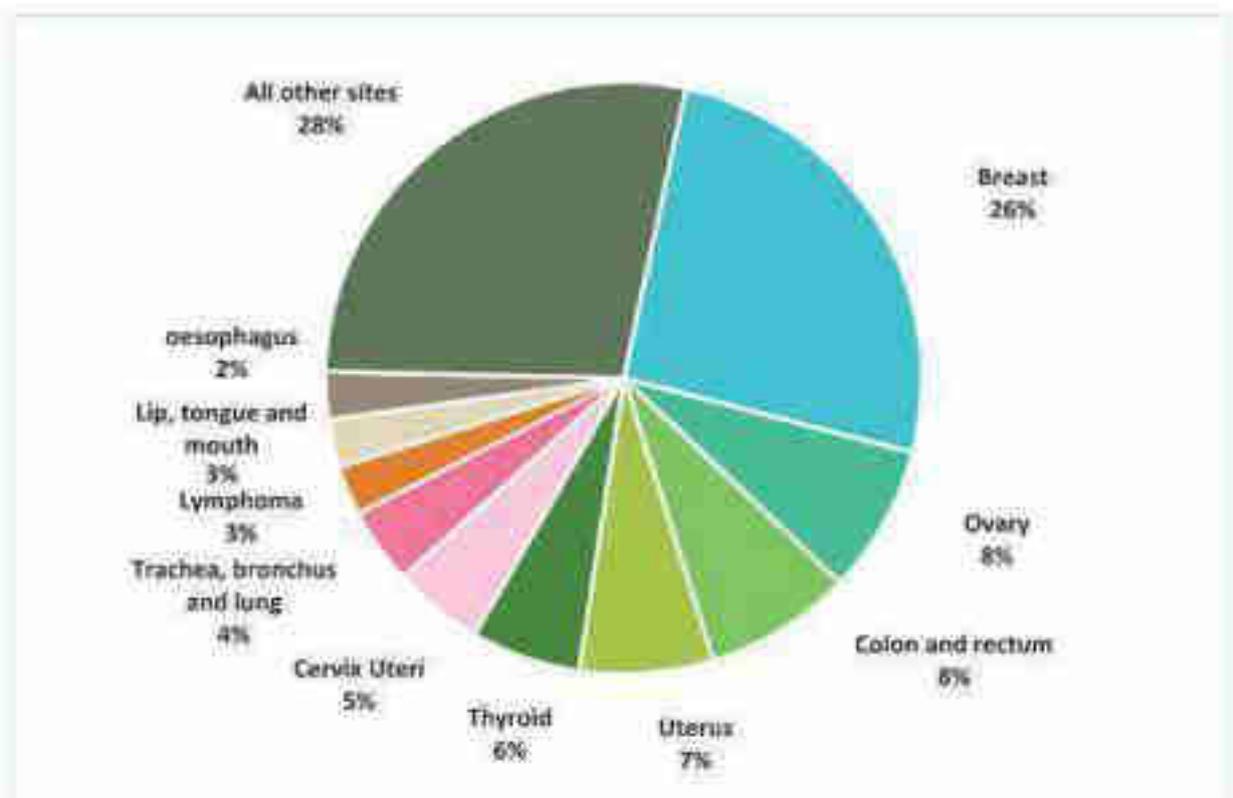


Figure 6: Proportion of incidence of leading cancers in the Colombo district – Female 2017

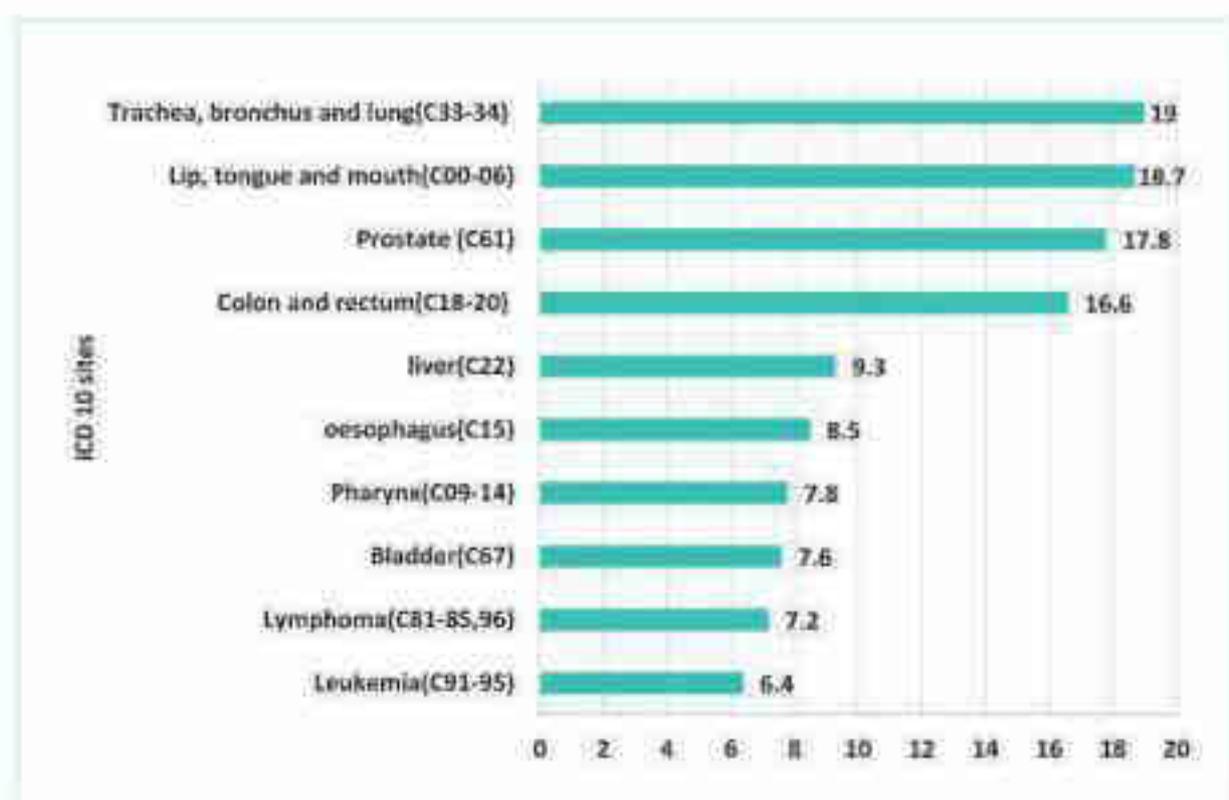


Figure 7: Crude incidence of leading cancers in the Colombo district– Male 2017

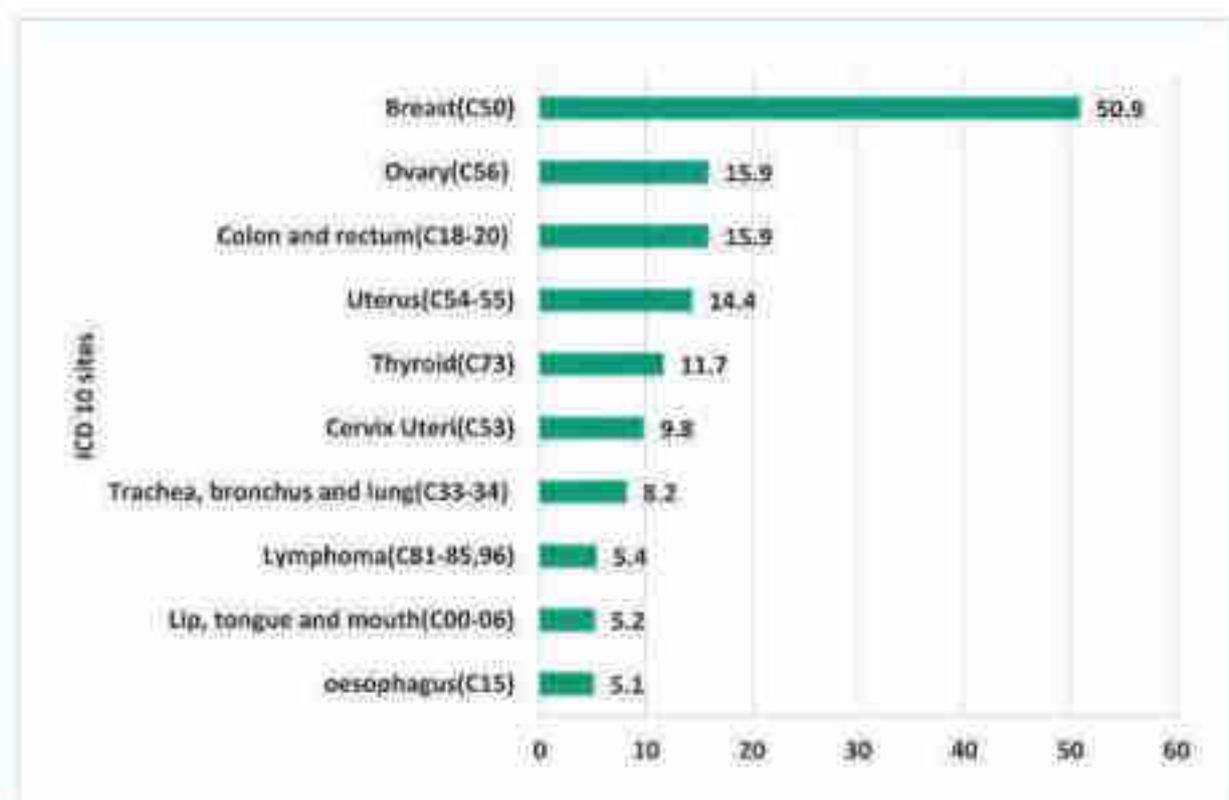


Figure 8: Crude incidence of leading cancers in the Colombo district– Female 2017

Comparison of age standardized cancer incidence rates of leading cancers of 'Population based cancer registry of Colombo district' with the 'National Cancer Registry of Sri Lanka'

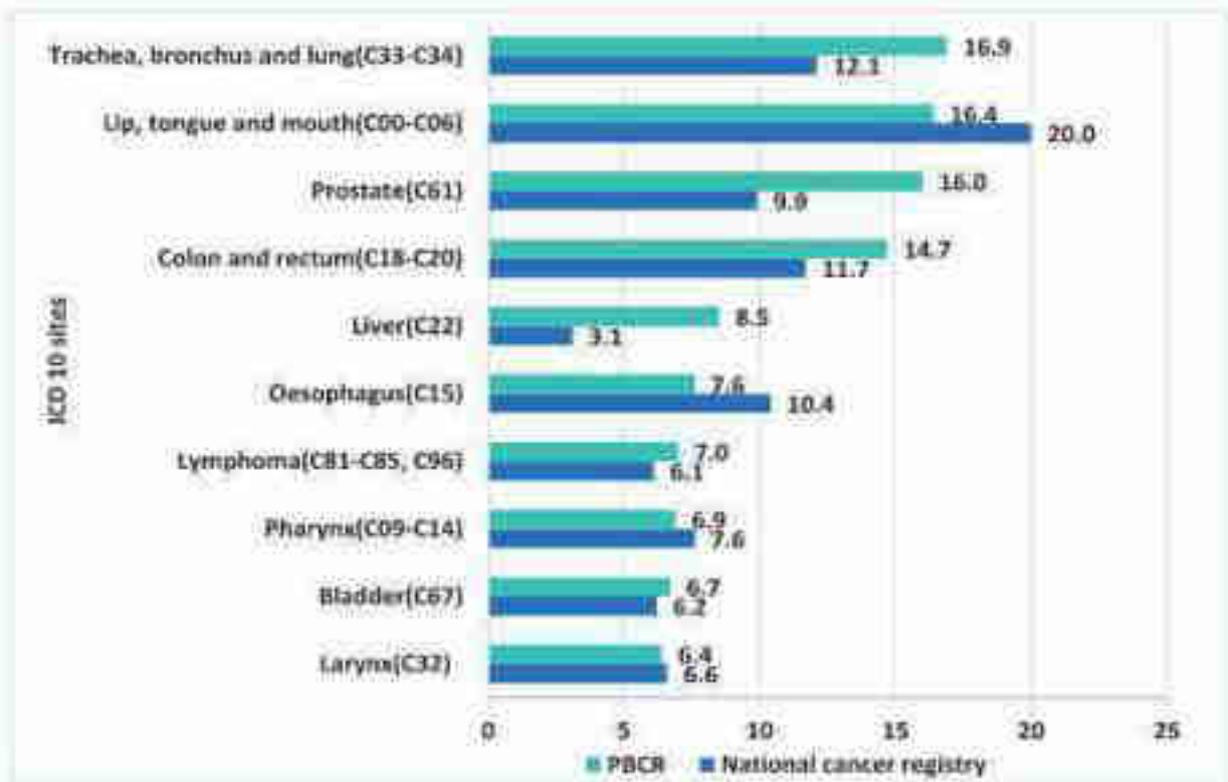


Figure 9: Age standardized incidence rates of leading cancers among males in year-2017 PBCR Colombo district vs National Cancer Registry

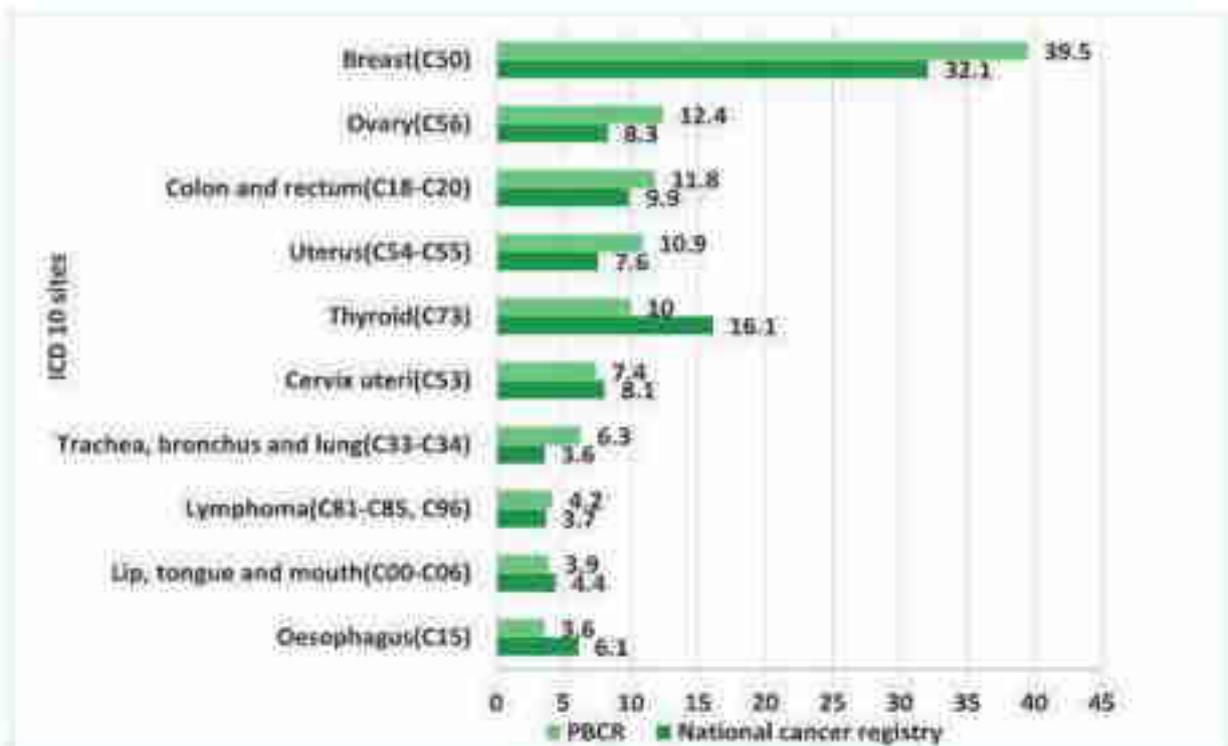


Figure 10: Age standardized incidence rates of leading cancers among females in year-2017 PBCR Colombo district vs National Cancer Registry

Table 6: Number of incidence cancers by five-year age group and site (ICD 10): 2017 – Females Colombo district
Population Based Cancer Registry Colombo District 2017

Cancer Incidence Data 2017
Cases by age group (years) - Female

SITE	ALL AGE GROUPS	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85-89	90-94	95-99	ICD Code	
LP	0																					C00	
Oral cavity	26																						C01
Salivary glands	34																						C02
Esophagus	5																						C15
Stomach	5																						C16
Other respiratory	2																						C18
Non-Hodgkin's	4																						C20
Multiple myeloma	4																						C24
Colon	35																						C18
Rectum	29																						C19
Small intestine	6																						C17
Large intestine	38																						C18
Bladder	16																						C57
Uterus	46																						C53
Endometrium	34																						C54
Prostate	45																						C55
Testis	0																						C56
Penis	0																						C57
Uterine cervix	20																						C53
Uterus (in situ)	0																						C53
Other female genital organs	0																						C53
Bladder	12																						C57
Other sites	2																						C57
Myeloid leukaemia	21																						C81
Lymphoid leukaemia	0																						C82
Other leukaemia	0																						C83
Myeloid lymphoma	13																						C84
Other lymphoma	0																						C85
Multiple myeloma	0																						C88
Brain	0																						C71
Other sites	0																						C71
Brain	0																						C71
Other sites	0																						C71
Brain	0																						C71
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Mortality of cancers

Table 9: Distribution of cancer related deaths reported by Divisional Death Registrars of Colombo district in year 2017

Resident district of the deceased person	No.	%
Colombo	1598	36.9
Another district other than Colombo	1547	63.1
Total	3145	100.0

Table 10: Distribution of no. of deaths, cancer related crude death rate and age standardized death rate among the residents of Colombo district in the year 2017

	Number	%	*CR	**ASR
Male	827	51.8	69.7	62.2
Female	771	48.2	62.6	47.6
Total	1598	100	66.1	53.7

*CR - Cancer related crude death rate per 100,000 population.

**ASR - Cancer related age standardized death rate per 100,000 population.

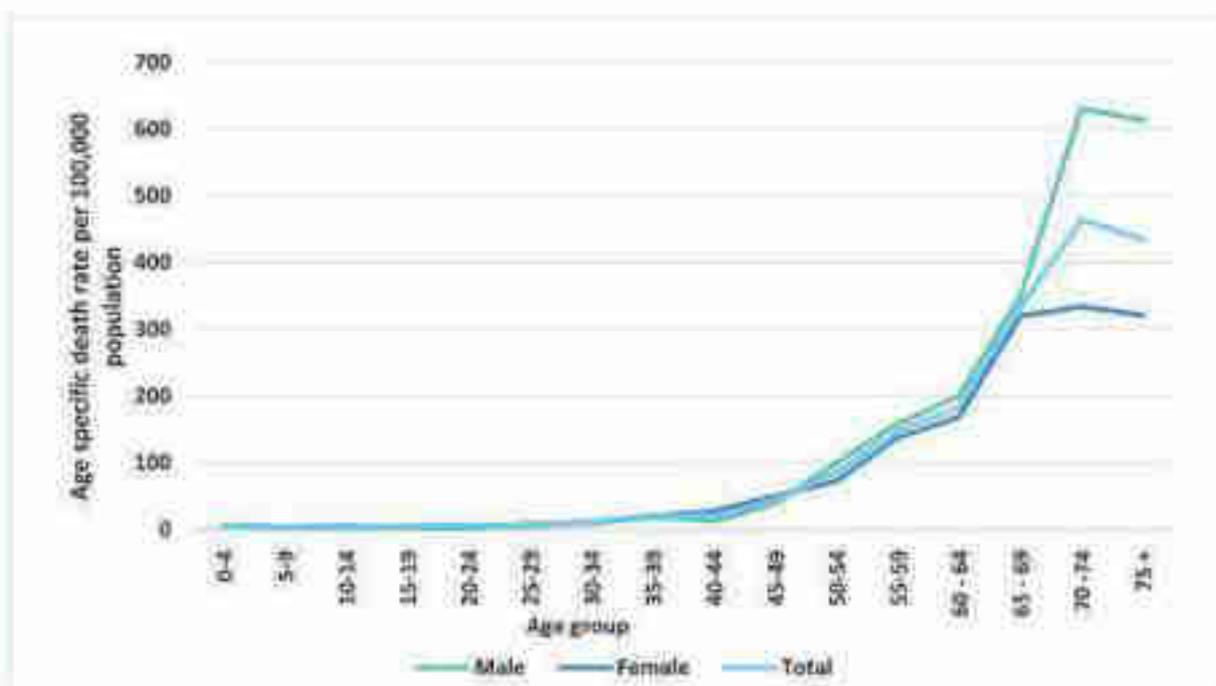


Figure 11: Age specific cancer deaths rates of Colombo district - 2017

Table 11: Cancer related deaths of Colombo district by age group and sex - 2017

Age group	Male			Female			Total		
	Cases	Population	Incidence	Cases	Population	Incidence	Cases	Population	Incidence
Unknown	0		0.0	0		0.0	0	0	0.0
00-04	6	87,597	6.8	5	85,760	5.8	11	173,357	6.3
05-09	2	90,921	2.2	3	88,978	3.4	5	179,900	2.8
10-14	2	87,074	2.3	4	83,964	4.8	6	171,069	3.5
15-19	5	94,272	5.3	2	88,702	2.3	7	182,973	3.8
20-24	6	101,477	5.9	2	100,410	2.0	8	201,887	4.0
25-29	5	97,467	5.1	8	96,781	8.3	13	194,248	6.7
30-34	11	100,655	10.9	10	98,728	10.1	21	199,383	10.5
35-39	16	88,892	18.0	18	89,210	20.2	34	178,103	19.1
40-44	11	86,130	12.8	24	86,206	27.8	35	172,336	20.3
45-49	30	76,752	39.1	41	81,347	50.4	71	158,100	44.9
50-54	71	71,278	99.6	57	78,288	72.8	128	149,566	85.6
55-59	96	60,358	159.1	94	68,518	137.2	190	128,875	147.4
60-64	107	53,294	200.8	104	61,665	168.7	211	114,958	183.5
65-69	133	38,048	349.6	150	46,933	319.6	283	84,981	333.0
70-74	148	23,443	631.3	102	30,510	334.3	250	53,953	463.4
75+	178	29,033	361.1	147	45,823	320.8	325	74,855	434.2
Total	827	1,186,691	69.7	771	1,231,854	62.6	1598	2,418,545	66.1

Ag.Sp.Rate- Age specific death rate per 100,000 population

Leading sites (ICD 10) of cancer mortality

Table 12: Leading sites of cancer mortality of Colombo district – male and female 2017

Male					Female				
ICD 10 code	Site	Cases	CR	ASR	ICD 10 code	Site	Cases	CR	ASR
C33-C34	Trachea, bronchus and lung	114	9.6	8.6	C50	Breast	153	12.4	9.3
C00-C06	Lip, tongue and mouth	74	6.2	5.5	C18-C20	Colon and rectum	58	4.7	3.5
C61	Prostate	63	5.3	4.6	C56	Ovary	53	4.3	3.2
C18-C20	Colon and rectum	59	5.0	4.4	C33-C34	Trachea, bronchus and lung	50	4.1	3.1
C15	Oesophagus	52	4.4	3.9	C54-C55	Uterus	44	3.6	2.7
C22	Liver	46	3.9	3.5	C15	Oesophagus	31	2.5	1.8
C09-C14	Pharynx	34	2.9	2.6	C53	Cervix uteri	29	2.4	1.8
C32	Larynx	26	2.2	1.9	C25	Pancreas	24	1.9	1.4
C67	Bladder	22	1.9	1.6	C00-C06	Lip, tongue and mouth	15	1.3	1.0
C16	Stomach	22	1.9	1.6	C73	Thyroid	13	1.1	0.8
	All sites	827	69.7	62.2		All sites	771	62.6	47.6

CR - Crude death rate per 100,000 population

ASR - Age standardized death rate per 100,000 population

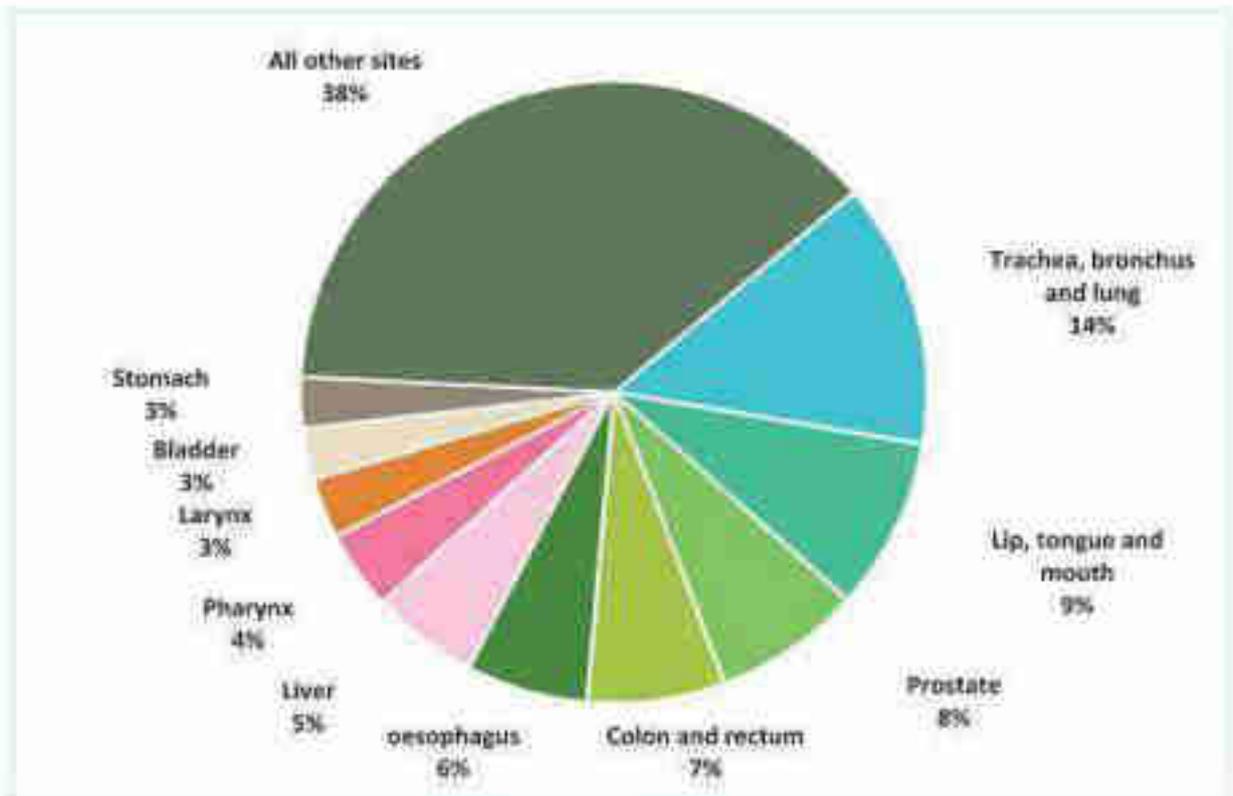


Figure 12: Proportion of leading cancer deaths, Male – 2017

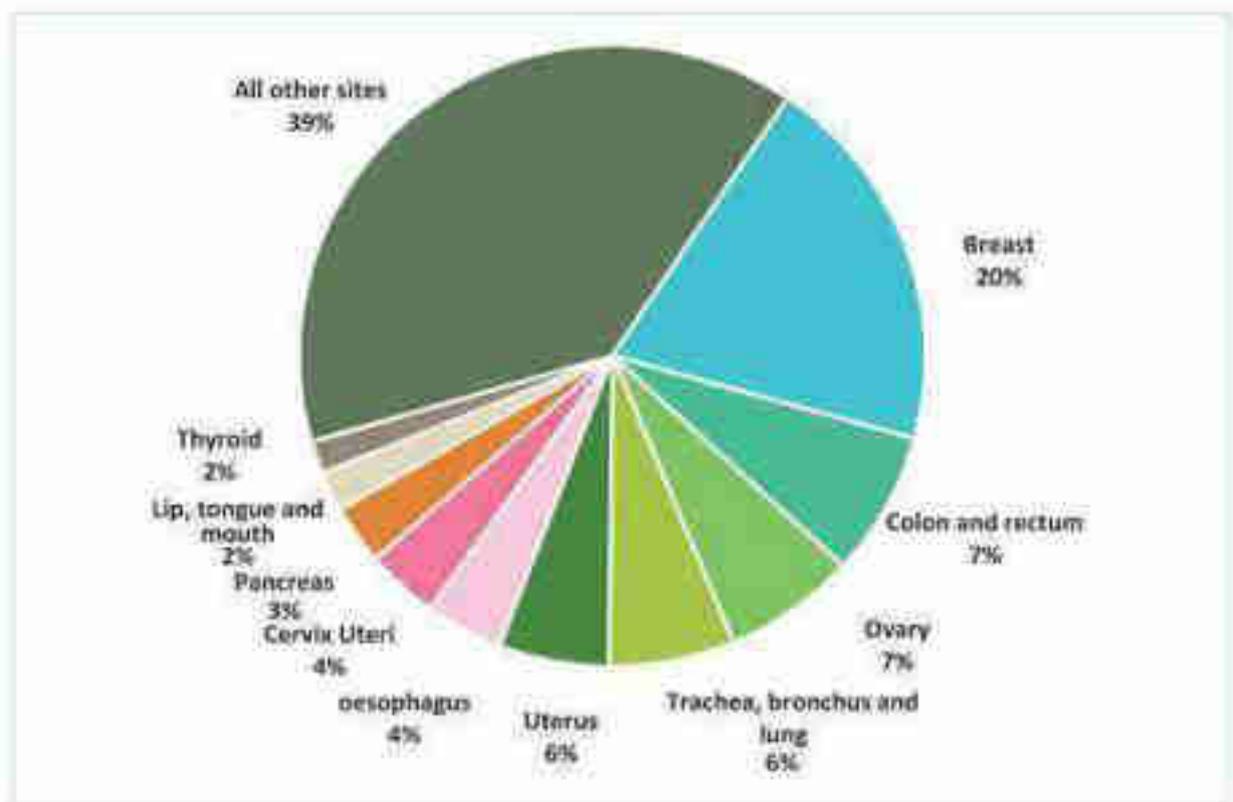


Figure 13: Proportion of leading cancer deaths, Female - 2017

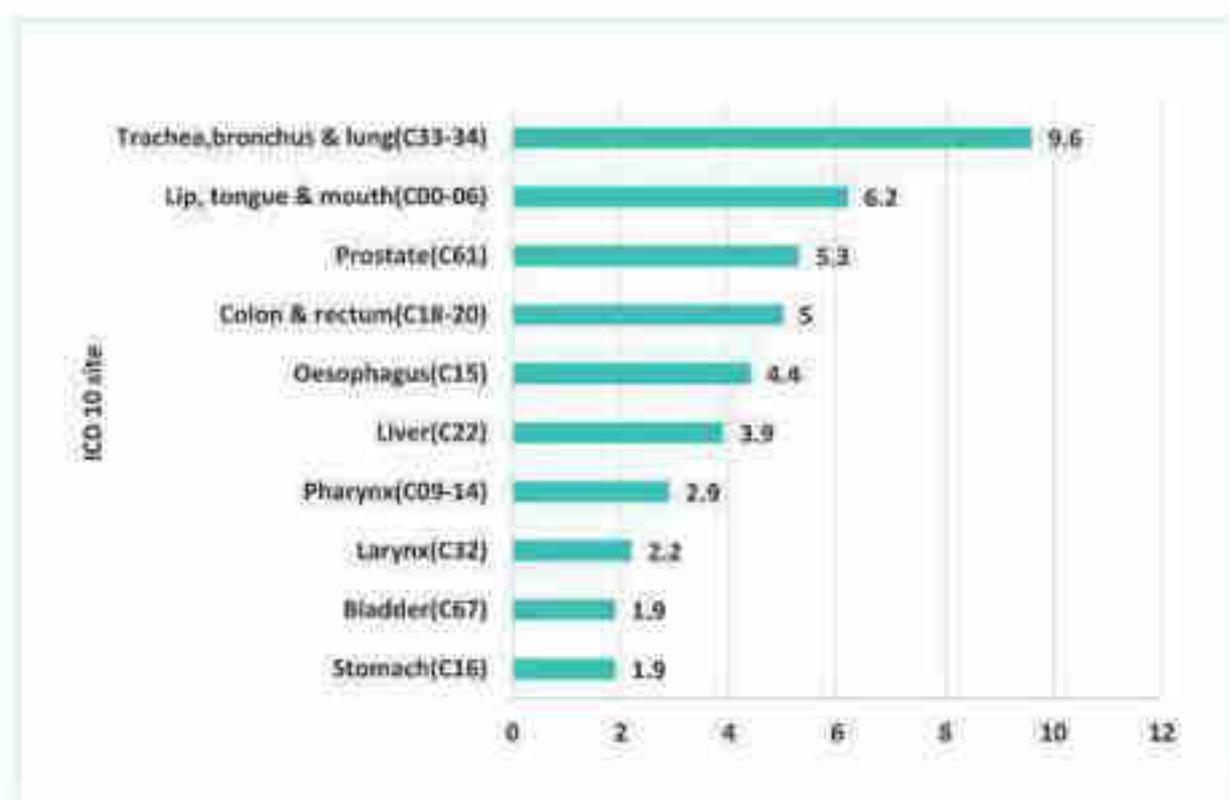


Figure 14: Crude death rate of leading cancer related deaths in the Colombo district- Male 2017

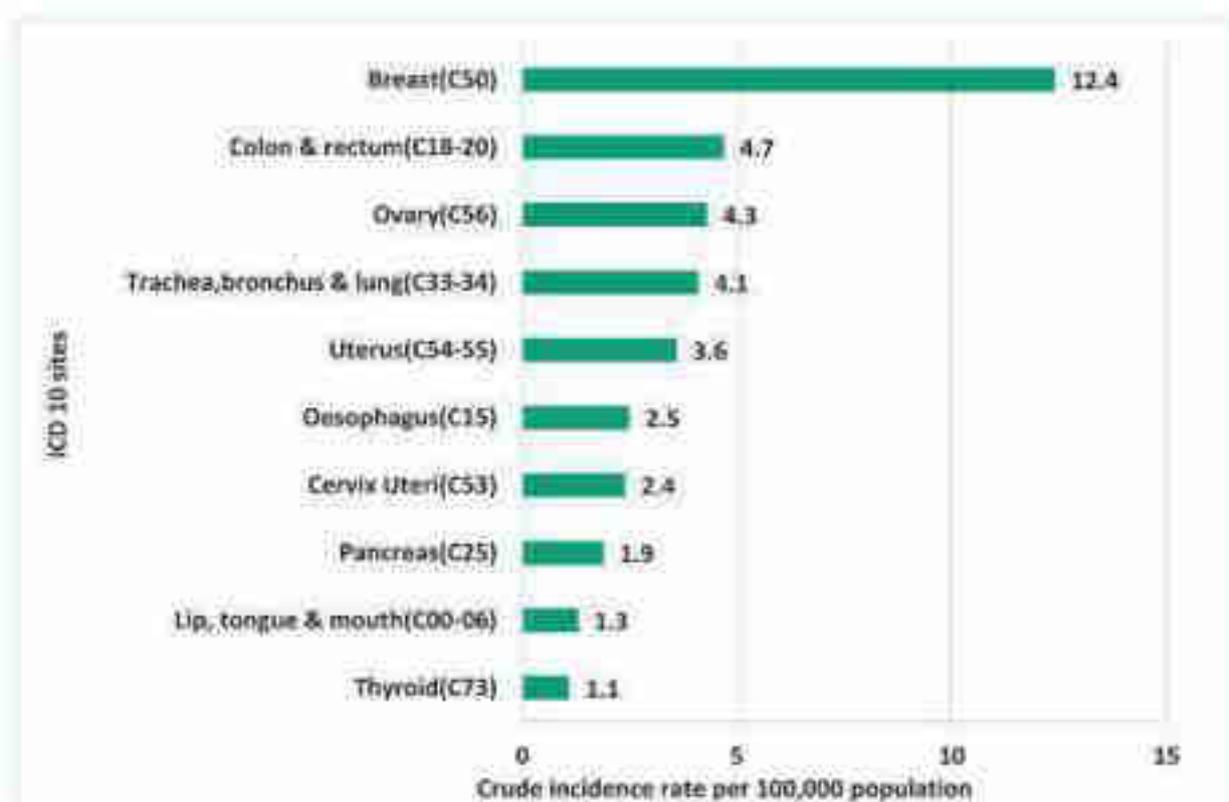


Figure 15: Crude death rate of leading cancer related deaths in the Colombo district- Female 2017

Incidence and Mortality of leading cancers – 2017

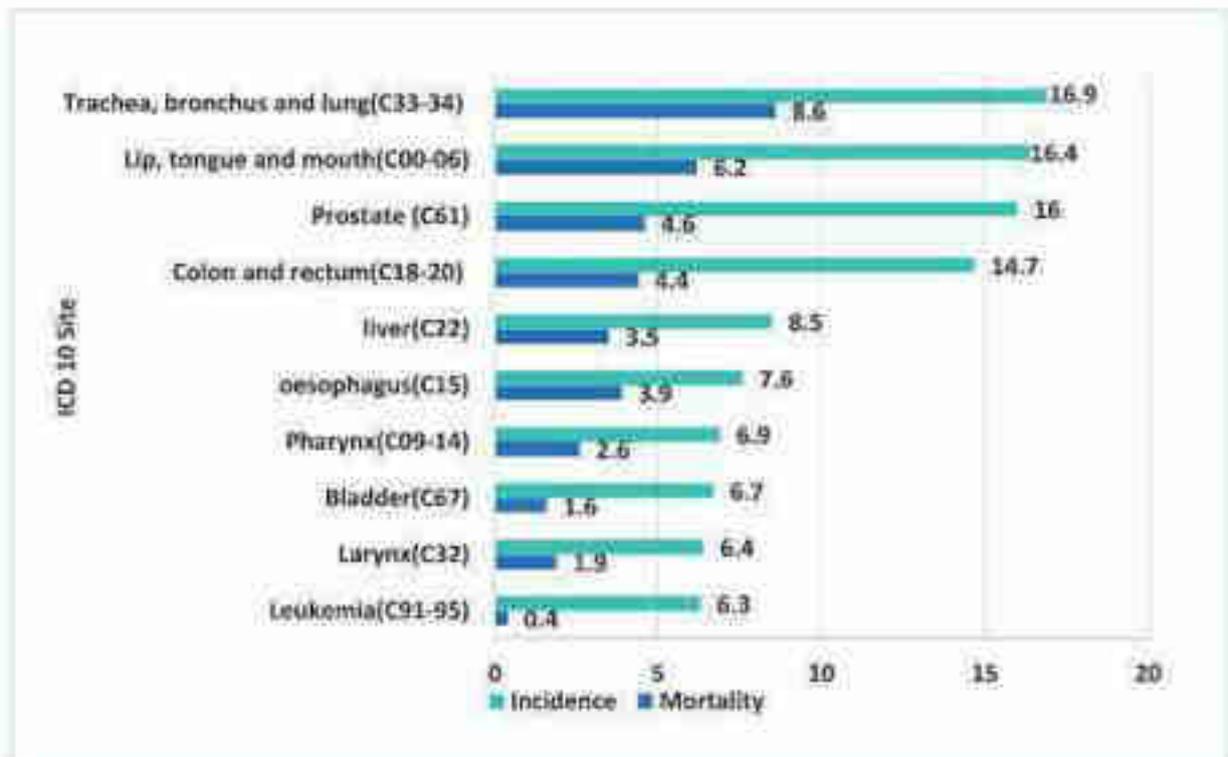


Figure 16: Age standardized incidence rates and death rates of leading cancers in Colombo district – Male 2017.

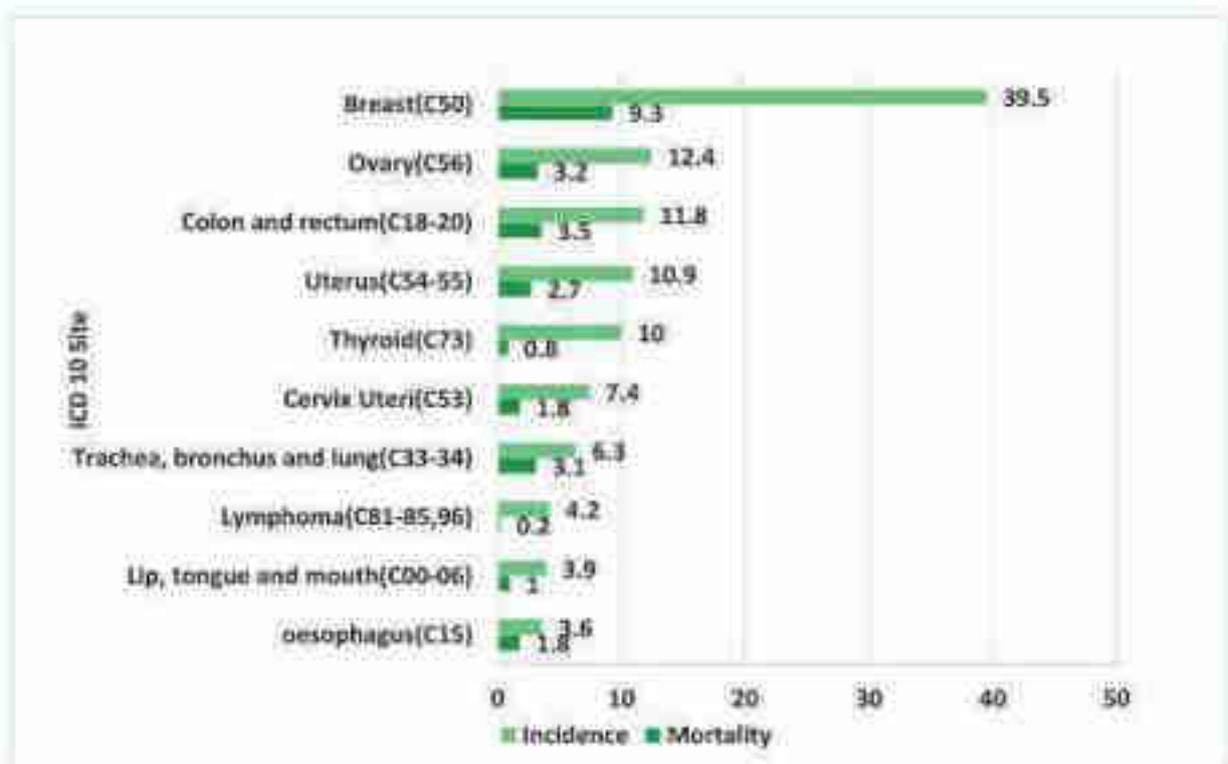


Figure 17: Age standardized incidence rates and death rates of leading cancers in Colombo district – Female 2017

Quality Control

Table 17: Mean values of data quality indicators for comparison of cancer registries in Central, East and South Asia – Male 2017

ICD-10 code and site	MVN		M:FN		ADR	
	Mean	Colombo	Mean	Colombo	Mean	Colombo
C00-C14 Oral Cavity & Pharynx	88.9	69.9	37	33.8	17	24.1
C15 Oesophagus	78.5	49.5	86.6	51.5	3.6	7.6
C16 Stomach	74.1	67.6	60.3	31.0	13.9	5.3
C18-C21 Large bowel	86.4	63.9	42.9	30.2	18.8	15.3
C22 Liver	29.2	38.2	86.7	41.8	16.5	8.5
C25 Pancreas	44.7	38.2	85.2	50.0	2.9	2.5
C32 Larynx	90.5	61.6	43.1	30.2	4.8	6.4
C33-C34 Trachea, Bronchus & Lung	68.2	53.8	81	50.7	36.4	16.9
C43 Melanoma of Skin	92.8	0	28	0.0	0.6	0.1
C50 Breast	76.8	84.1	44.4	36.4	0.6	3.3
C61 Prostate	83.1	52.1	27.6	29.9	11.5	16.0
C62 Testis	84.8	62.5	8.8	25.0	0.9	0.6
C64-C66 Kidney, Renal pelvis & Ureter	78.3	63.6	35	16.4	3	4.1
C67 Bladder	89.9	61.1	32	24.4	5.4	6.8
C70-C72 Brain; Central Nervous System	70.7	65.3	62	32.7	2.4	3.8
C73 Thyroid	88.9	80.0	11.2	22.5	1.6	2.9
C81-C88, C96 Lymphoma	90.4	89.1	38.7	3.6	8.3	8.6
C91-C95 Leukaemia	91	97.4	45.1	6.6	5.6	6.4
C76-C80 Unspecified	62.6	30.5	58.5	82.9	9	18.0
C00-C96 excluding C44 All sites (Excluding non-melanoma skin)	73.4	59.1	56.5	37.7	171.7	165.3

Table 18: Mean values of data quality indicators for comparison of cancer registries in Central, East and South Asia – Female 2017

ICD-O3 Code and site		NCC		MCC		ASR	
		Mean	Colombo	Mean	Colombo	Mean	Colombo
C00-C14	Oral Cavity & Pharynx	86	71.1	29.4	23.9	9.3	5.6
C15	Oesophagus	77.3	55.6	66.2	49.2	2	3.6
C16	Stomach	73.1	58.6	57.6	34.5	7.4	1.8
C18-C21	Large bowel	86.4	68.8	44.2	29.2	14	12.2
C22	Liver	28.5	45.8	95.1	43.8	5	3.0
C25	Pancreas	45.6	30.2	82.8	35.8	2.2	2.6
C32	Larynx	83.0	50.0	40.7	65.0	0.7	1.1
C33-C34	Trachea, Bronchus & Lung	69.1	56.4	78.5	49.5	10.3	6.3
C43	Melanoma of Skin	93.3	50.0	36.7	0.0	0.3	0.3
C50	Breast	91	73.5	23.4	24.6	40.2	39.4
C53	Cervix uteri	89.5	73.3	30	24.2	15.7	7.4
C54-C55	Corpus Uteri & Uterus unspecified	85.2	76.3	17.1	24.9	6.6	10.9
C56	Ovary	82.5	73.0	37.1	27.0	8	12.4
C64-C66	Kidney, Renal pelvis & Ureter	73.8	56.7	37.5	36.7	1.5	2.0
C67	Bladder	86.2	57.7	34	19.2	1.3	1.6
C70-C72	Brain, Central Nervous System	66.6	46.5	64	44.2	1.8	3.0
C73	Thyroid	92.4	88.9	8.6	9.0	5.1	9.6
C81-C88,C96	Lymphoma	89.2	96.9	41.3	2.1	5.3	6.1
C91-C95	Leukaemia	89.6	100.0	54.1	12.7	4.4	4.2
C76-C80	Unspecified	60.8	14.4	55	83.1	6.4	12.4
C00-C96 excluding C44	All sites (Excluding non-melanoma skin)	82	66.5	42.1	31.8	156.6	153.0

The percentage of 'Other and unspecified sites', including primary site unknown is related to the quality of diagnostic information and quality of documentation of the medical records.

Table 19: Distribution of 'Other and unspecified sites' by Sex - Colombo District 2017

ICD 10 code and site		Male		Female	
		No.	%	No.	%
C26	Other & ill defined digestive organs	6	0.3	9	0.4
C48	Retroperitoneum & peritoneum	4	0.2	5	0.2
C75	Other and ill defined sites	16	0.7	16	0.7
C80	Unknown primary	189	8.6	164	6.7
Total		215	9.8	194	8.0

**Cancer Incidence and Mortality Data
Colombo District, Sri Lanka
2018**

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2018

Incidence of Cancers – Colombo District, Sri Lanka

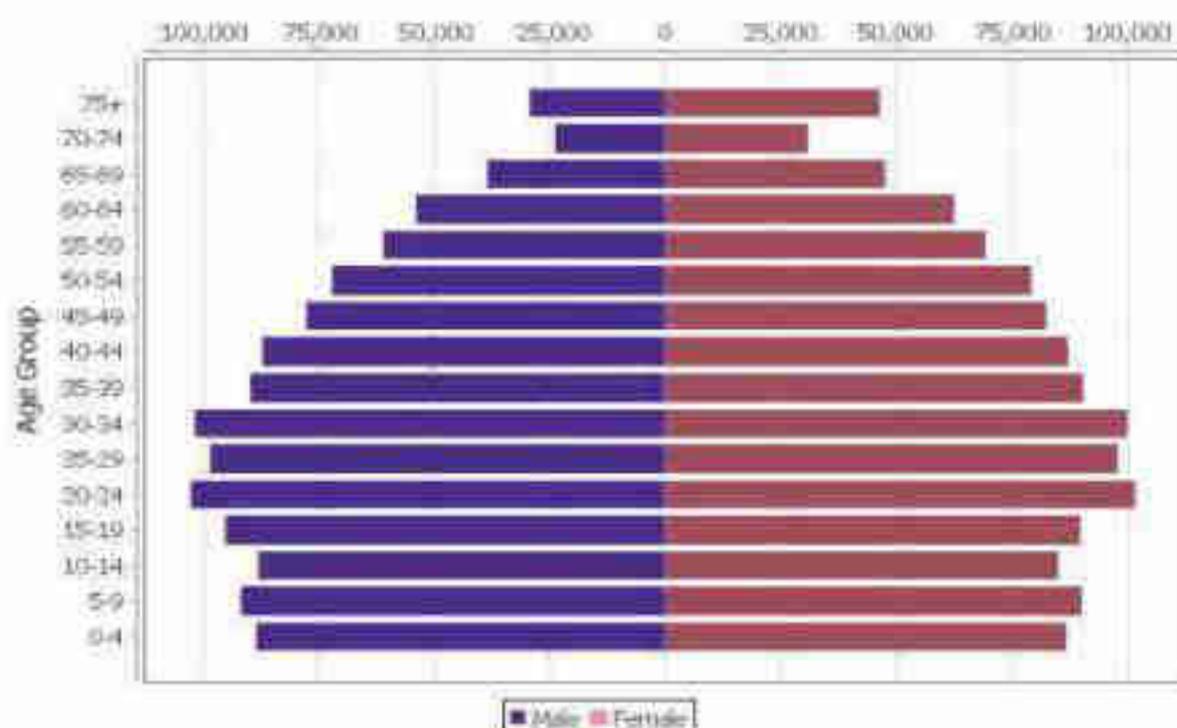


Figure 1: Population pyramid of Colombo district in 2018 by 5 – year age group-2018

Table 1: Distribution of population according to sex in Colombo district and Sri Lanka-2018

	Male	Female	Total
Colombo district	1196628 (49.1%)	1242171 (50.9%)	2438799 (100%)
Sri Lanka	10491462 (48.4%)	11178049 (51.6%)	21669511 (100%)

Table 2: Cancer incidence in Colombo district – 2018

	Number	%	*CIR	**ASR
Male	1,819	47.5	152.0	136.9
Female	2,014	52.5	162.1	125.4
Total	3,833	100.0	157.1	129.4

*CIR - Crude cancer incidence rate per 100,000 population

**ASR- Age Standardized cancer incidence Rate per 100,000 population



* CR - Crude cancer incidence rate per 100,000 population

**ASR- Age Standardized cancer incidence Rate per 100,000 population

Figure 2: Cancer incidence rates, Colombo districts -2018

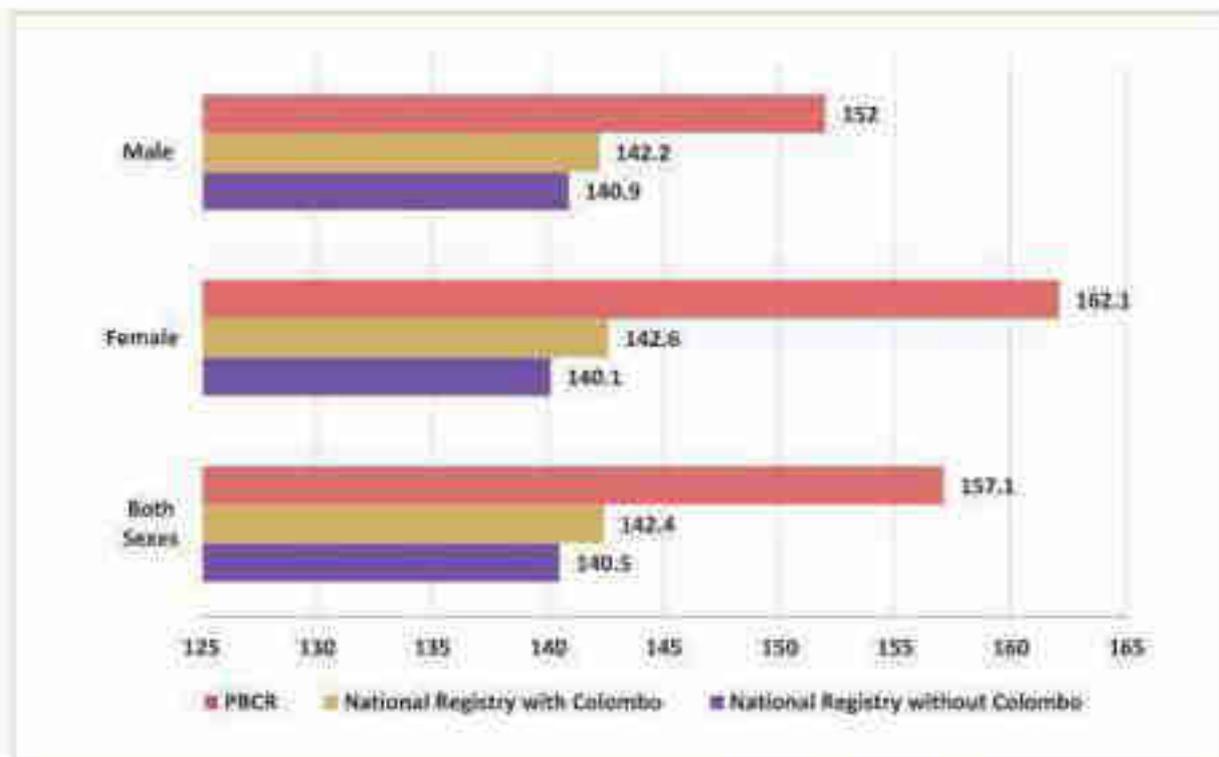


Figure 3: Comparison of Crude Incidence Rates Of Colombo PBCR, National Cancer Registry (Including Colombo District) and National Cancer Registry (Without Colombo District) – 2018

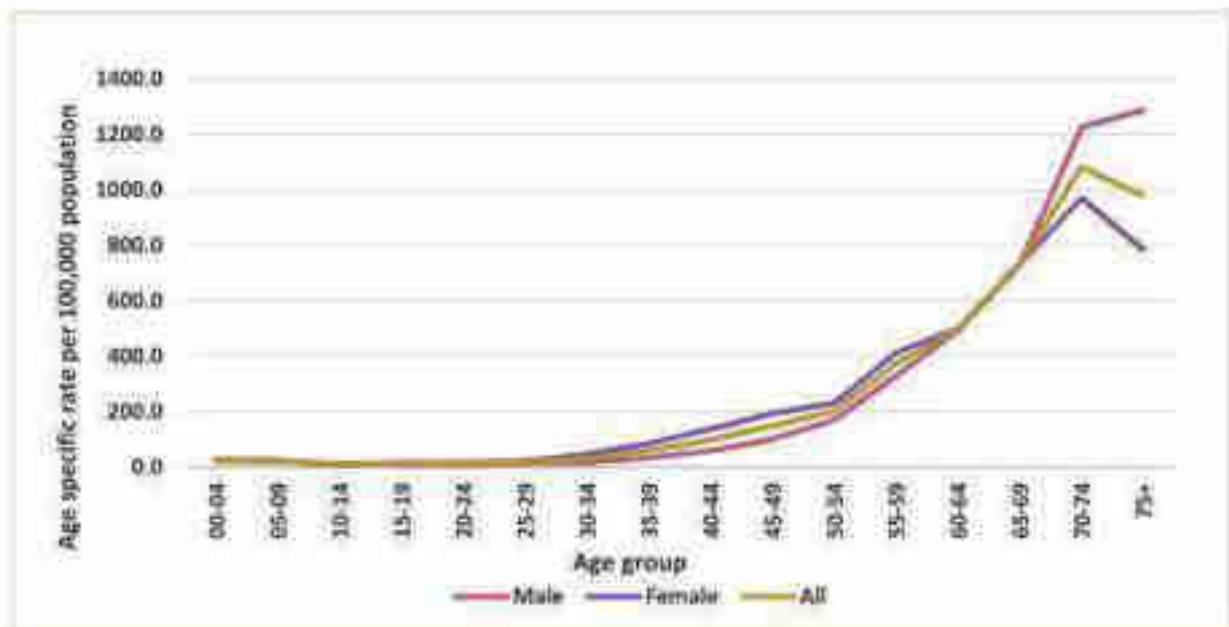


Figure 4: Age Specific Cancer Incidence Rates of Colombo District – 2018

Table 3: Cancer incidence of Colombo district by age and sex-2018

Age group	Male			Female			Total		
	Cases	Population	Incidence	Cases	Population	Incidence	Cases	Population	Incidence
Unknown	1			0			1		
00-04	17	88,330	15	13	86,478	15.2	30	174,809	17.2
05-09	8	91,683	5.6	5	89,724	8.7	13	181,406	7.2
10-14	13	87,803	8.3	7	84,698	14.8	20	172,501	11.6
15-19	11	95,091	12.3	11	89,445	11.6	22	184,506	11.9
20-24	9	102,327	10.9	11	101,251	8.8	20	203,578	9.8
25-29	25	98,283	22.5	22	97,592	25.4	47	195,875	24.0
30-34	13	101,498	32.1	32	99,555	10.8	45	201,053	22.4
35-39	23	89,637	67.8	61	89,958	25.7	84	179,594	46.8
40-44	54	86,851	115	100	86,928	62.2	154	173,779	88.6
45-49	73	77,395	164.6	135	82,029	94.3	208	159,424	130.5
50-54	149	71,875	253.3	200	78,944	207.3	349	150,819	231.4
55-59	200	60,863	318.4	220	69,091	328.6	420	129,955	323.2
60-64	272	53,740	558	347	62,181	506.1	619	115,921	534.0
65-69	325	38,366	612.8	290	47,326	847.1	615	85,692	717.7
70-74	303	23,639	806.1	248	30,766	1281.8	551	54,405	1012.8
75+	323	29,276	675.2	312	46,206	1103.3	635	75,482	841.3
Total	1819	1,196,628	157.0	2014	1,242,171	162.1	3833	2,438,799	157.1

*Ag. Sp. In rate – Age specific incidence rate per 100,000 population

Leading cancer sites

Table 4: Leading sites of cancer incidence of Colombo district by sex – 2018

Male					Female				
ICD 10 code	Site	Cases	CR	ASR	ICD 10 code	Site	Cases	CR	ASR
C33-C34	Trachea, bronchus and lung	191	16.0	14.3	C50	Breast	522	42.0	32.3
C00-C06	Lip, tongue and mouth	172	14.4	12.8	C54-C55	Uterus	154	12.4	9.4
C61	Prostate	172	14.4	12.8	C56	Ovary	150	12.1	9.2
C18-C20	Colon and rectum	157	13.1	11.7	C18-C20	Colon and rectum	132	10.6	7.7
C22	Liver	116	9.7	8.8	C53	Cervix uteri	129	10.4	8.1
C15	Oesophagus	87	7.3	6.5	C73	Thyroid	126	10.1	8.6
C32	Larynx	79	6.6	5.8	C33-C34	Trachea, bronchus and lung	103	8.3	6.4
C67	Bladder	74	6.2	5.5	C00-C06	Lip, tongue and mouth	53	4.3	3.1
C16	Stomach	53	4.4	3.9	C15	Oesophagus	46	3.7	2.7
C64	Kidney	44	3.7	3.3	C91-C95	Leukaemia	42	3.4	3.4
	All sites	1819	152.0	136.9		All sites	2014	162.1	125.4

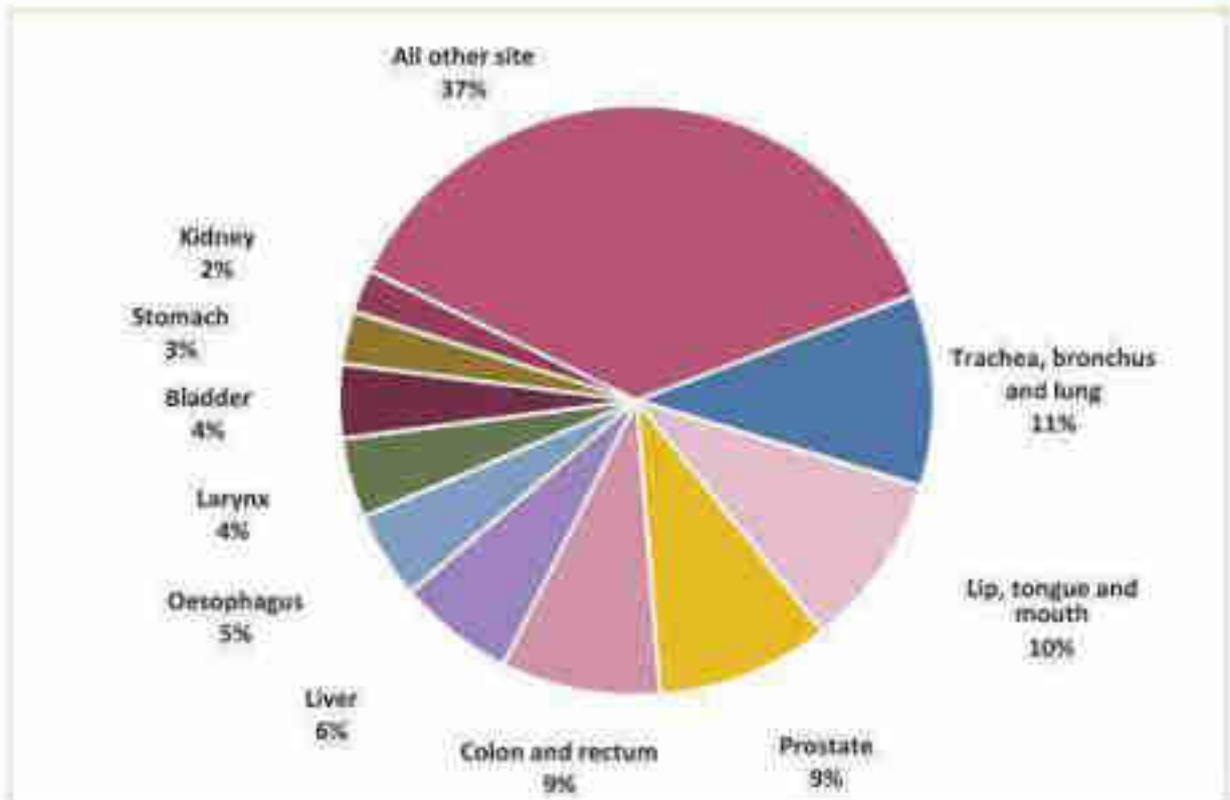


Figure 5: Proportion of incidence of leading cancers in the Colombo district- Male 2018

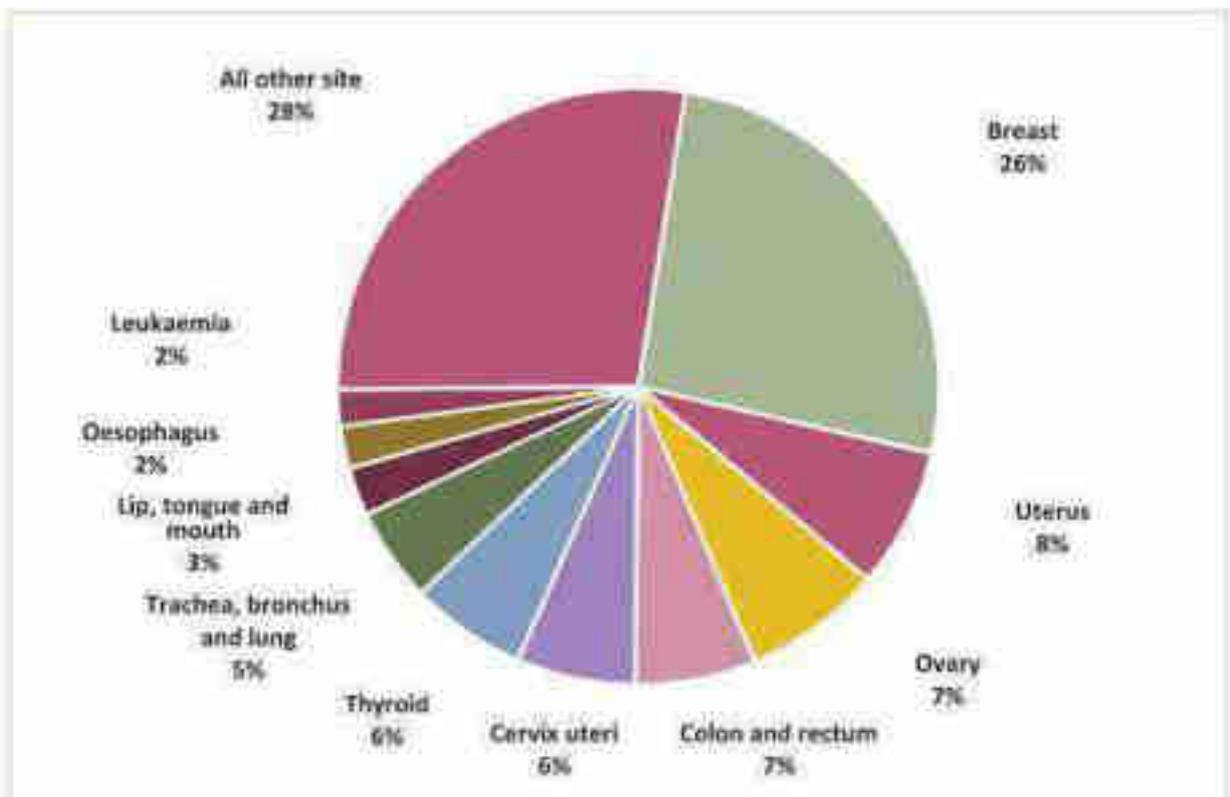


Figure 6: Proportion of incidence of leading cancers in the Colombo district- Female 2018

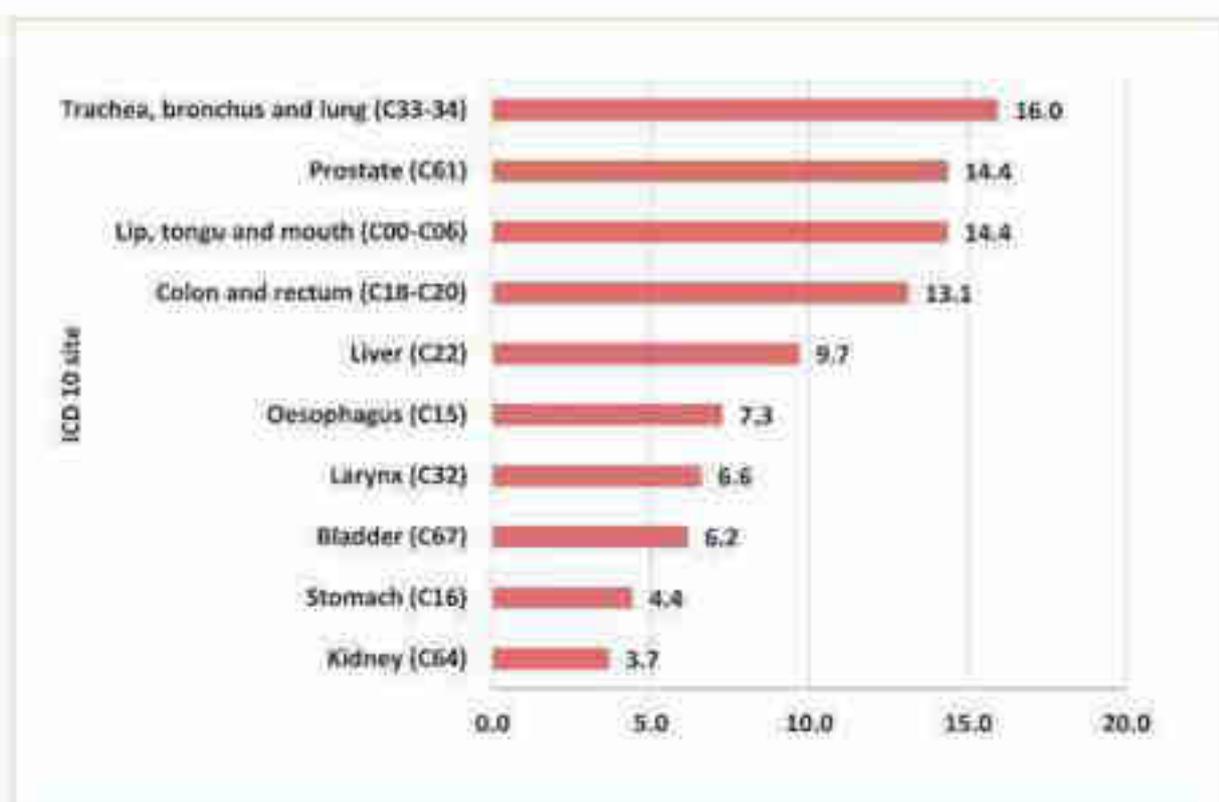


Figure 7: Crude incidence of leading cancers in the Colombo district- Male 2018

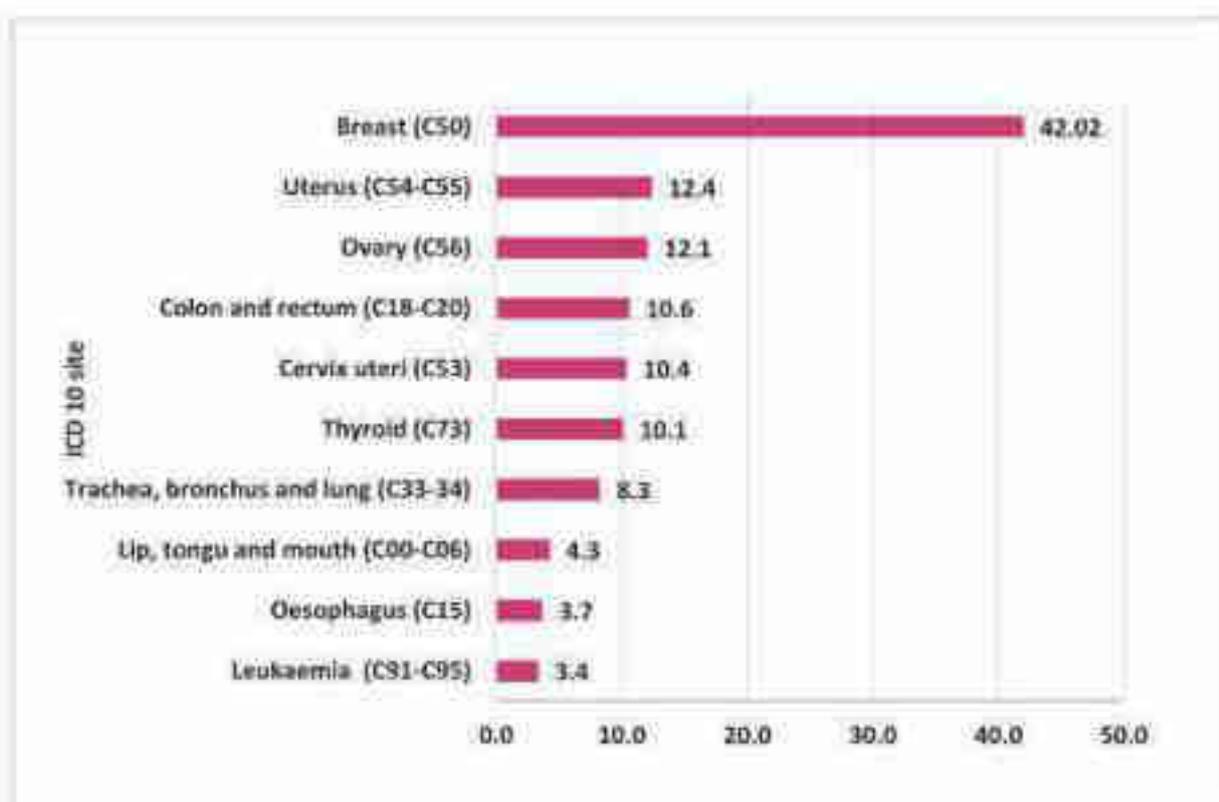


Figure 8: Crude incidence of leading cancers in the Colombo district- Female 2018

Comparison of age standardized cancer incidence rates of leading cancers of 'Population based cancer registry of Colombo district' with the 'National Cancer Registry of Sri Lanka'

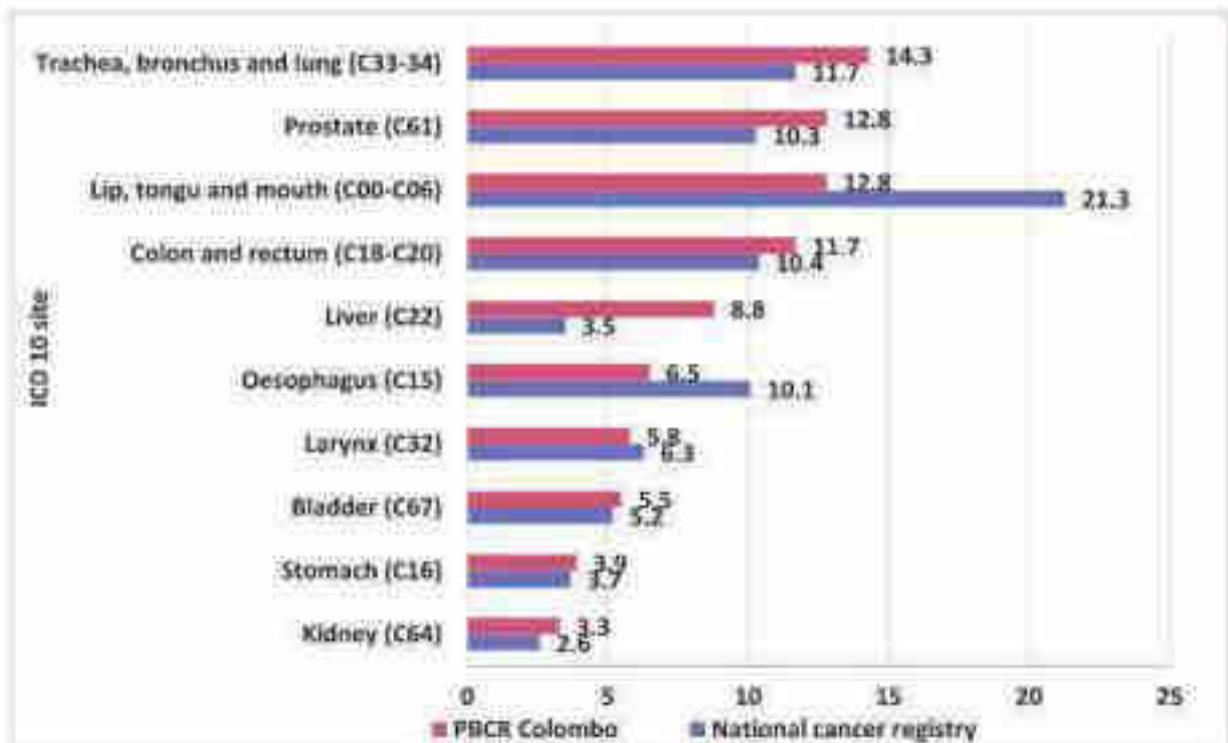


Figure 9: Age standardized incidence rates of leading cancers among males in year 2018 - PBCR Colombo district vs National Cancer Registry

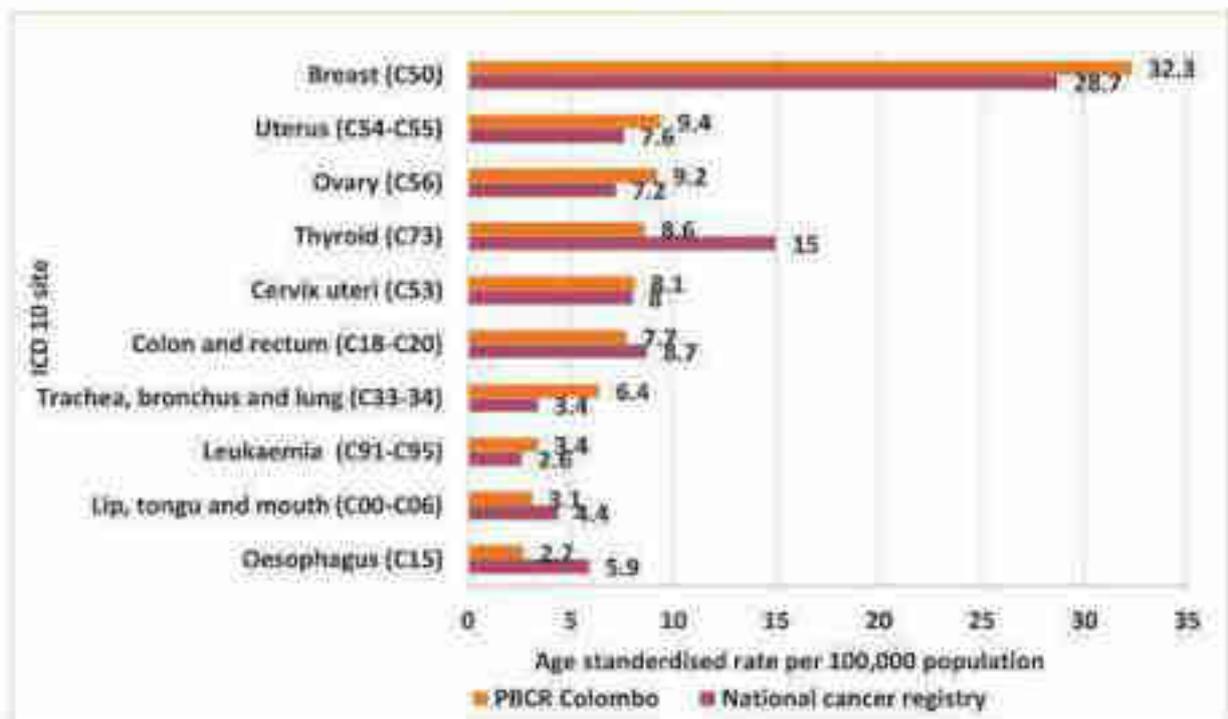


Figure 10: Age standardized incidence rates of leading cancers among females in year 2018 - PBCR Colombo district vs National Cancer Registry

Table 7: Age specific incidence rate, Crude incidence rate (CR), Age standardized incidence rate (ASR) per 100,000 population & Cumulative risk of cancers by five-year age group and site (ICD 10) : 2018 – Males Colombo district

Population Based Cancer Registry Colombo District - 2018

Cumulative Incidence Data 2018

(Incidence per 100,000 by age group (N=101) - Male)

ICD10	ALL sites N=101	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	CR	ASR	95% CI	ICD10
Leu	31									12	14	18	24	34	44	54	64	74	84	94	104	C82
Thyroid	20									12	14	18	24	34	44	54	64	74	84	94	104	C83
Melan	81									18	22	28	36	46	58	72	88	104	120	136	152	C84
Adeno	1									1	1	1	1	1	1	1	1	1	1	1	1	C85
Prosta	1									1	1	1	1	1	1	1	1	1	1	1	1	C86
Other	1									1	1	1	1	1	1	1	1	1	1	1	1	C87
Bladder	1									1	1	1	1	1	1	1	1	1	1	1	1	C88
Rectum	1									1	1	1	1	1	1	1	1	1	1	1	1	C89
Colon	1									1	1	1	1	1	1	1	1	1	1	1	1	C90
Stomach	1									1	1	1	1	1	1	1	1	1	1	1	1	C91
Esophagus	1									1	1	1	1	1	1	1	1	1	1	1	1	C92
Small intestine	1									1	1	1	1	1	1	1	1	1	1	1	1	C93
Large intestine	1									1	1	1	1	1	1	1	1	1	1	1	1	C94
Rectum	1									1	1	1	1	1	1	1	1	1	1	1	1	C95
Anal	1									1	1	1	1	1	1	1	1	1	1	1	1	C96
Uterus	1									1	1	1	1	1	1	1	1	1	1	1	1	C97
Bladder	1									1	1	1	1	1	1	1	1	1	1	1	1	C98
Prostate	1									1	1	1	1	1	1	1	1	1	1	1	1	C99
Neuro	1									1	1	1	1	1	1	1	1	1	1	1	1	C00
Brain	1									1	1	1	1	1	1	1	1	1	1	1	1	C01
Other	1									1	1	1	1	1	1	1	1	1	1	1	1	C02
Esophagus	1									1	1	1	1	1	1	1	1	1	1	1	1	C03
Stomach	1									1	1	1	1	1	1	1	1	1	1	1	1	C04
Small intestine	1									1	1	1	1	1	1	1	1	1	1	1	1	C05
Large intestine	1									1	1	1	1	1	1	1	1	1	1	1	1	C06
Rectum	1									1	1	1	1	1	1	1	1	1	1	1	1	C07
Anal	1									1	1	1	1	1	1	1	1	1	1	1	1	C08
Uterus	1									1	1	1	1	1	1	1	1	1	1	1	1	C09
Bladder	1									1	1	1	1	1	1	1	1	1	1	1	1	C10
Prostate	1									1	1	1	1	1	1	1	1	1	1	1	1	C11
Neuro	1									1	1	1	1	1	1	1	1	1	1	1	1	C12
Brain	1									1	1	1	1	1	1	1	1	1	1	1	1	C13
Other	1									1	1	1	1	1	1	1	1	1	1	1	1	C14
Esophagus	1									1	1	1	1	1	1	1	1	1	1	1	1	C15
Stomach	1									1	1	1	1	1	1	1	1	1	1	1	1	C16
Small intestine	1									1	1	1	1	1	1	1	1	1	1	1	1	C17
Large intestine	1									1	1	1	1	1	1	1	1	1	1	1	1	C18
Rectum	1									1	1	1	1	1	1	1	1	1	1	1	1	C19
Anal	1									1	1	1	1	1	1	1	1	1	1	1	1	C20
Uterus	1									1	1	1	1	1	1	1	1	1	1	1	1	C21
Bladder	1									1	1	1	1	1	1	1	1	1	1	1	1	C22
Prostate	1									1	1	1	1	1	1	1	1	1	1	1	1	C23
Neuro	1									1	1	1	1	1	1	1	1	1	1	1	1	C24
Brain	1									1	1	1	1	1	1	1	1	1	1	1	1	C25
Other	1									1	1	1	1	1	1	1	1	1	1	1	1	C26
Esophagus	1									1	1	1	1	1	1	1	1	1	1	1	1	C27
Stomach	1									1	1	1	1	1	1	1	1	1	1	1	1	C28
Small intestine	1									1	1	1	1	1	1	1	1	1	1	1	1	C29
Large intestine	1									1	1	1	1	1	1	1	1	1	1	1	1	C30
Rectum	1									1	1	1	1	1	1	1	1	1	1	1	1	C31
Anal	1									1	1	1	1	1	1	1	1	1	1	1	1	C32
Uterus	1									1	1	1	1	1	1	1	1	1	1	1	1	C33
Bladder	1									1	1	1	1	1	1	1	1	1	1	1	1	C34
Prostate	1									1	1	1	1	1	1	1	1	1	1	1	1	C35
Neuro	1									1	1	1	1	1	1	1	1	1	1	1	1	C36
Brain	1									1	1	1	1	1	1	1	1	1	1	1	1	C37
Other	1									1	1	1	1	1	1	1	1	1	1	1	1	C38
Esophagus	1									1	1	1	1	1	1	1	1	1	1	1	1	C39
Stomach	1									1	1	1	1	1	1	1	1	1	1	1	1	C40
Small intestine	1									1	1	1	1	1	1	1	1	1	1	1	1	C41
Large intestine	1									1	1	1	1	1	1	1	1	1	1	1	1	C42
Rectum	1									1	1	1	1	1	1	1	1	1	1	1	1	C43
Anal	1									1	1	1	1	1	1	1	1	1	1	1	1	C44
Uterus	1									1	1	1	1	1	1	1	1	1	1	1	1	C45
Bladder	1									1	1	1	1	1	1	1	1	1	1	1	1	C46
Prostate	1									1	1	1	1	1	1	1	1	1	1	1	1	C47
Neuro	1									1	1	1	1	1	1	1	1	1	1	1	1	C48
Brain	1									1	1	1	1	1	1	1	1	1	1	1	1	C49
Other	1									1	1	1	1	1	1	1	1	1	1	1	1	C50
Esophagus	1									1	1	1	1	1	1	1	1	1	1	1	1	C51
Stomach	1									1	1	1	1	1	1	1	1	1	1	1	1	C52
Small intestine	1									1	1	1	1	1	1	1	1	1	1	1	1	C53
Large intestine	1									1	1	1	1	1	1	1	1	1	1	1	1	C54
Rectum	1									1	1	1	1	1	1	1	1	1	1	1	1	C55
Anal	1									1	1	1	1	1	1	1	1	1	1	1	1	C56
Uterus	1									1	1	1	1	1	1	1	1	1	1	1	1	C57
Bladder	1									1												

Mortality of Cancers

Table 9: Distribution of cancer related deaths reported by Divisional Death Registrars of Colombo district in year 2018

Resident district of the deceased person	No.	%
Colombo	1532	60.0
Another district other than Colombo	1020	7.6
Total	2552	100

Table 10: Distribution of no. of deaths, cancer related crude death rate and age standardized death rate among the residents of Colombo district in the year 2018

	Number	%	*CR	**ASR
Male	784	51.2	65.5	58.4
Female	748	48.8	60.2	44.2
Total	1532	100	62.8	50.4

*CR- Cancer related crude death rate per 100,000 population;

**ASR - Cancer related age standardized death rate per 100,000 populations

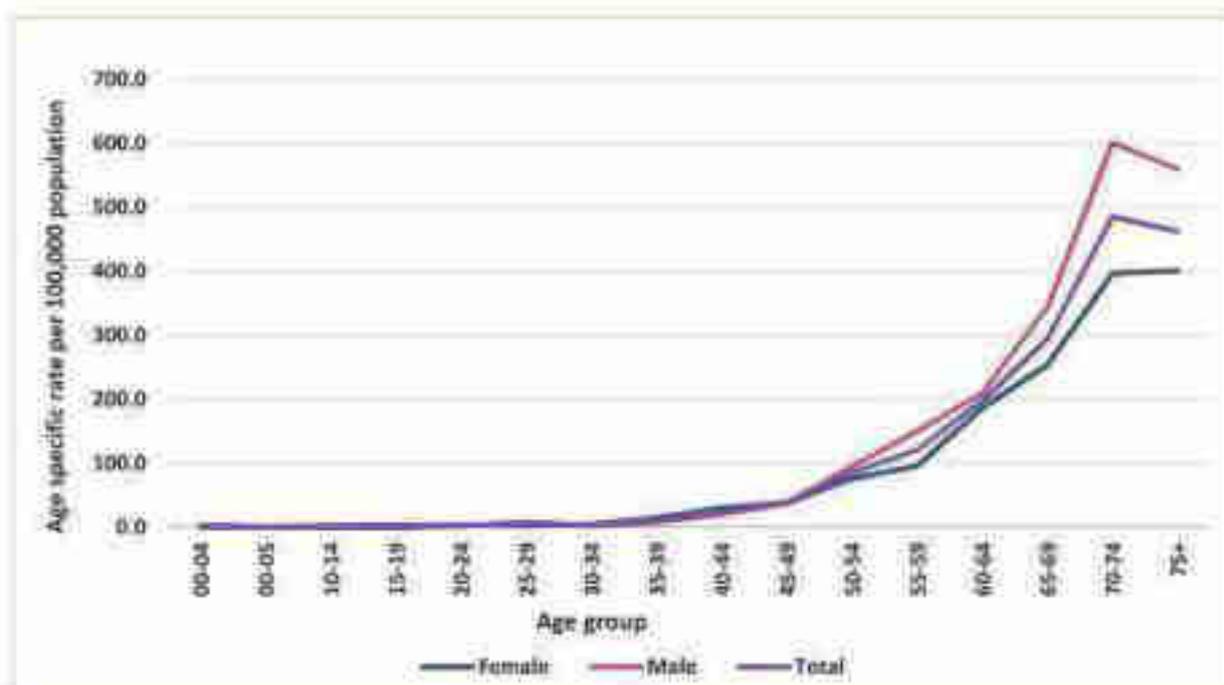


Figure 11: Age specific cancer deaths rates of Colombo district - 2018

Table 11: Cancer related deaths of Colombo district by age group and sex - 2018

Age group	Male			Female			Total		
	Cases	Population	Incidence	Cases	Population	Incidence	Cases	Population	Incidence
Unknown	1			0			1		
00-04	3	88,330	3.4	0	86,478	0.0	3	174,809	1.7
05-09	0	91,683	0.0	0	89,724	0.0	0	181,406	0.0
10-14	2	87,803	2.3	0	84,698	0.0	2	172,501	1.2
15-19	3	95,061	3.2	0	89,445	0.0	3	184,506	1.6
20-24	2	102,327	2.0	3	101,251	3.0	5	203,578	2.5
25-29	8	98,283	8.1	2	97,592	2.0	10	195,875	5.1
30-34	2	101,498	2.0	4	99,555	4.0	6	201,053	3.0
35-39	7	89,637	7.8	13	89,958	14.5	20	179,594	11.1
40-44	17	86,851	19.6	26	86,928	29.9	43	173,779	24.7
45-49	29	77,395	37.5	31	82,029	37.8	60	159,424	37.6
50-54	58	71,875	80.6	60	78,944	76.0	128	150,819	84.9
55-59	91	60,863	149.5	66	69,091	95.5	157	129,955	120.8
60-64	113	53,740	210.3	116	62,181	186.6	229	115,921	197.5
65-69	132	38,366	344.1	120	47,326	253.6	252	85,692	294.1
70-74	142	23,639	600.7	122	30,766	396.3	264	54,405	485.2
75+	164	29,276	560.2	185	46,206	400.4	349	75,482	462.4
Total	784	1,196,628	65.5	748	1,242,171	60.2	1532	2,438,799	62.8

Ag.Sp.Rate- Age specific death rate per 100,000 population

Leading sites (ICD 10) of cancer mortality

Table 12: Leading sites of cancer mortality of Colombo district – male and female 2018

Male					Female				
ICD 10 code	Site	Cases	CR	ASR	ICD 10 code	Site	Cases	CR	ASR
C33-C34	Trachea, bronchus and lung	107	8.9	7.9	C50	Breast	184	14.8	11.1
C18-C20	Colon and rectum	60	5.0	4.6	C56	Ovary	56	4.5	3.3
C61	Prostate	53	4.4	3.9	C33-C34	Trachea, bronchus and lung	54	4.3	3.3
C00-C06	Lip, tongue and mouth	50	4.3	3.6	C18-C20	Colon and rectum	49	4.0	2.8
C22	Liver	48	4.0	3.7	C54-C55	Uterus	36	2.9	2.0
C32	Larynx	40	3.3	2.9	C53	Cervix uteri	31	2.5	1.9
C15	Oesophagus	32	2.7	2.4	C22	Liver	20	1.6	1.1
C16	Stomach	29	2.4	2.1	C25	Pancreas	19	1.5	1.1
C70-C72	Brain, nervous system	24	2.0	1.7	C15	Oesophagus	18	1.4	1.0
C25	Pancreas	23	1.9	1.7	C00-C06	Lip, tongue and mouth	17	1.3	1.0
	All sites	784	65.5	58.4	C00-D48	All sites	748	60.2	44.2

CR - Crude death rate per 100,000 population

ASR - Age standardized death rate per 100,000 population

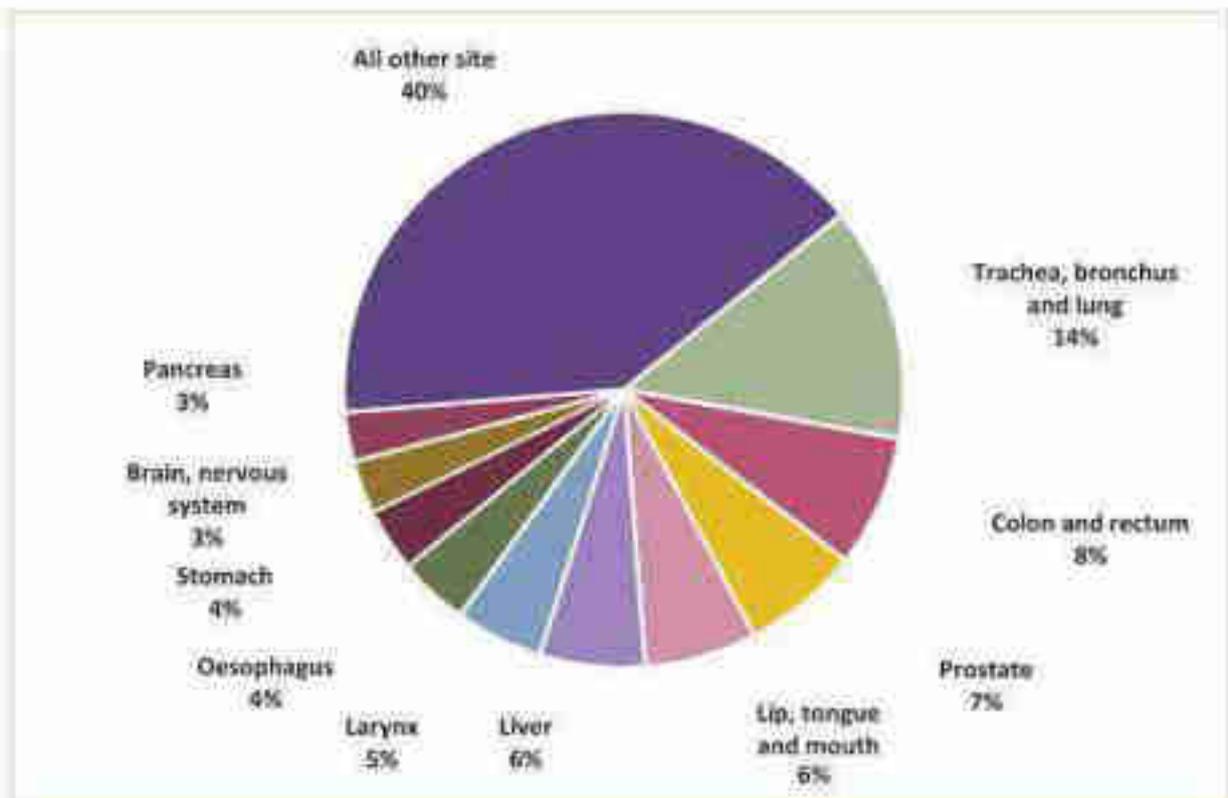


Figure 12: Proportion of leading cancer deaths, Male – 2018

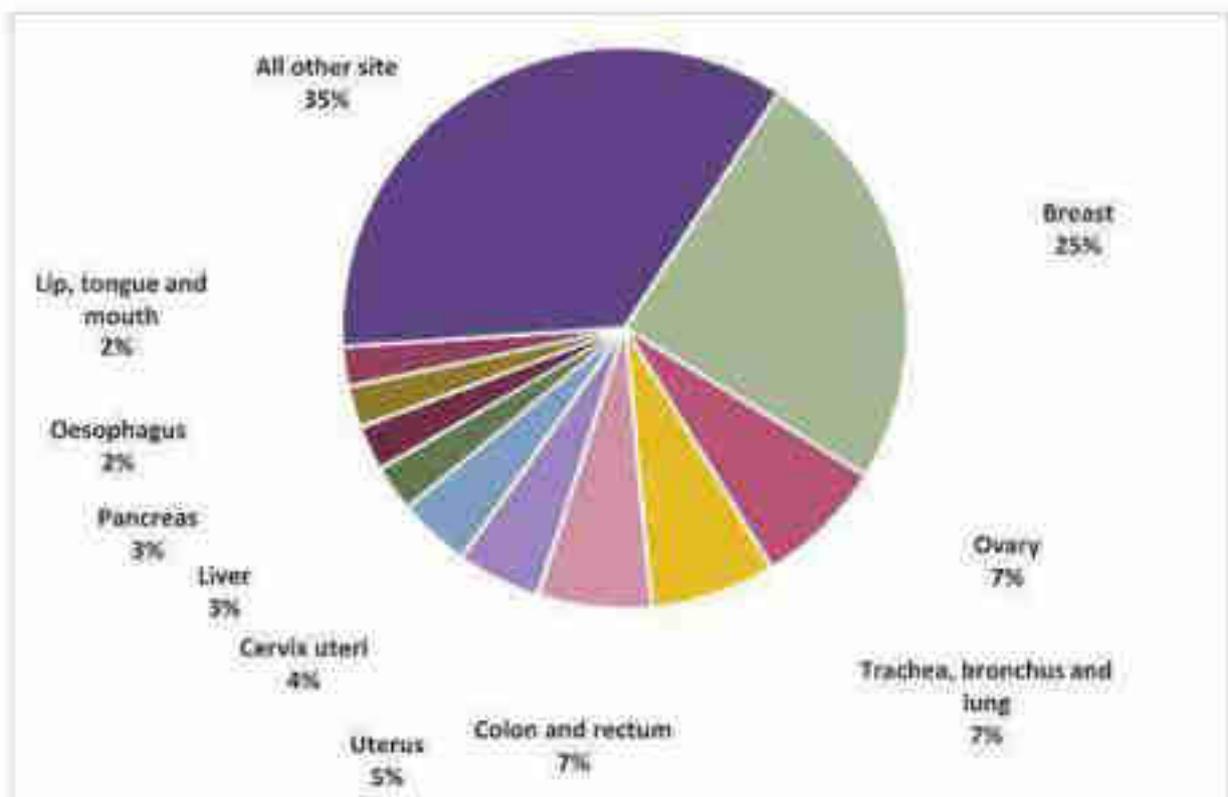


Figure 13: Proportion of leading cancer deaths, Female – 2018

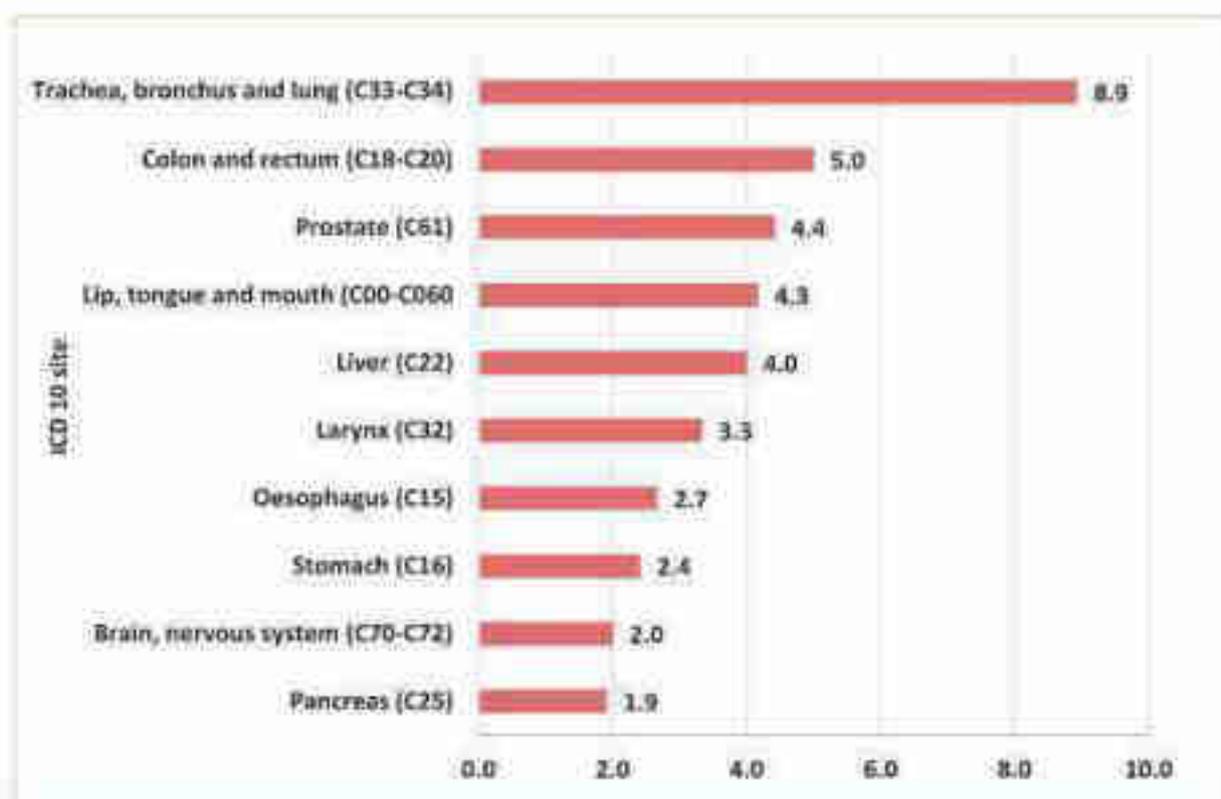


Figure 14: Crude death rate of leading cancer related deaths in the Colombo district- Male 2018.

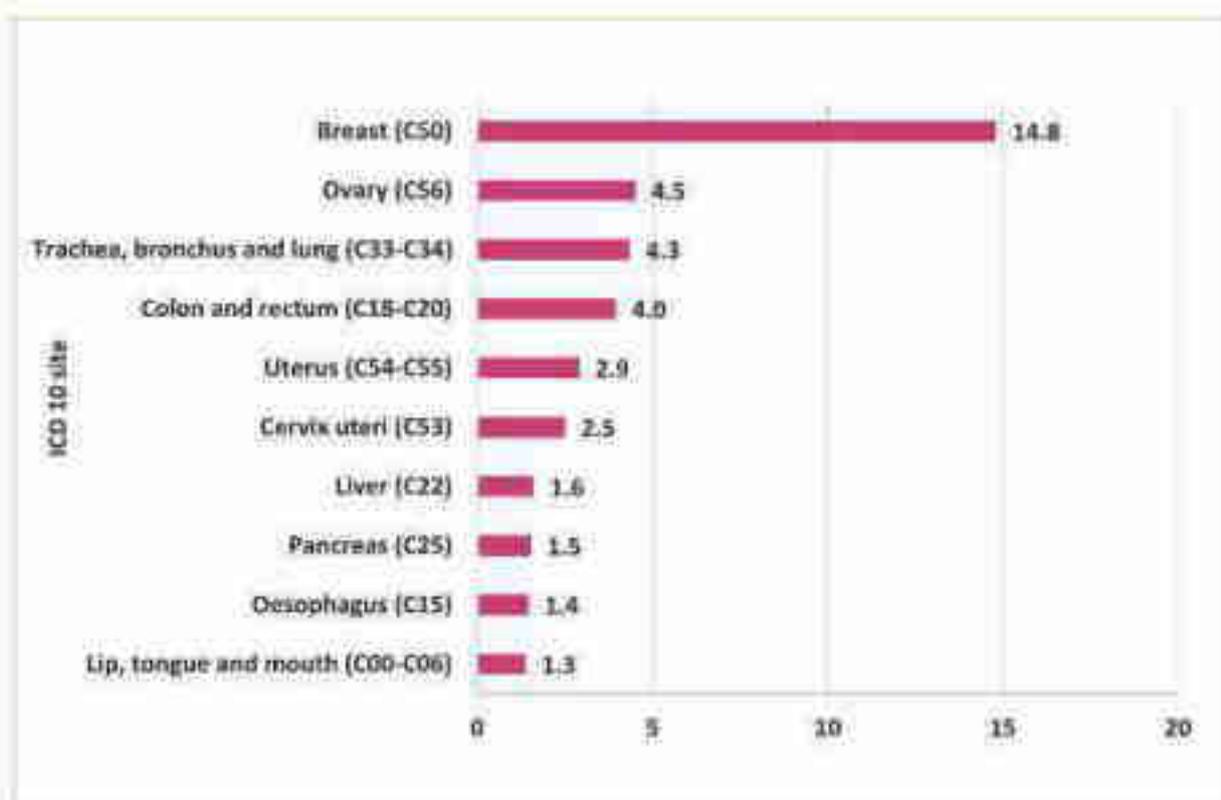


Figure 15: Crude death rate of leading cancer related deaths in the Colombo district- Female 2018

Table 16: Age specific rate, Crude rate (R), Age standardized mortality rate (ASR) per 100,000 population of Colombo district – Female 2018
Population Based Cancer Registry Colombo District - 2018

Cancer Mortality Data 2018

Incidence per 100,000 by age group (Period - Female)

Site	ALL AGE INC	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85-89	90-94	95-99	Age SPR
Lip	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Esophagus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Stomach	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Intestines (small)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Intestines (large)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rectum	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bladder	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Uterus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Prostate	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Testis	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Penis	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other genital	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Brain	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other CNS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Eye	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ear	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nose	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Thyroid	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Parathyroid	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Salivary gland	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other endocrine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Soft tissue	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ALL	142	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ASR	718	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ASR (95% CI)	745	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

* Mortality per 100,000 population (EST 2011) by Country

Incidence and Mortality of leading cancers – 2018

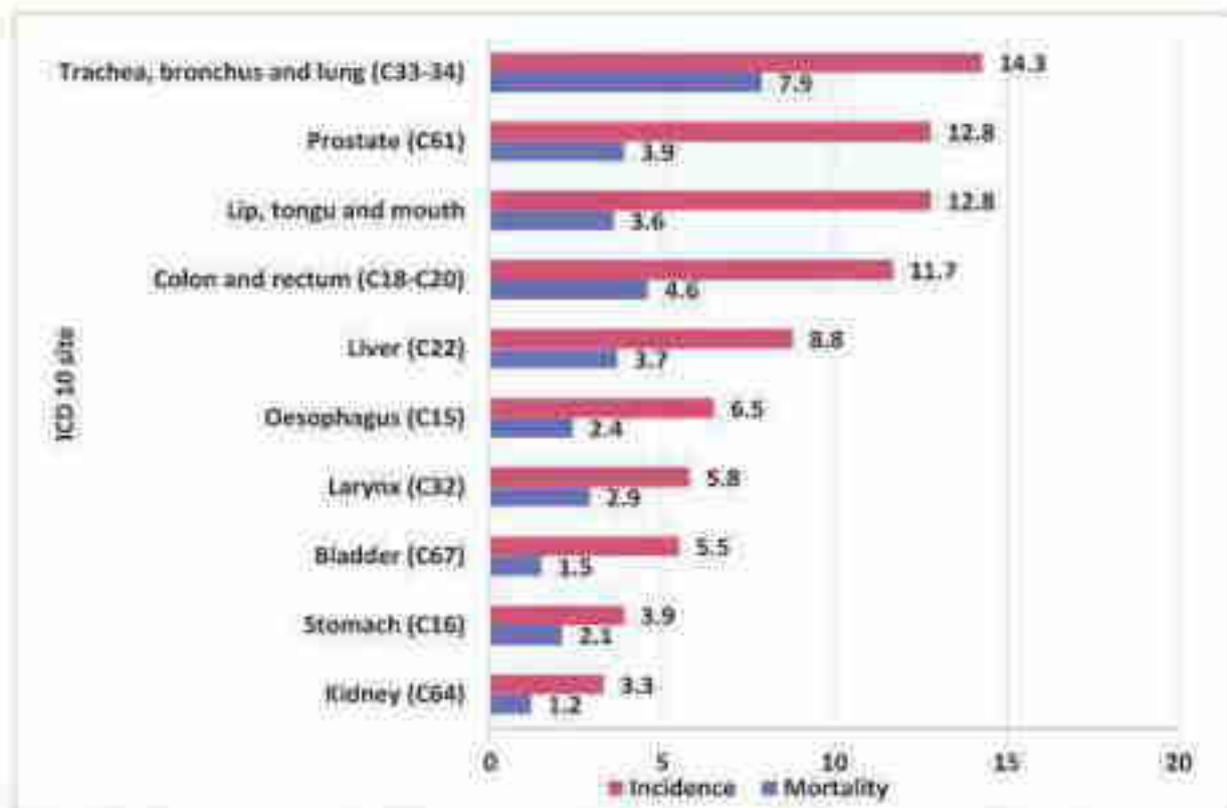


Figure 16: Age standardized incidence rates and death rates of leading cancers in Colombo district – Male 2018

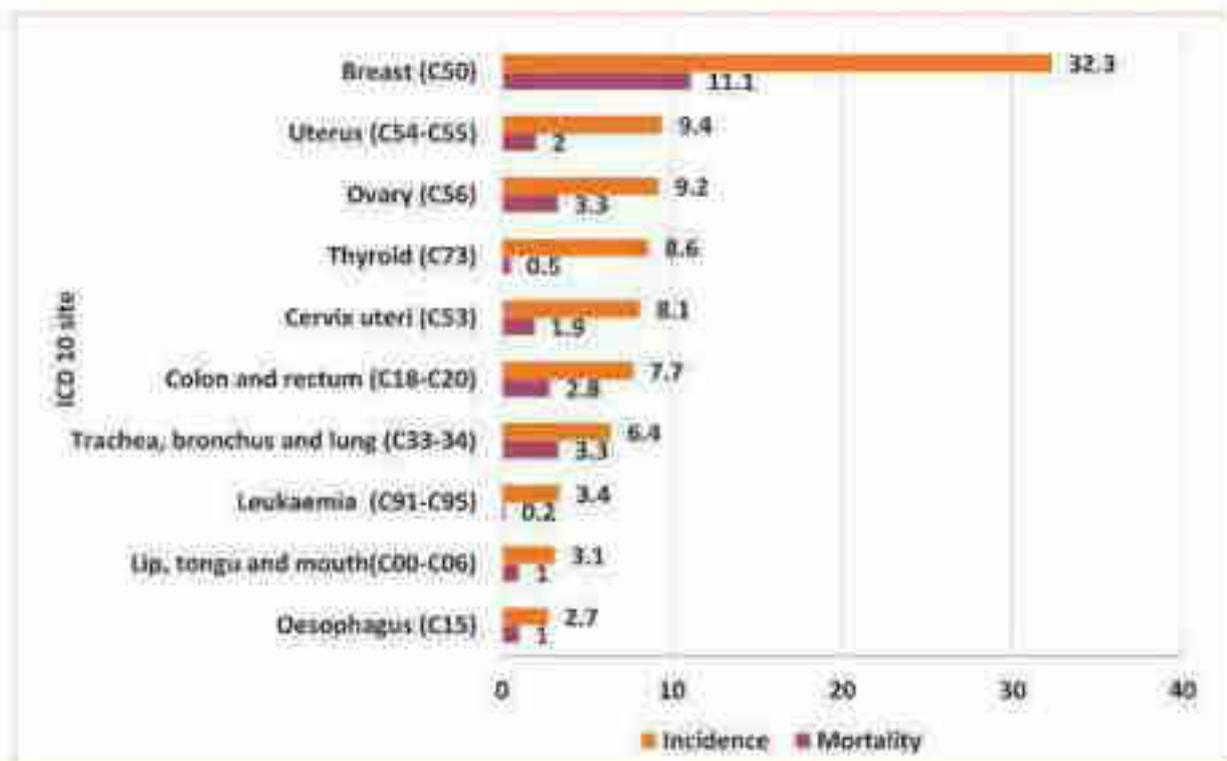


Figure 17: Age standardized incidence rates and death rates of leading cancers in Colombo district – Female 2018

Quality Control

Table 17: Mean values of data quality indicators for comparison of cancer registries in Central, East and South Asia – Male 2018

ICD -10 code and site		MVA		REC		ADR	
		Mean	Colombo	Mean	Colombo	Mean	Colombo
C00-C14	Oral Cavity & Pharynx	88.9	68.2	37	32.3	17	16.3
C15	Esophagus	78.5	60.9	86.6	36.8	3.6	6.5
C16	Stomach	74.1	44.2	60.3	53.8	13.9	3.8
C18-21	Large bowel	86.4	61.0	42.9	37.8	38.8	12.2
C22	Liver	29.2	32.8	86.7	41.4	16.5	8.8
C25	Pancreas	44.7	27.3	85.2	69.7	2.9	2.5
C32	Larynx	90.5	49.4	43.1	50.6	4.8	5.8
C33-C34	Trachea, Bronchus & Lung	68.2	41.9	81	56.0	36.4	14.3
C43	Melanoma of Skin	92.8	50.0	28	0.0	0.6	0.2
C50	Breast	76.8	66.7	44.4	12.5	0.6	1.8
C61	Prostate	83.1	58.7	27.6	30.8	11.5	12.0
C62	Testis	84.8	30.0	8.8	70.0	0.0	0.8
C64-C66	Kidney, Renal pelvis & Ureter	78.3	55.6	35	37.8	3	3.4
C67	Bladder	89.9	51.4	32	27.0	5.4	5.5
C70-C72	Brain, Central Nervous System	70.7	37.2	62	55.8	2.4	3.2
C73	Thyroid	88.9	84.6	11.2	15.4	1.6	2.9
C81-C88,C96	Lymphoma	90.4	96.4	38.7	1.8	8.3	4.3
C91-C95	Leukaemia	91	97.6	45.1	4.8	5.6	3.7
C76-C80	Unspecified	62.6	15.2	58.5	80.7	9	20.2
C00-C96 excluding C44	All sites (Excluding non-melanoma skin)	73.4	51.1	56.5	43.2	171.7	136.0

Table 18: Mean values of data quality indicators for comparison of cancer registries in Central, East and South Asia – Female 2018

ICD-10 Code and Site		MVP		M-PA		ASA	
		Mean	Colombo	Mean	Colombo	Mean	Colombo
C00-C14	Oral Cavity & Pharynx	86	69.4	29.4	30.6	9.3	3.7
C15	Esophagus	77.3	56.5	66.2	39.1	2	2.7
C16	Stomach	73.1	44.4	57.6	51.9	7.4	1.7
C18-C21	Large bowel	86.4	62.0	44.2	38.7	34	8.1
C22	Liver	28.5	17.7	95.1	58.8	5	1.9
C25	Pancreas	45.6	26.7	82.8	63.3	2.2	1.8
C32	Larynx	83.9	10.5	40.7	84.2	0.7	1.1
C33-C34	Trachea, Bronchus & Lung	69.1	43.7	78.5	52.4	10.3	6.4
C43	Melanoma of Skin	93.3	100.0	36.7	0.0	0.3	0.1
C50	Breast	91	62.6	23.4	35.2	40.2	32.3
C53	Cervix uteri	89.5	69.0	30	74.0	15.7	8.1
C54-C55	Corpus Uteri & Uterus unspecified	85.2	74.7	17.1	23.4	6.6	9.3
C56	Ovary	82.5	58.7	37.1	37.3	8	9.2
C64-C66	Kidney, Renal pelvis & Ureter	73.8	60.0	37.5	36.0	1.5	1.6
C67	Bladder	86.2	57.1	34	35.7	1.3	0.8
C70-C72	Brain, Central Nervous System	66.6	60.0	64	33.3	1.8	2.2
C73	Thyroid	92.4	88.9	8.6	6.3	5.1	8.6
C81-C88,C96	Lymphoma	89.2	91.8	41.3	8.2	5.3	3.8
C91-C95	Leukaemia	89.6	95.2	54.1	7.1	4.4	3.3
C76-C80	Unspecified	60.8	9.6	55	85.6	6.4	11.3
C00-C96 excluding C44	All sites (Excluding non-melanoma skin)	82	59.1	42.1	37.2	156.6	124.6

The percentage of 'Other and unspecified sites', including primary site unknown is related to the quality of diagnostic information and quality of documentation of the medical records.

Table 19: Distribution of 'Other and unspecified sites' by Sex - Colombo District 2018

ICD 10 code and site		Male		Female	
		No.	%	No.	%
C25	Other & ill defined digestive organs	9	0.5	4	0.2
C48	Retroperitoneum & peritoneum	1	0.1	4	0.2
C76	Other and ill defined sites	14	0.8	12	0.6
C80	Unknown primary	255	14.0	175	8.7
Total		279	15.3	195	9.7

**Cancer Incidence and Mortality Data
Colombo District, Sri Lanka
2019**

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2019

Incidence of Cancers – Colombo District, Sri Lanka

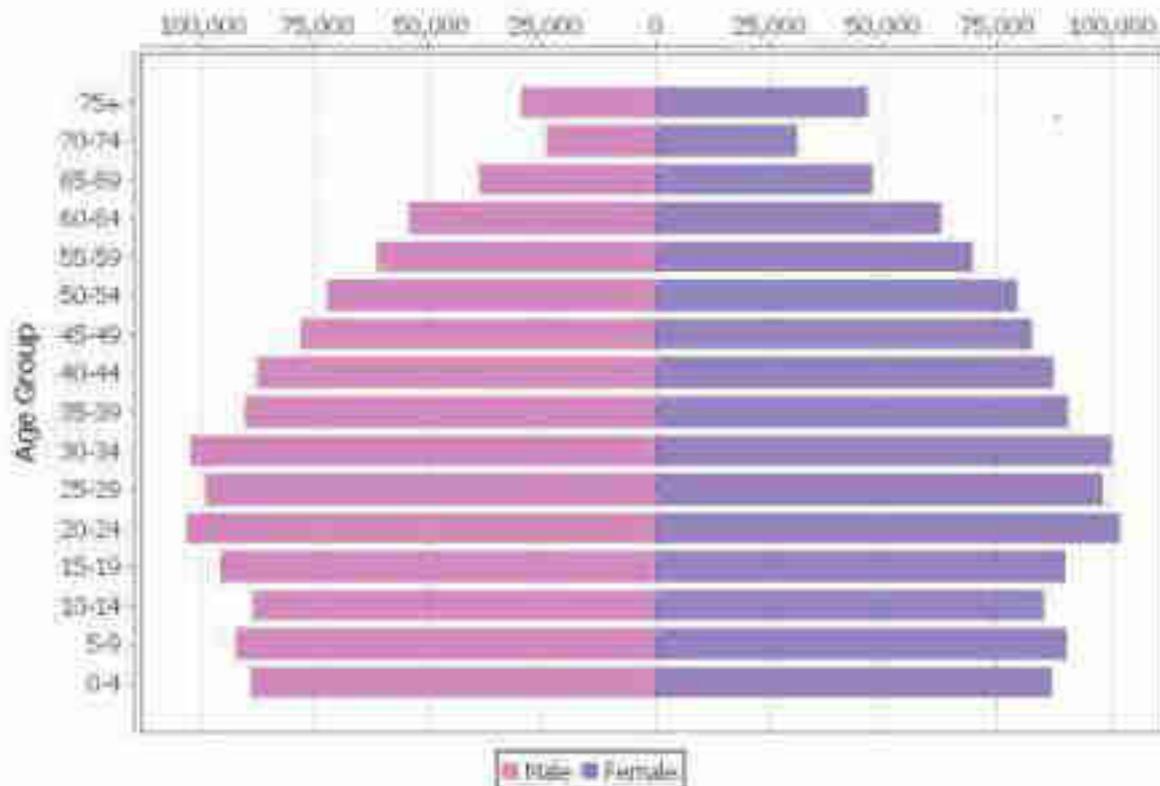


Figure 1: Population pyramid of Colombo district in 2019 by 5 year age groups-2019

Table 1: Distribution of population according to sex in Colombo district and Sri Lanka-2019

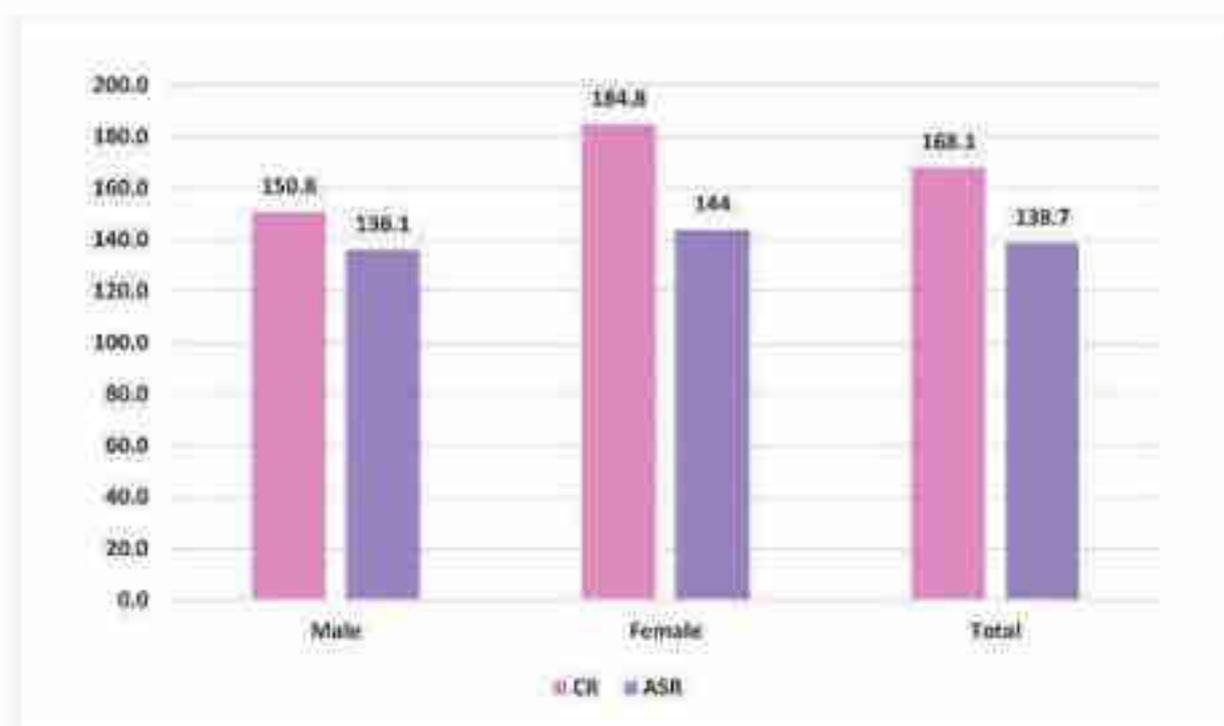
	Male	Female	Total
Colombo district	1200962(49.1%)	1246669 (50.9%)	2447631 (100%)
Entire Sri Lanka	10556147 (48.4%)	11246756 (51.6%)	21802903(100%)

Table 2: Cancer incidence in Colombo district – 2019

	Number	%	CI*	IASR**
Male	1,811	44.0	150.8	136.1
Female	2,304	56.0	184.8	144.0
Total	4,115	100.0	168.1	138.7

*CI - Crude cancer incidence Rate per 100,000 population

**ASR- Age Standardized cancer incidence Rate per 100,000 population



* CR - Crude cancer incidence rate per 100,000 population

**ASR- Age Standardized cancer Incidence Rate per 100,000 population

Figure 2: Cancer Incidence Rates, Colombo Districts- 2019

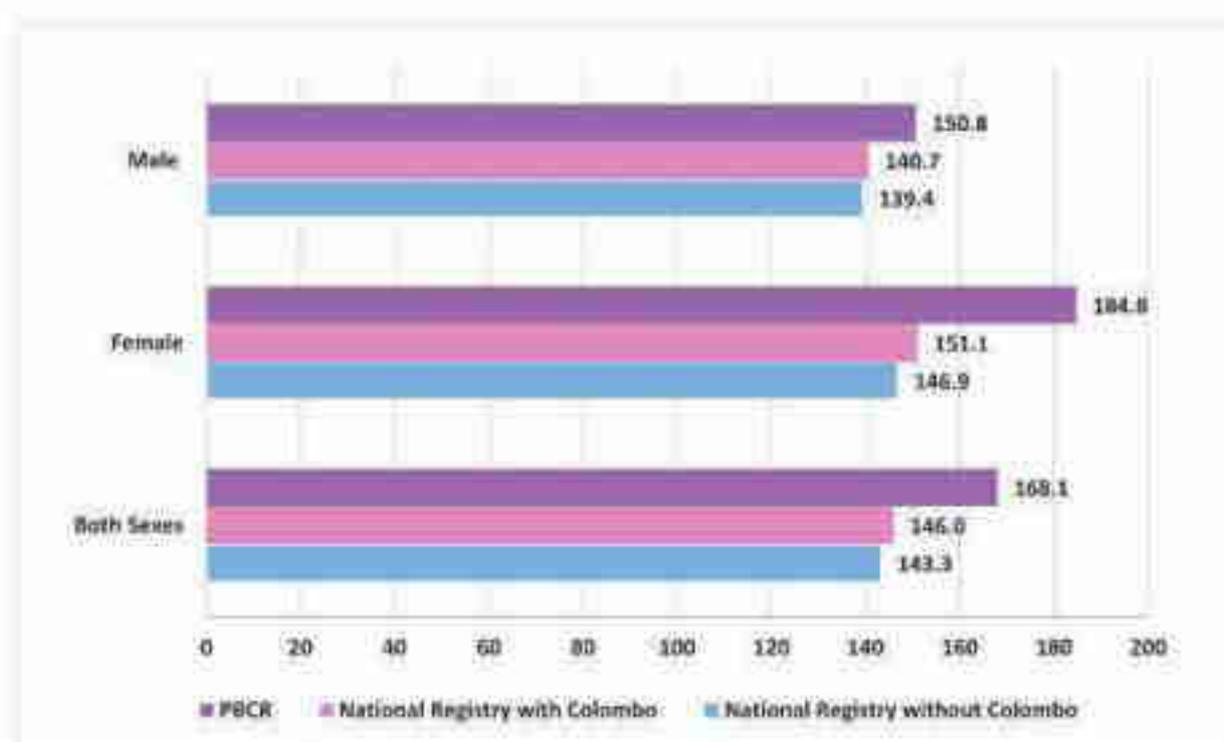


Figure 3: Comparison of Crude Incidence Rates Of Colombo PBCR, National Cancer Registry (Including Colombo District) and National Cancer Registry (Without Colombo District) - 2019

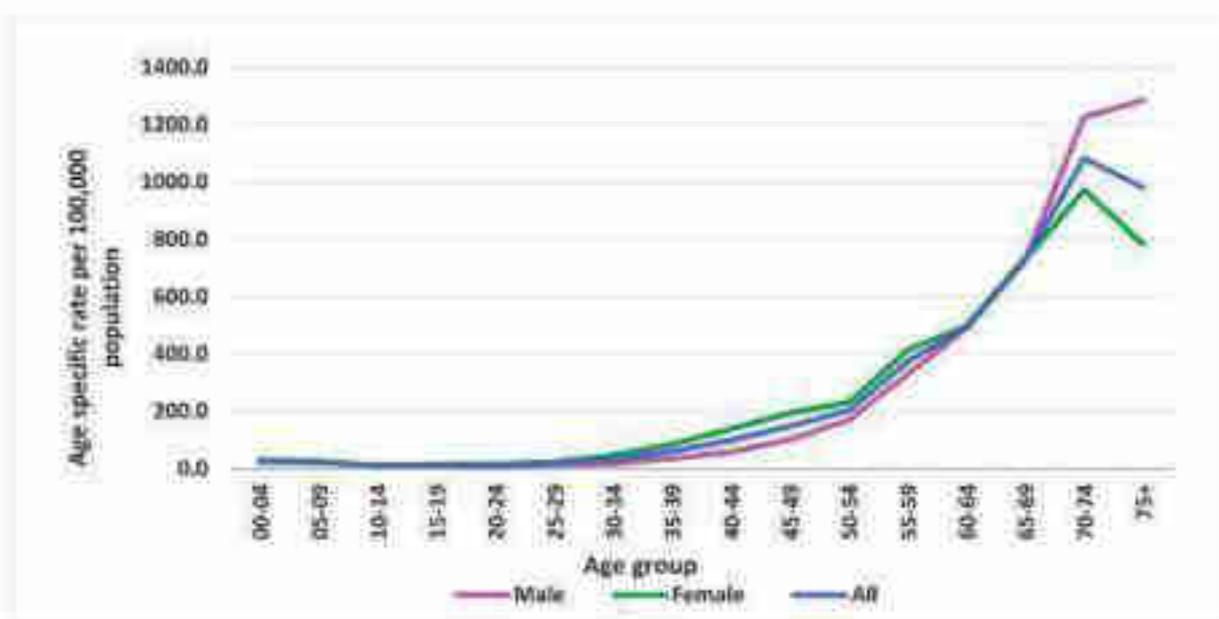


Figure 4: Age Specific Cancer Incidence Rates of Colombo District – 2019

Table 3: Cancer incidence of Colombo district by age and sex-2019

Age group	Male			Female			Total		
	Cases	Population	Incidence	Cases	Population	Incidence	Cases	Population	Incidence
Unknown	2			1			3		
00-04	27	88,650	30.5	21	86,791	24.2	48	175,442	27.4
05-09	20	92,015	21.7	22	90,049	24.4	42	182,063	23.1
10-14	9	88,121	10.2	9	85,004	10.6	18	173,126	10.4
15-19	10	95,405	10.5	15	89,768	16.7	25	185,174	13.5
20-24	9	102,698	8.8	16	101,617	15.7	25	204,315	12.2
25-29	15	98,639	15.2	22	97,945	22.5	37	196,585	18.8
30-34	18	101,866	17.7	47	99,916	47.0	65	201,781	32.2
35-39	32	89,961	35.6	77	90,283	85.3	109	180,245	60.5
40-44	53	87,165	58.5	121	87,243	138.7	172	174,409	98.6
45-49	79	77,675	101.7	160	82,326	194.3	239	160,001	149.4
50-54	123	72,135	170.5	183	79,230	231.0	306	151,365	201.2
55-59	201	61,084	329.1	287	69,342	413.9	488	130,425	374.2
60-64	265	53,935	491.3	311	62,406	498.3	576	116,341	495.1
65-69	281	38,505	729.8	348	47,497	732.7	629	86,003	731.4
70-74	291	23,725	1226.6	300	30,877	971.6	591	54,602	1082.4
75+	378	29,382	1286.5	364	46,374	784.9	742	75,756	979.5
Total	1811	1,200,961	150.8	2304	1,246,668	184.8	4115	2,447,633	168.1

*Ag. Sp. In. rate – Age specific incidence rate per 100,000 population

Leading cancer sites

Table 4: Leading Sites of Cancer Incidence of Colombo District by Sex – 2019

Male					Female				
ICD 10 code	Site	Cases	CR	ASR	ICD 10 code	Site	Cases	CR	ASR
C33-C34	Trachea, bronchus and lung	201	16.7	14.7	C50	Breast	653	52.4	40.3
C61	Prostate	177	14.7	13.3	C54-C55	Uterus	171	13.7	10.4
C00-C06	Lip, tongue and mouth	176	14.7	12.8	C56	Ovary	163	13.1	10.3
C18-C20	Colon and rectum	149	12.4	11.0	C18-C20	Colon and rectum	160	12.8	9.5
C22	Liver	109	9.1	8.3	C73	Thyroid	147	11.8	9.8
C15	Esophagus	82	6.8	6.0	C53	Cervix uteri	133	10.7	8.3
C67	Bladder	64	5.3	4.8	C33-C34	Trachea, bronchus and lung	72	5.8	4.3
C81-C85 and C96	Lymphoma	58	4.8	4.5	C91-C95	Leukaemia	58	4.7	4.4
C64	Kidney	55	4.6	4.2	C81-C85 and C96	Lymphoma	53	4.2	3.5
C91-C95	Leukaemia	54	4.6	4.6	C22	Liver	49	3.9	3.0
	All sites	1811	150.8	136.1		All sites	2304	184.8	144.0

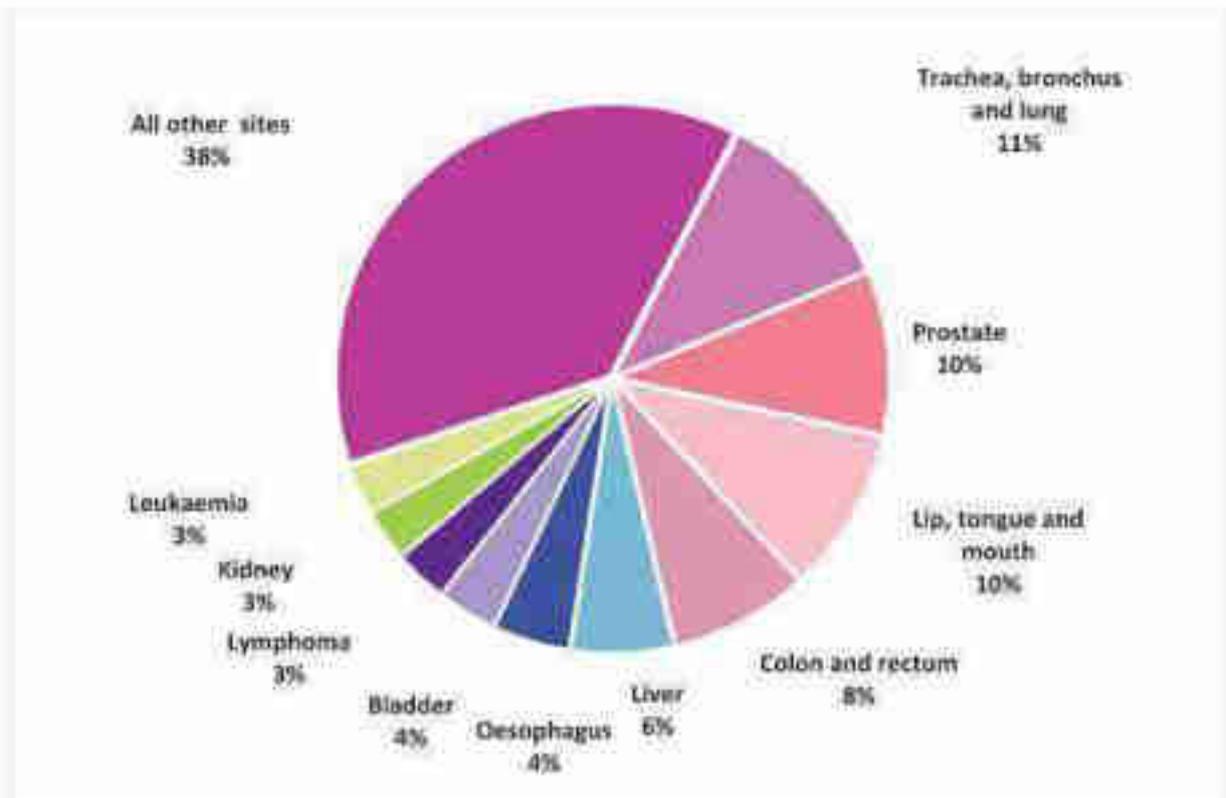


Figure 5: Proportion of Incidence of Leading Cancers in the Colombo District - Male 2019

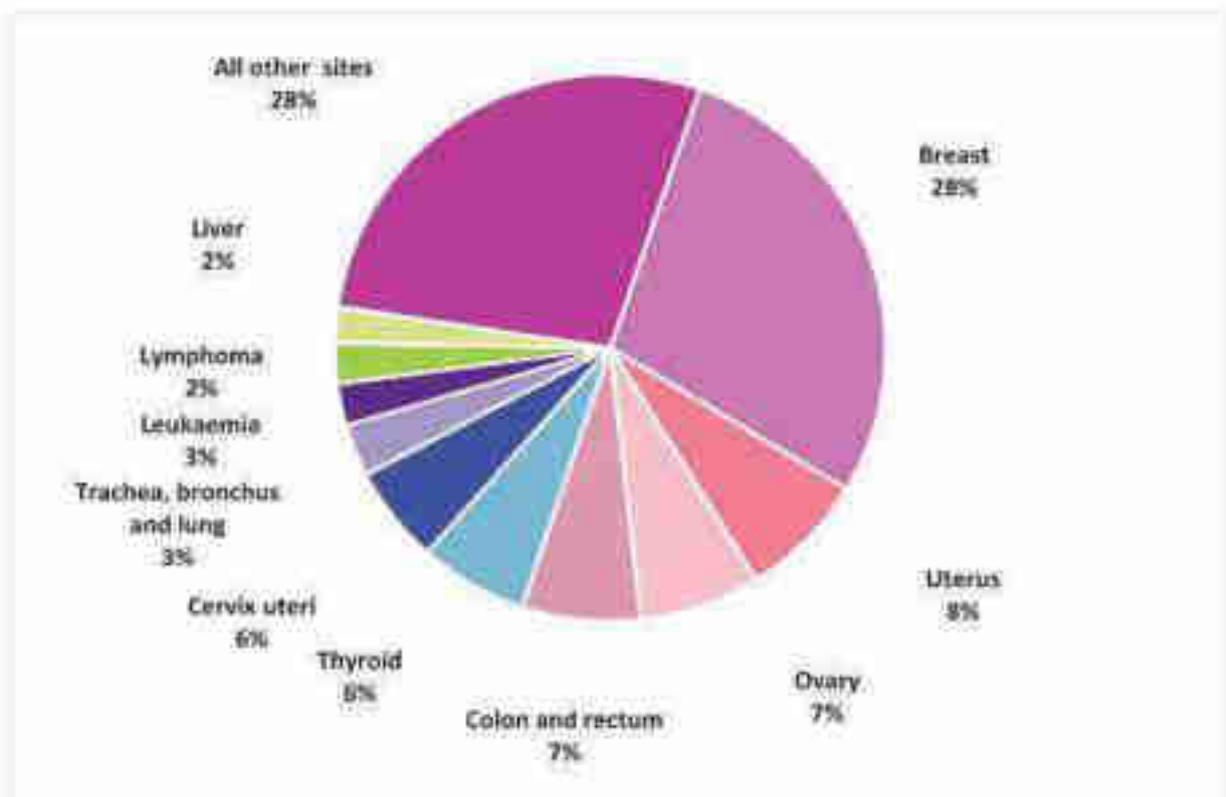


Figure 6: Proportion of Incidence of Leading Cancers in the Colombo District - Female 2019

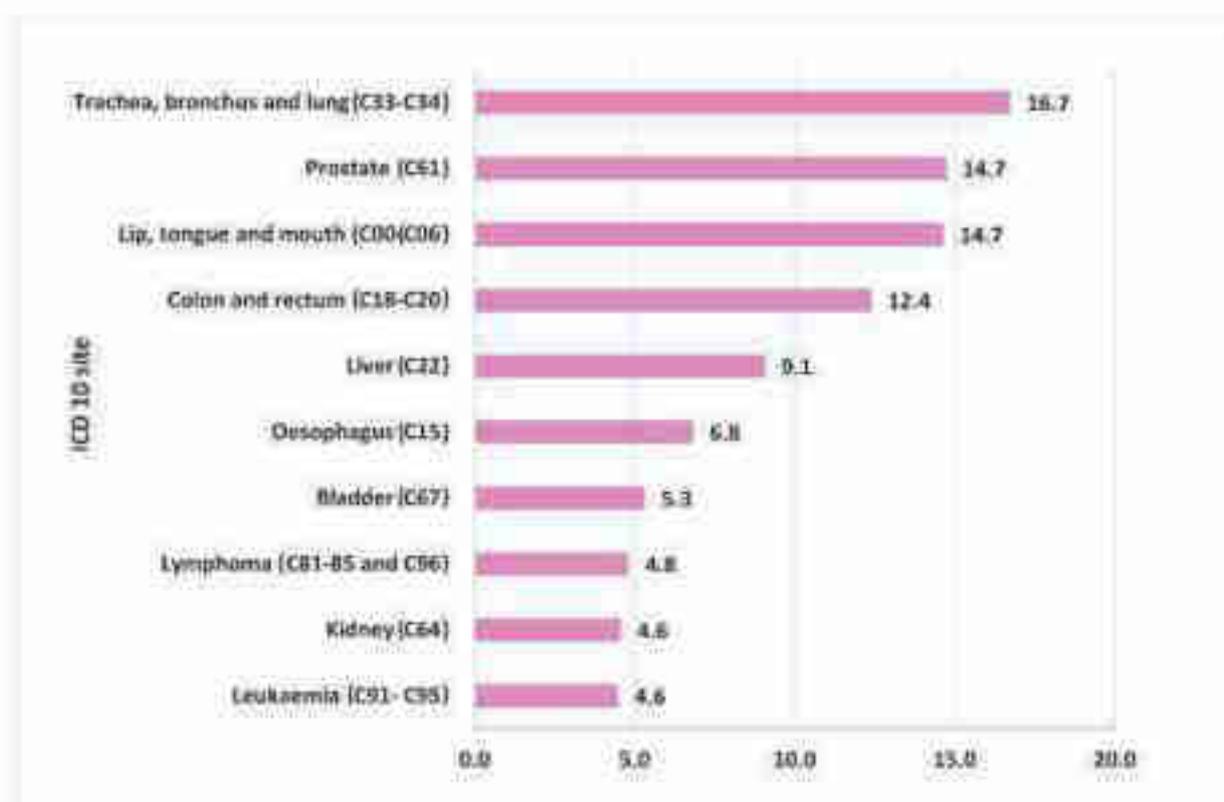


Figure 7: Crude Incidence of Leading Cancers in the Colombo District- Male 2019

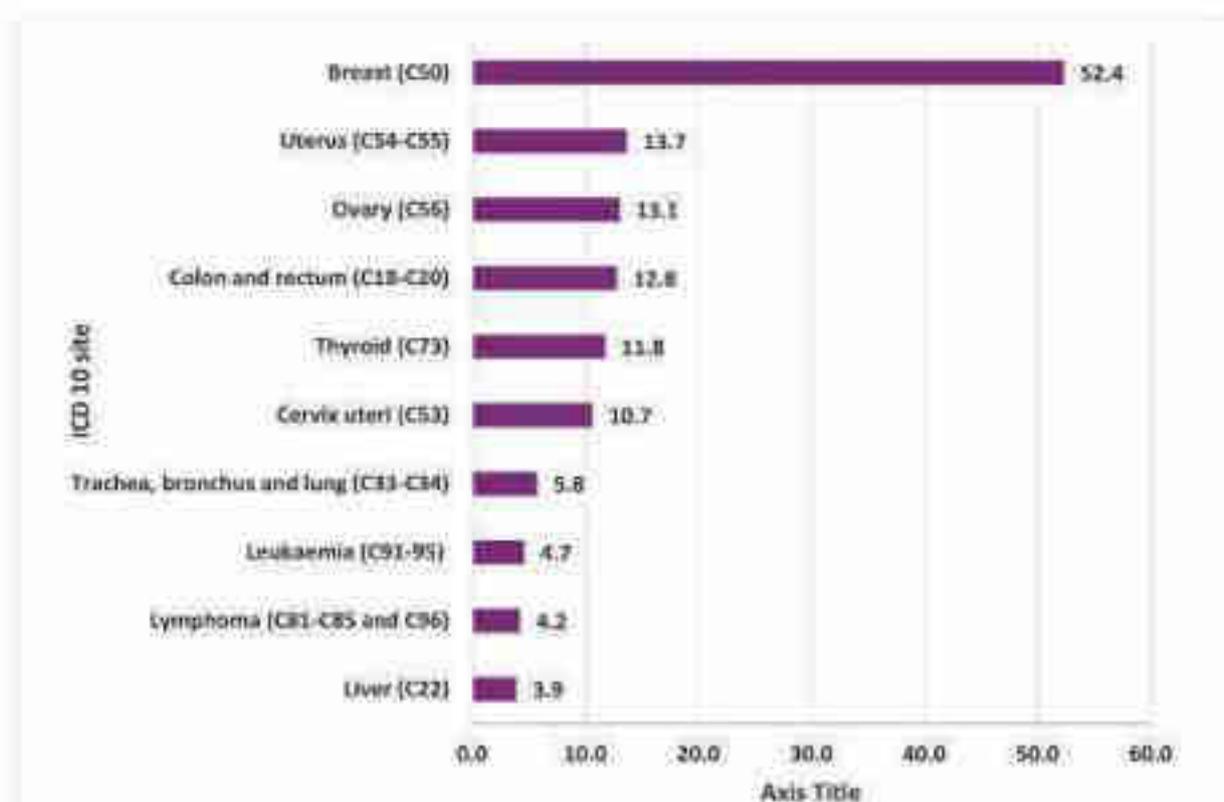


Figure 8: Crude Incidence of Leading Cancers in the Colombo District- Female 2019

Comparison of age standardized cancer incidence rates of leading cancers of 'Population based cancer registry of Colombo district' with the 'National Cancer Registry of Sri Lanka'

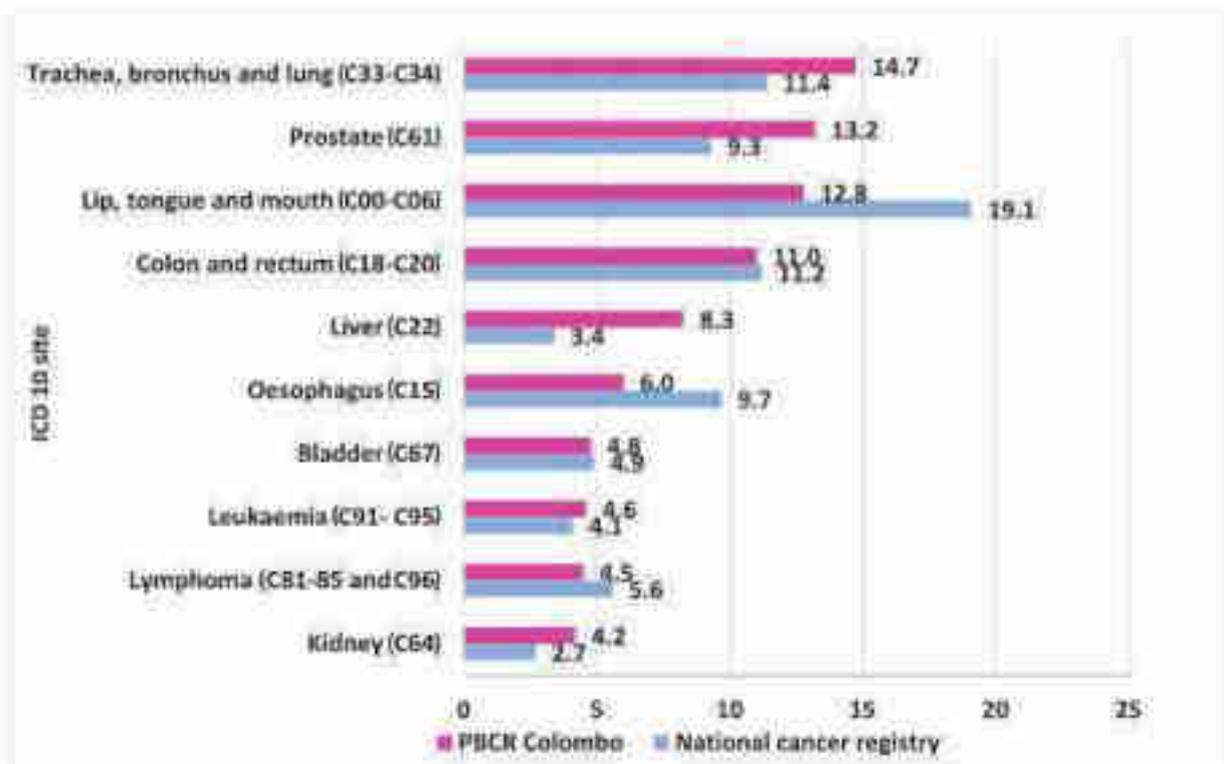


Figure 9: Age Standardized Incidence Rates of leading cancers among Males in Year 2019 – PBCR Colombo District vs National Cancer Registry, Sri Lanka

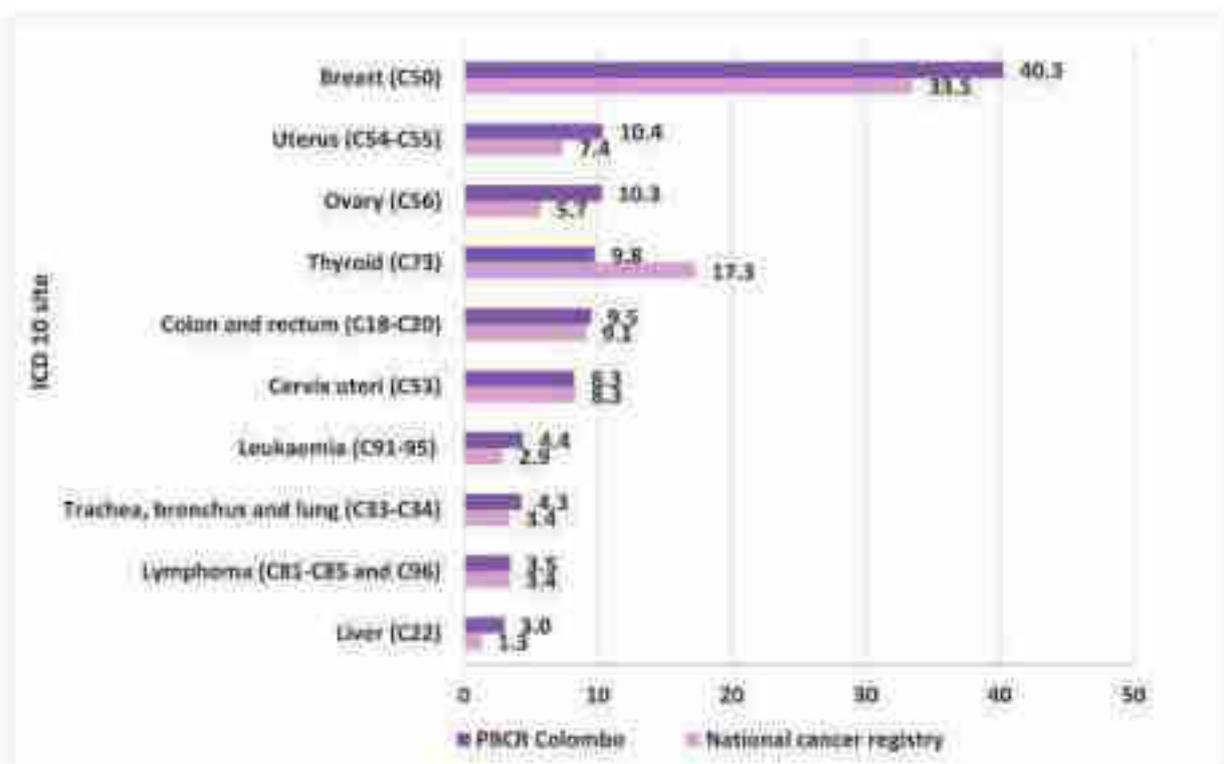


Figure 10: Age Standardized Incidence Rates of leading cancers among Females In Year 2019 – PBCR Colombo District Vs National Cancer Registry, Sri Lanka

Mortality of Cancers

Table 9: Distribution of cancer related deaths reported by Divisional Death Registrars of Colombo district in year 2019

Residence district of the deceased person	No.	%
Colombo	1540	47.2
Another district other than Colombo	1722	48.3
Total	3262	100

Table 10: Distribution of no. of deaths, cancer related crude death rate and age standardized death rate among the residents of Colombo district in the year 2019

	Number	%	*CR	**ASR
Male	745	48.4	62.0	55.3
Female	795	51.6	63.8	47.2
Total	1540	100	62.9	50.4

*CR - Cancer related crude death rate per 100,000 population

**ASR - Cancer related age standardized death rate per 100,000 population

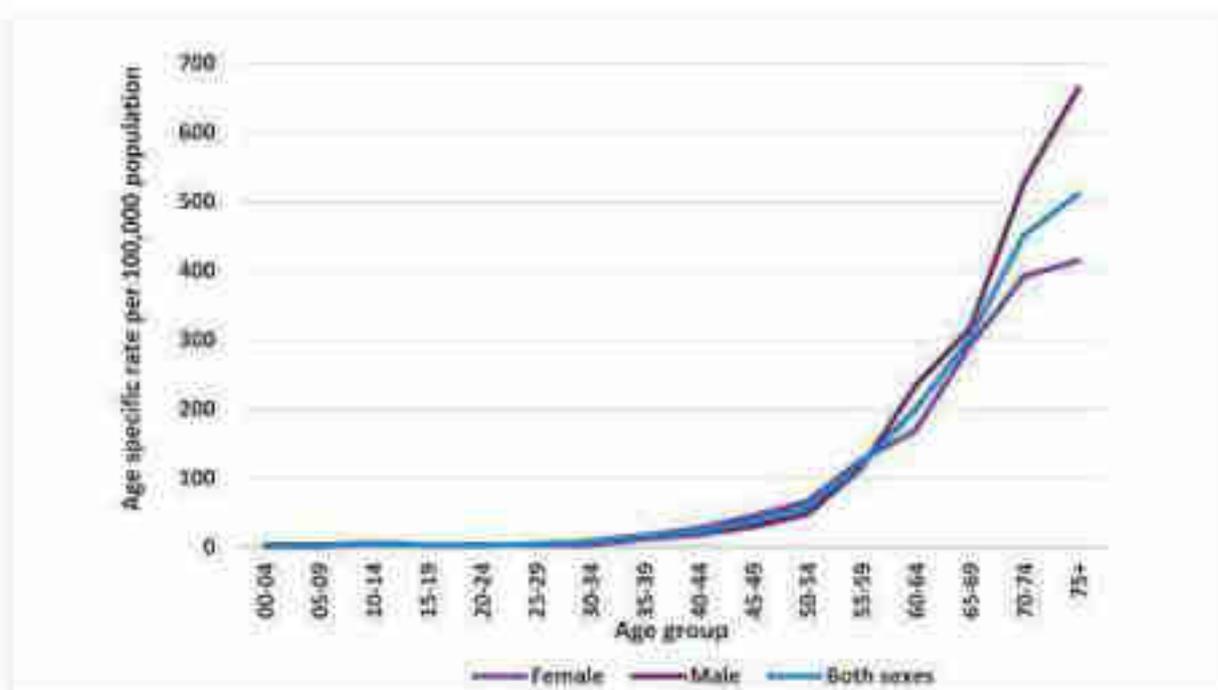


Figure 11: Age specific cancer deaths rates of Colombo district - 2019

Table 11: Cancer related deaths of Colombo district by age group and sex – 2019

Age group	Male			Female			Total		
	Cases	Population	Incidence	Cases	Population	Incidence	Cases	Population	Incidence
Unknown	2			1			3		
00-04	2	88,650	2.3	1	86,791	1.2	3	175,442	1.7
05-09	3	92,015	3.3	1	90,049	1.1	4	182,063	2.2
10-14	4	88,121	4.5	4	85,004	4.7	8	173,126	4.6
15-19	2	95,405	2.1	3	89,768	3.3	5	185,174	2.7
20-24	3	102,698	2.9	2	101,617	2	5	204,315	2.4
25-29	3	98,639	3	4	97,945	4.1	7	196,585	3.6
30-34	4	101,866	3.9	8	99,916	8	12	201,781	5.9
35-39	11	89,961	12.2	15	90,283	16.6	26	180,245	14.4
40-44	16	87,165	18.4	24	87,243	27.5	40	174,409	22.9
45-49	23	77,675	29.6	37	82,326	44.9	60	160,001	37.5
50-54	34	72,135	47.1	52	79,230	65.6	86	151,365	56.8
55-59	70	61,084	114.6	87	69,342	125.5	157	130,425	120.4
60-64	126	53,935	233.6	105	62,406	168.3	231	116,341	198.6
65-69	122	38,505	316.8	138	47,497	290.5	260	86,003	302.3
70-74	125	23,725	526.9	121	30,877	391.9	246	54,602	450.5
75+	195	29,382	663.7	192	46,374	414	387	75,756	510.9
Total	745	1,200,962	62.0	795	1,246,669	63.8	1540	2,447,631	62.9

Ag.Sp.Rate- Age specific death rate per 100,000 population

Leading sites (ICD 10) of cancer mortality

Table 12: Leading sites of cancer mortality of Colombo district male and female - 2019

Male					Female				
ICD 10 code	Site	Cases	CR	ASR	ICD 10 code	Site	Cases	CR	ASR
C33-34	Trachea, bronchus and lung	125	10.4	9.2	C50	Breast	182	14.6	10.9
C22	Liver	69	5.7	5.2	C56	Ovary	59	4.7	3.6
C18-C20	Colon and rectum	53	4.4	3.9	C18-C20	Colon and rectum	54	4.3	3.1
C61	Prostate	52	4.3	3.8	C54-C55	Uterus	46	3.7	2.7
C00-C06	Lip, tongue and mouth	49	4.1	3.5	C33-34	Trachea, bronchus and lung	38	3.0	2.2
C15	Oesophagus	30	2.5	2.2	C53	Cervix uteri	34	2.7	2.1
C32	Larynx	22	1.8	1.6	C22	Liver	30	2.4	1.7
C09-C14	Pharynx	21	1.7	1.6	C25	Pancreas	24	1.9	1.4
C16	Stomach	21	1.7	1.5	C15	Oesophagus	18	1.4	1.0
C64	Kidney	20	1.7	1.4	C70-72	Brain, nervous system	17	1.4	1.3
	All sites	745	62.0	55.3		All sites	795	63.8	47.2

CR - Crude death rate per 100,000 population

ASR - Age standardized death rate per 100,000 population

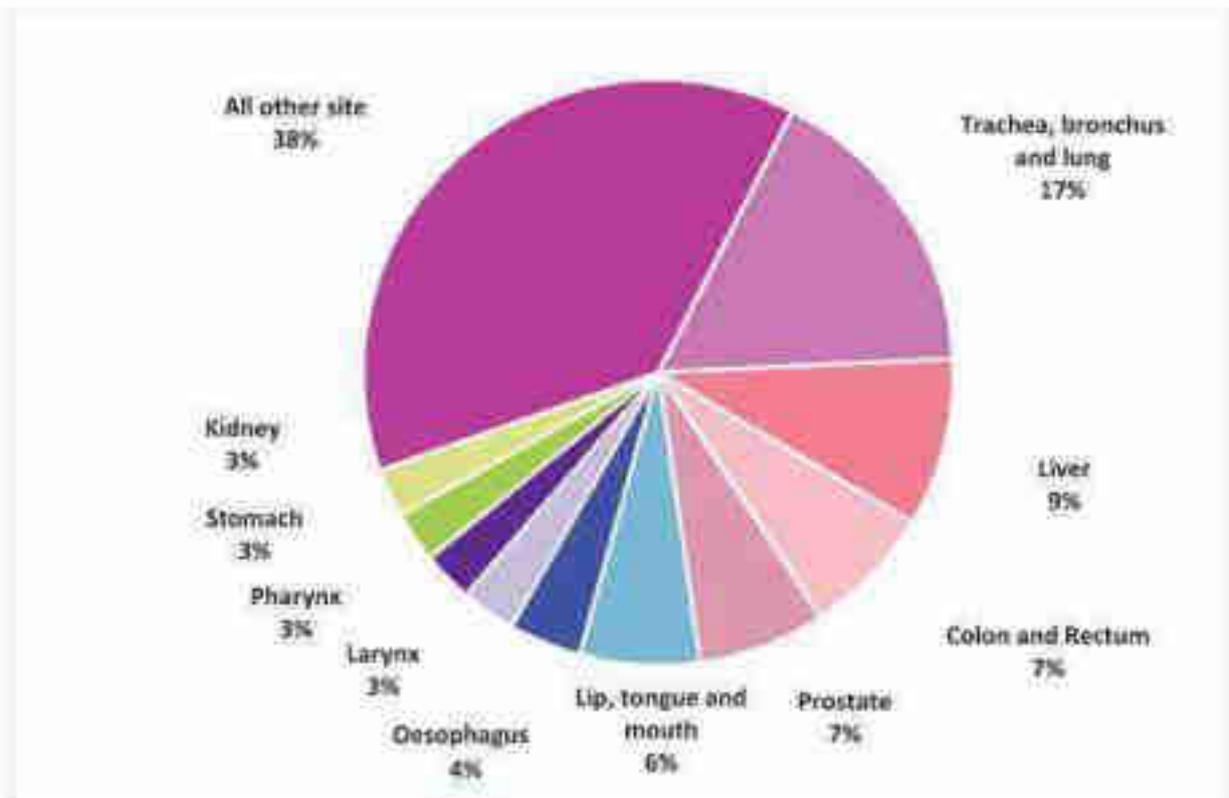


Figure 12: Proportion of leading cancer deaths, Male – 2019

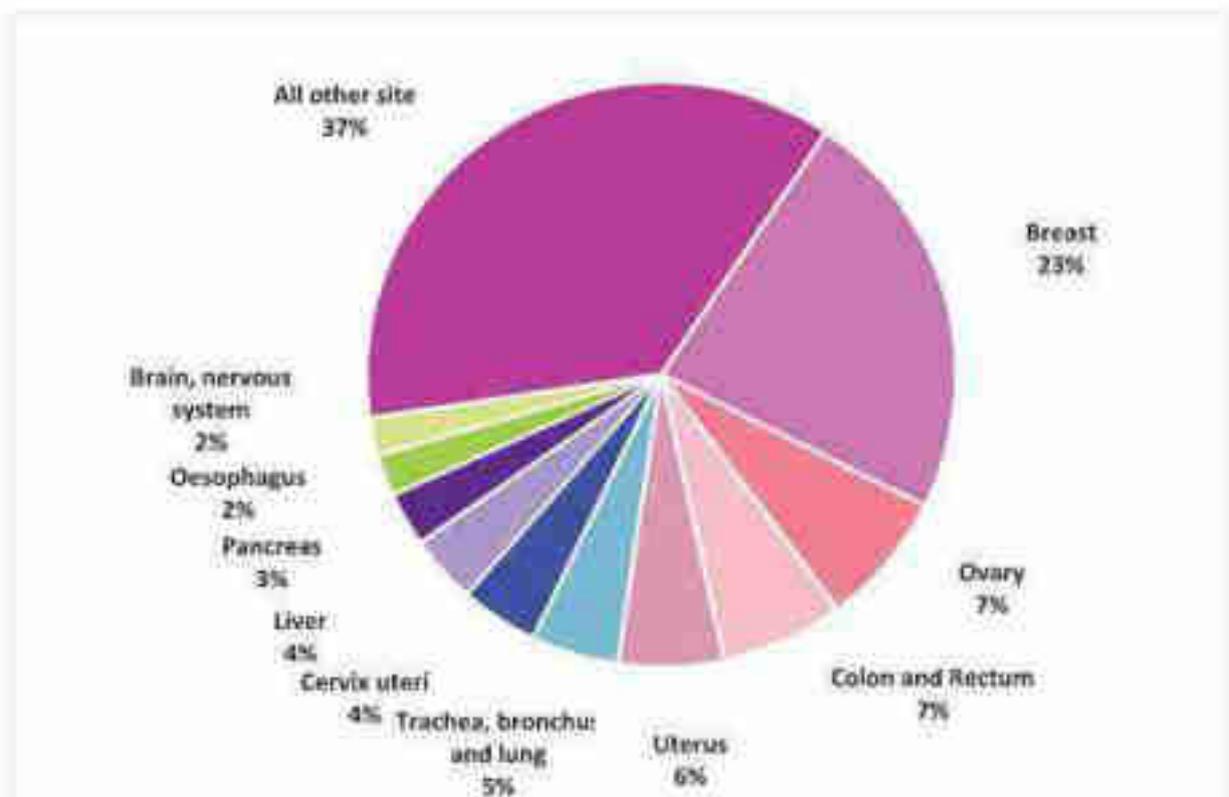


Figure 13: Proportion of leading cancer deaths, Female – 2019

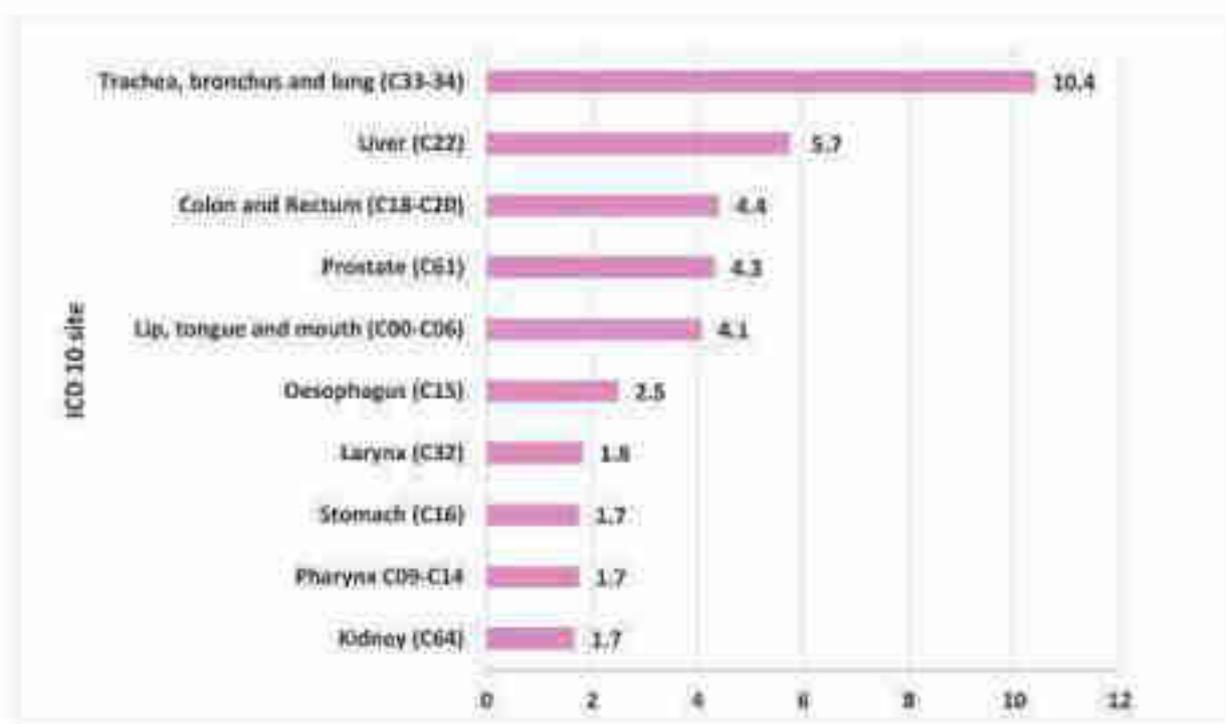


Figure 14: Crude Death Rate of Leading Cancer Related Deaths in the Colombo District– Male 2019

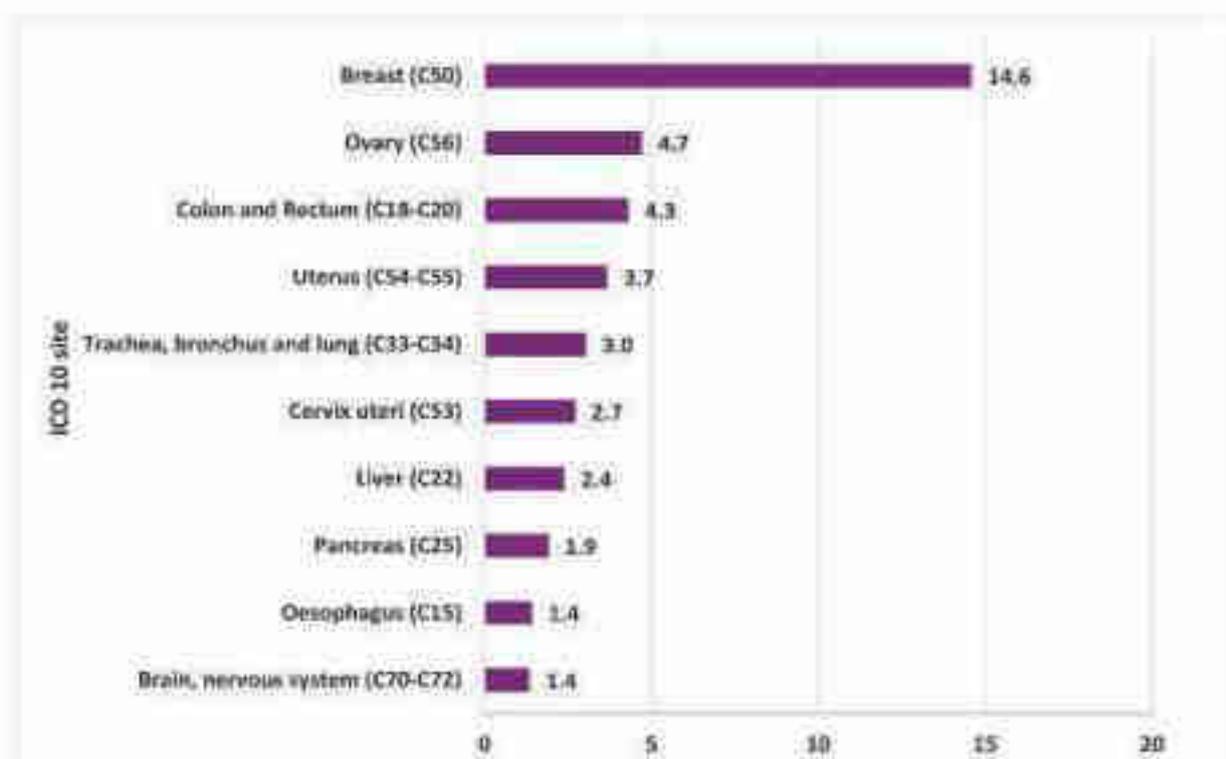


Figure 15: Crude Death Rate of Leading Cancer Related Deaths in the Colombo District– Female 2019

Incidence and Mortality of leading cancers – 2019

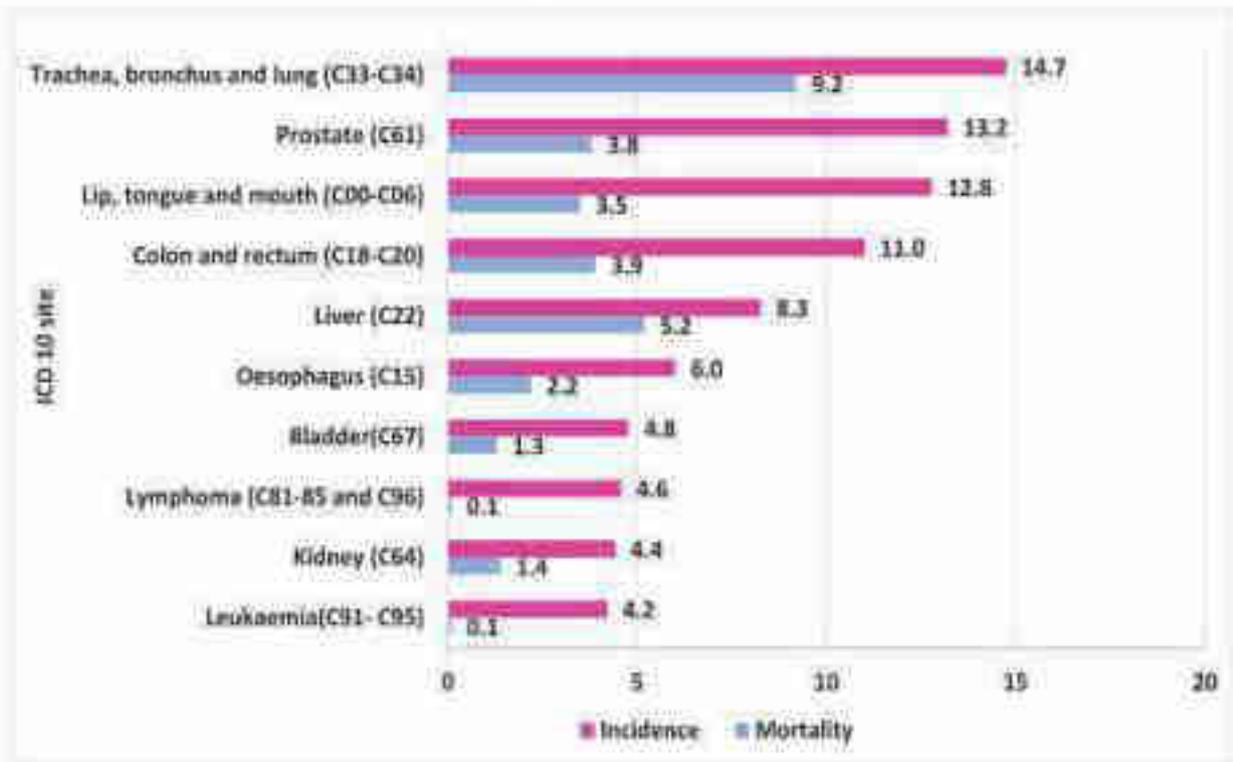


Figure 16: Age Standardized Incidence Rates and Death Rates of Leading Cancers in Colombo District –Male 2019.

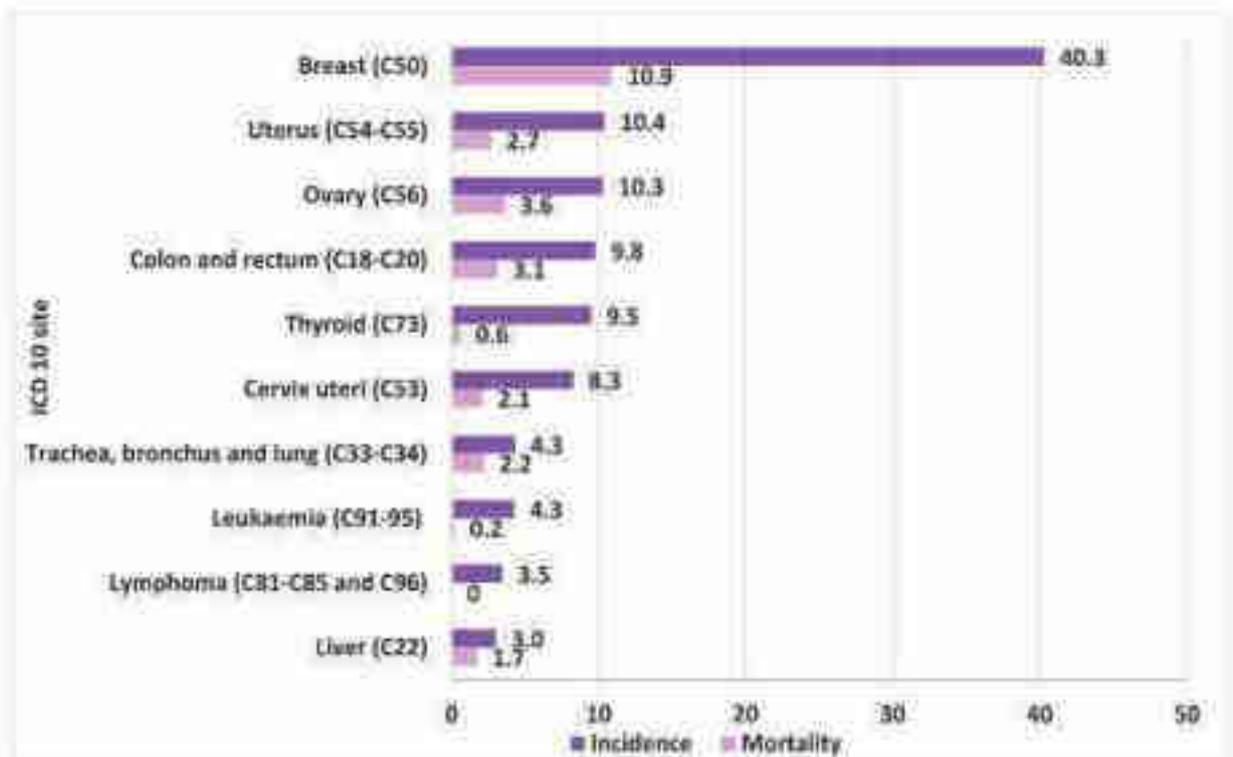


Figure 17: Age standardized incidence rates and death rates of leading cancers in colombo district – Female 2019

Quality Control

Table 17: Mean values of data quality indicators for comparison of cancer registries in Central, East and South Asia – Male 2019

ICD-10 code and site		MORIS		MIDEN		ASR	
		Mean	Colombo	Mean	Colombo	Mean	Colombo
C00-C14	Oral Cavity & Pharynx	88.9	70.2	37	30.7	17	16.5
C15	Esophagus	78.5	57.3	86.6	36.6	3.6	6.0
C16	Stomach	74.1	54.2	60.3	43.8	13.9	3.4
C18-21	Large bowel	86.4	64.7	42.9	35.9	18.8	11.3
C22	Liver	29.2	29.4	86.7	63.3	16.5	8.3
C25	Pancreas	44.7	36.0	65.2	52.0	2.9	1.9
C32	Larynx	90.5	64.2	43.1	41.5	4.8	3.9
C33-C34	Trachea, Bronchus & Lung	68.2	37.8	81	62.2	36.4	14.7
C43	Melanoma of Skin	92.8	100.0	28	0.0	0.6	0.2
C50	Breast	76.8	80.0	44.4	15.0	0.6	1.4
C61	Prostate	83.1	65.3	27.6	29.0	11.5	13.2
C62	Testis	84.8	63.6	8.8	18.2	0.9	0.8
C64-C66	Kidney, Renal pelvis & Ureter	78.3	61.4	35	36.8	3	4.4
C67	Bladder	89.9	75.0	32	28.1	5.4	4.8
C70-C72	Brain, Central Nervous System	70.7	60.5	62	39.5	2.4	3.1
C73	Thyroid	88.9	93.9	11.2	9.1	1.6	2.4
C81-C88, C96	Lymphoma	90.4	91.5	38.7	3.7	8.3	6.2
C91-C95	Leukaemia	91	96.3	45.1	1.9	5.6	4.6
C76-C80	Unspecified	62.6	29.5	58.5	70.9	9	18.8
C00-C96 excluding C43	All sites (Excluding non-melanoma skin)	73.4	56.7	56.5	41.3	171.7	135.1

Table 18: Mean values of data quality indicators for comparison of cancer registries in Central, East and South Asia – Female 2019

ICD - 10 Code and Site		55%		76.7%		ASB	
		Mean	Colombo	Mean	Colombo	Mean	Colombo
C00-C14	Oral Cavity & Pharynx	86	61.8	29.4	33.8	9.3	4.1
C15	Esophagus	77.3	56.8	66.2	40.9	2	2.5
C16	Stomach	73.1	53.3	57.6	50.0	7.4	1.8
C18-C21	Large bowel	86.4	65.9	44.2	33.5	14	9.9
C22	Liver	28.5	28.6	95.1	61.2	5	3.0
C25	Pancreas	45.6	27.8	82.8	66.7	2.2	2.2
C32	Larynx	83.9	50.0	40.7	25.0	0.7	0.2
C33-C34	Trachea, Bronchus & Lung	69.1	45.9	28.5	52.8	10.3	4.3
C43	Melanoma of Skin	93.3	100.0	36.7	0.0	0.3	0.1
C50	Breast	91	71.7	23.4	27.9	40.2	40.3
C53	Cervix uteri	89.5	70.7	30	25.6	15.7	8.3
C54-C55	Corpus Uteri & Uterus unspecified	85.2	71.9	17.1	26.9	6.6	10.4
C56	Ovary	82.5	60.7	37.1	36.2	8	10.9
C64-C66	Kidney, Renal pelvis & Ureter	73.8	66.7	37.5	37.5	1.5	1.6
C67	Bladder	85.2	53.9	34	46.2	1.3	0.8
C70-C72	Brain, Central Nervous System	66.6	56.1	54	39.0	1.8	3.1
C73	Thyroid	92.4	91.2	8.6	7.5	5.1	9.8
C81-C88, C96	Lymphoma	89.2	97.8	41.3	1.2	5.3	3.4
C91-C95	Leukaemia	89.8	94.8	54.1	5.2	4.4	4.5
C76-C80	Unspecified	60.8	17.2	55	81.1	6.4	13.4
C00-C96 excluding C44	All sites (Excluding non-melanoma skin)	82	63.4	42.1	34.5	156.6	143.3

The percentage of 'Other and unspecified sites', including primary site unknown is related to the quality of diagnostic information and quality of documentation of the medical records.

Table 19: Distribution of 'Other and unspecified sites' by Sex - Colombo District 2019

ICD - 9 code and site		Male		Female	
		No.	%	No.	%
C26	Other & ill defined digestive organs	12	0.6	5	0.2
C48	Retroperitoneum & peritoneum	1	0.1	6	0.3
C76	Other and ill defined sites	4	0.2	4	0.2
C80	Unknown primary	248	13.7	223	9.7
Total		265	14.6	238	10.3

**Trends Analysis of Cancer Incidence and Mortality of
Colombo District, Sri Lanka
2012-2019**

Table 1: Cancer Incidence Data by sex in Colombo district, 2012-2019

Year	Sex	Number	%	*CI	*ASR
2012	Male	1,366	47.2	119.8	107.1
	Female	1,530	52.8	129.2	101.9
	Total	2,896	100.0	124.6	103.3
2013	Male	1,603	47.4	139.7	124.4
	Female	1,778	52.6	149.2	117.4
	Total	3,381	100.0	144.5	117.9
2014	Male	1,647	46.6	142.7	128.3
	Female	1,891	53.4	157.8	124.5
	Total	3,538	100.0	150.4	125.1
2015	Male	1,667	45.9	143.5	129.2
	Female	1,967	54.1	163.1	129.5
	Total	3,634	100.0	153.5	127.7
2016	Male	1,625	46.7	138.3	124.3
	Female	1,856	53.3	152.1	118.7
	Total	3,481	100.0	145.3	119.6
2017	Male	2,202	47.5	185.6	166.6
	Female	2,437	52.5	197.8	153.9
	Total	4,639	100.0	191.8	158.1
2018	Male	1,819	47.5	152.0	136.9
	Female	2,014	52.5	162.1	125.4
	Total	3,833	100.0	157.1	129.4
2019	Male	1,811	44	150.8	136.1
	Female	0,023	56	184.8	144
	Total	4,115	100.0	168.1	138.7

Table 2: Cancer Mortality Data by sex in Colombo district, 2012-2019

Year	Sex	Number	%	*CI	*ASR
2012	Male	382	54	33.5	30.0
	Female	325	46	27.5	20.1
	Total	707	100	30.4	24.5
2013	Male	478	52.0	41.6	36.7
	Female	441	48.0	37.0	27.8
	Total	919	100	39.3	30.9
2014	Male	545	54.4	47.2	41.9
	Female	457	45.6	38.1	28.8
	Total	1002	100	42.6	34.5
2015	Male	490	54.6	42.2	37.8
	Female	407	45.4	33.8	25.8
	Total	897	100	37.9	31.0
2016	Male	575	54.6	48.9	43.4
	Female	478	45.4	39.2	29.1
	Total	1053	100	44.0	35.4
2017	Male	827	51.8	69.7	62.2
	Female	771	48.2	62.6	47.6
	Total	1598	100	66.1	53.7
2018	Male	784	51.2	65.5	58.4
	Female	748	48.8	60.2	44.2
	Total	1532	100	62.8	50.4
2019	Male	745	48.4	62.0	55.3
	Female	795	51.6	63.8	47.2
	Total	1540	100	62.9	50.4

Incidence Data

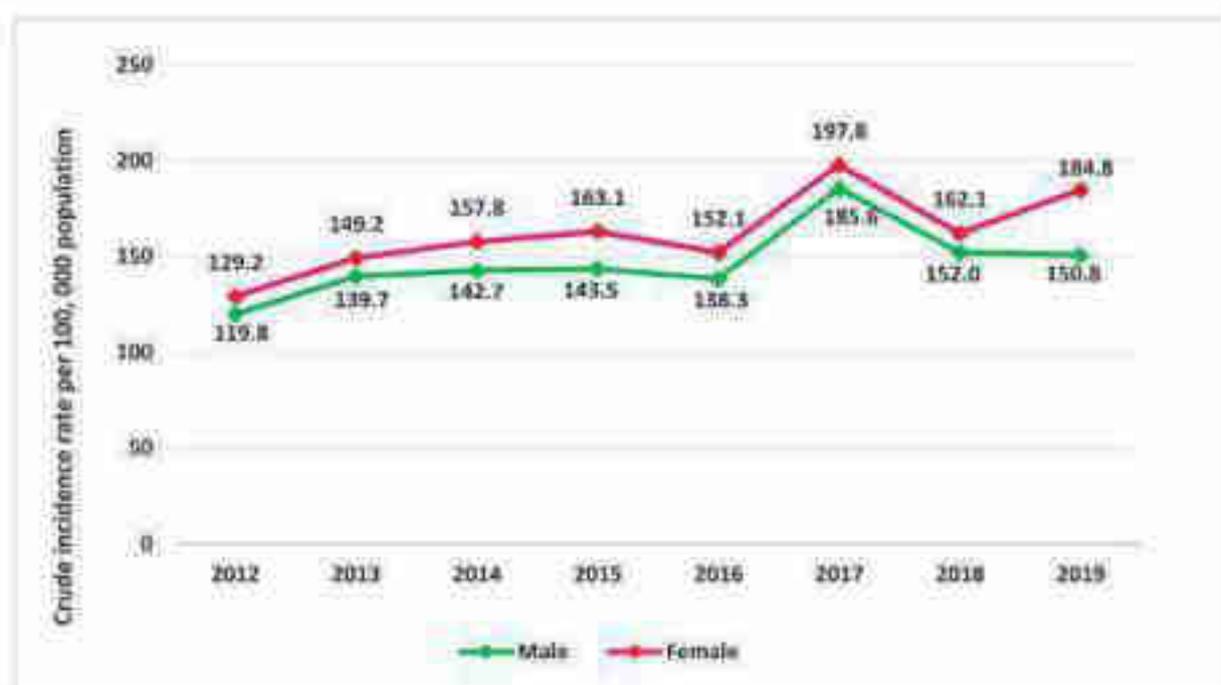


Figure 1: Crude Incidence rates of male and female cancers in Colombo district, 2012-2019



Figure 2: Age standardised Incidence rate of male and female cancers in Colombo district, 2012-2019

Mortality Data

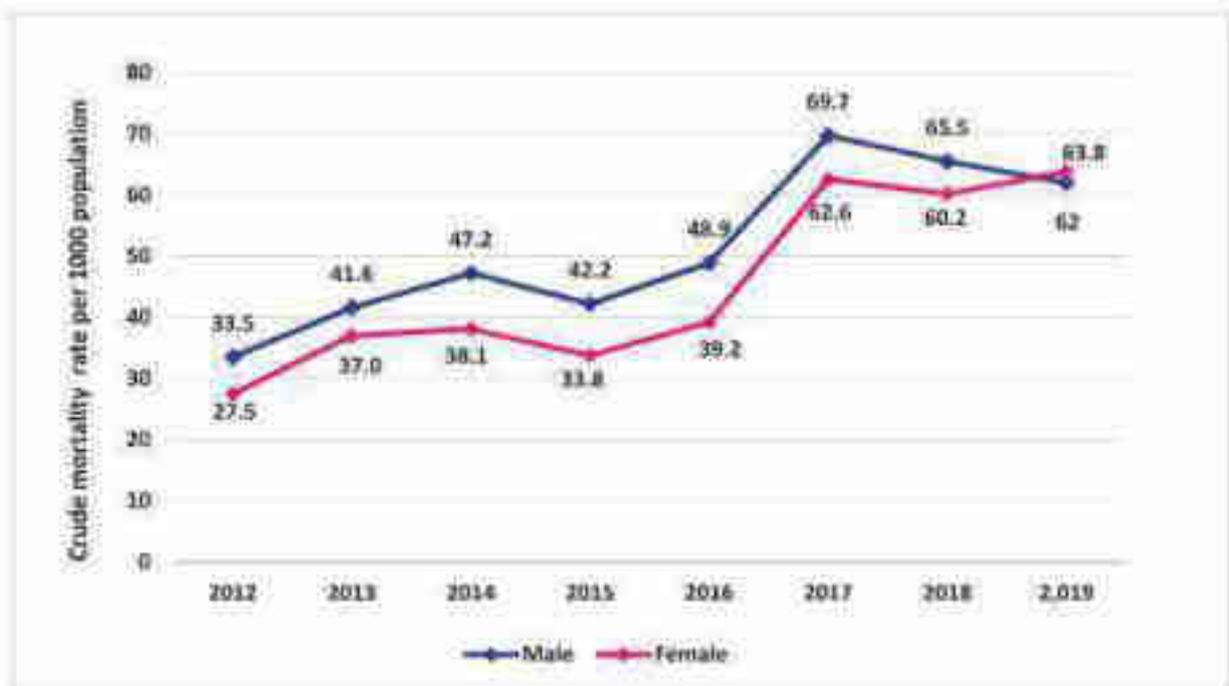


Figure 3: Crude mortality rates of male and female cancers in Colombo district, 2012-2019

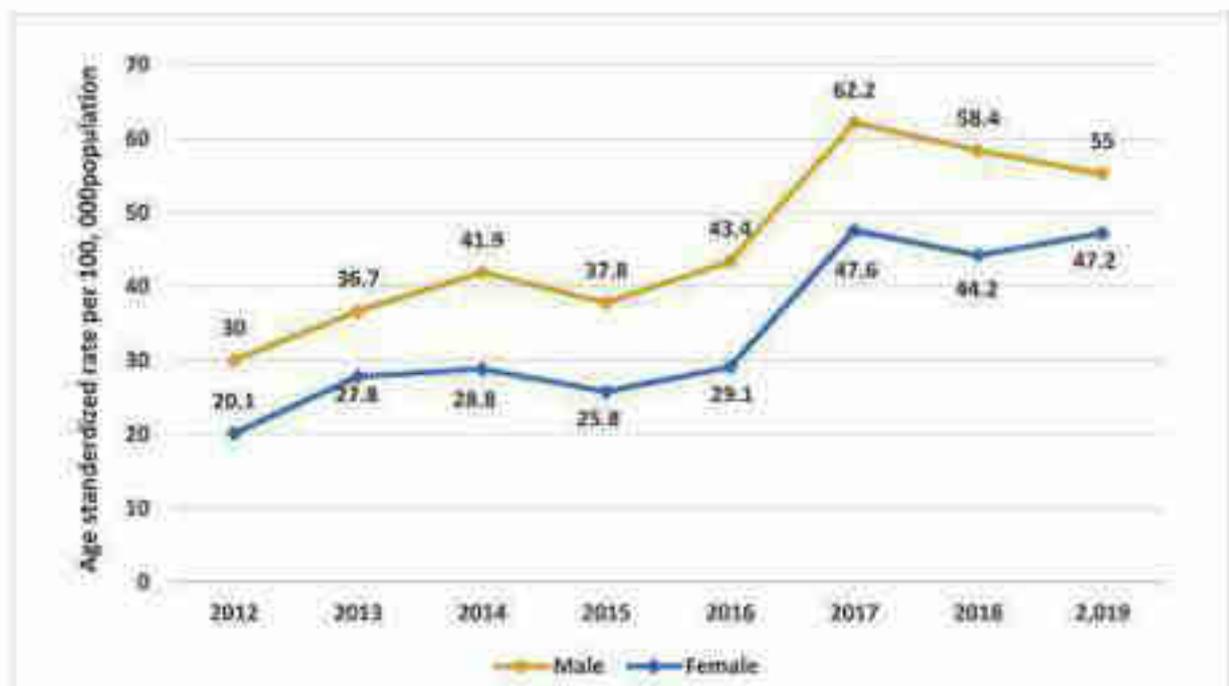


Figure 4: Age standardised mortality rates of male and female cancers in Colombo district, 2012-2019

Incidence and Mortality Data



Figure 5: Crude Incidence and Mortality rate among male in Colombo district,2012-2019

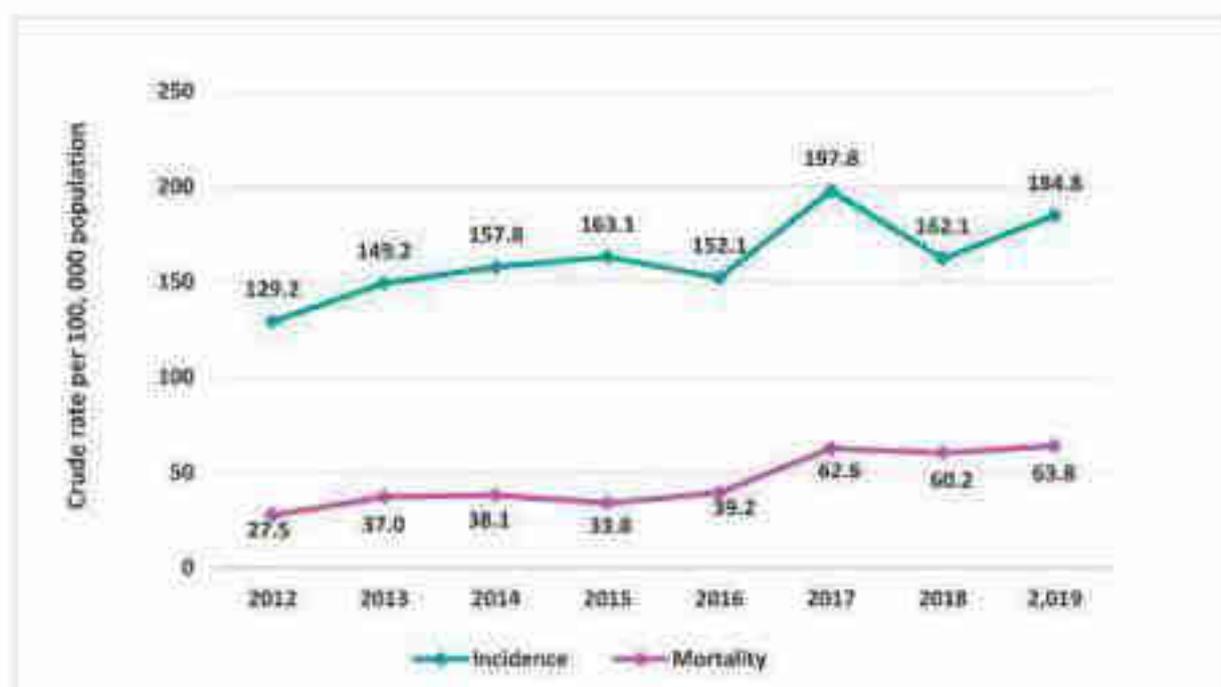


Figure 6: Crude Incidence and Mortality rate among female in Colombo district,2012-2019
Mortality Data

Trends of Leading cancers among Males, 2012 - 2019

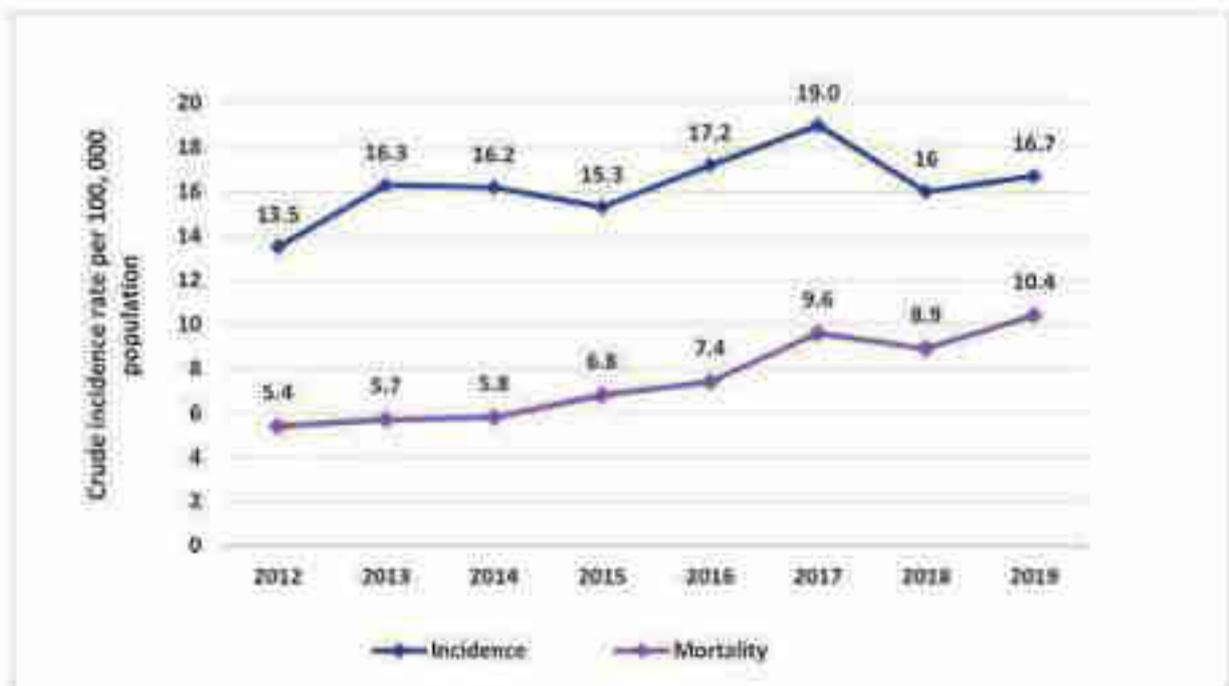


Figure 7: Crude incidence rates of trachea, bronchus and lung cancers among males in Colombo district 2012-2019

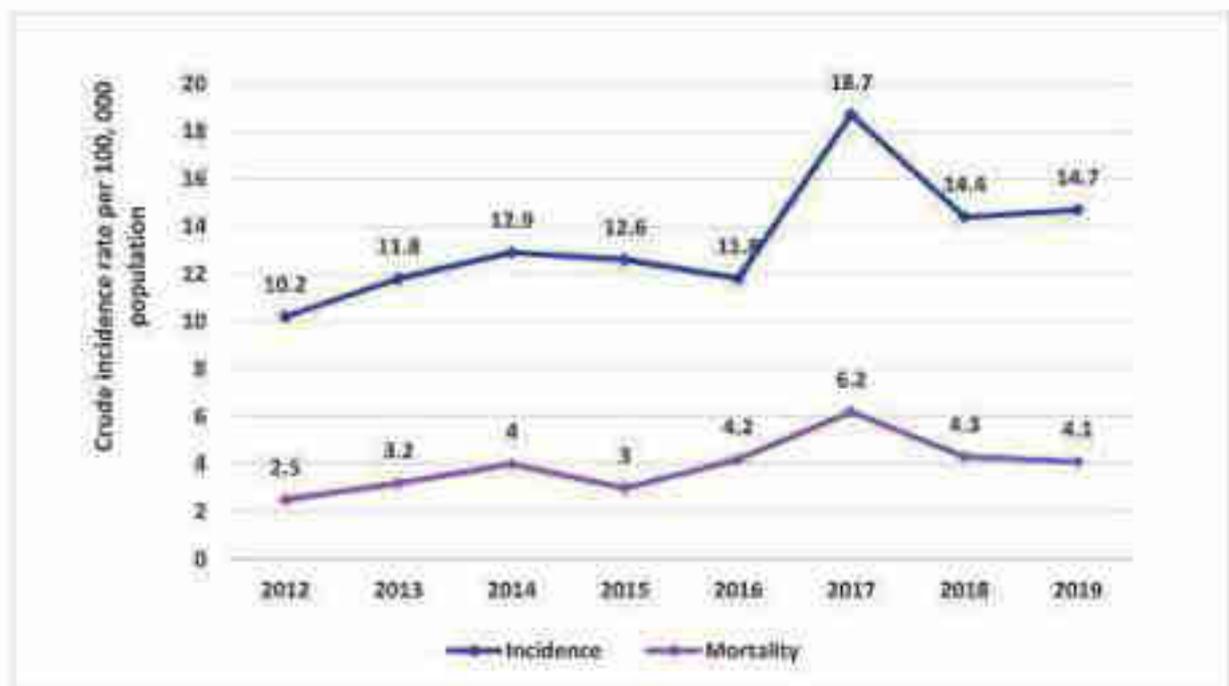


Figure 8: Crude incidence rates of lip, tongue and mouth cancers among males in Colombo district 2012-2019

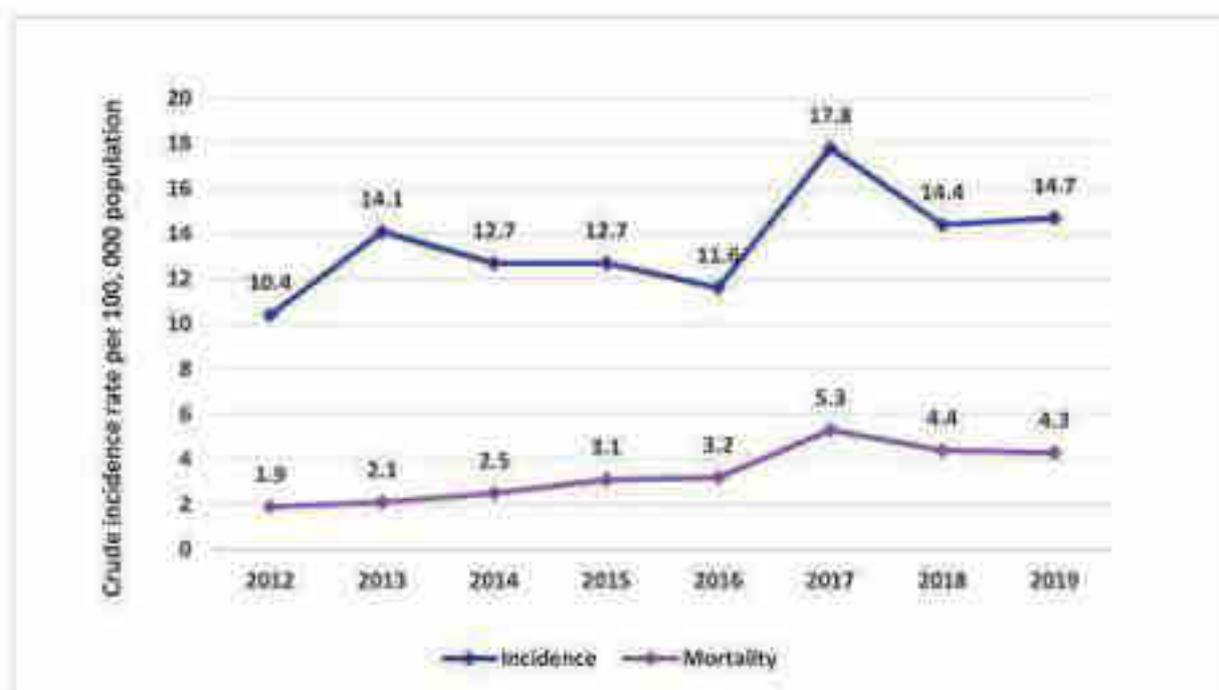


Figure 9: Crude incidence rates of prostate cancers among males in Colombo district 2012-2019

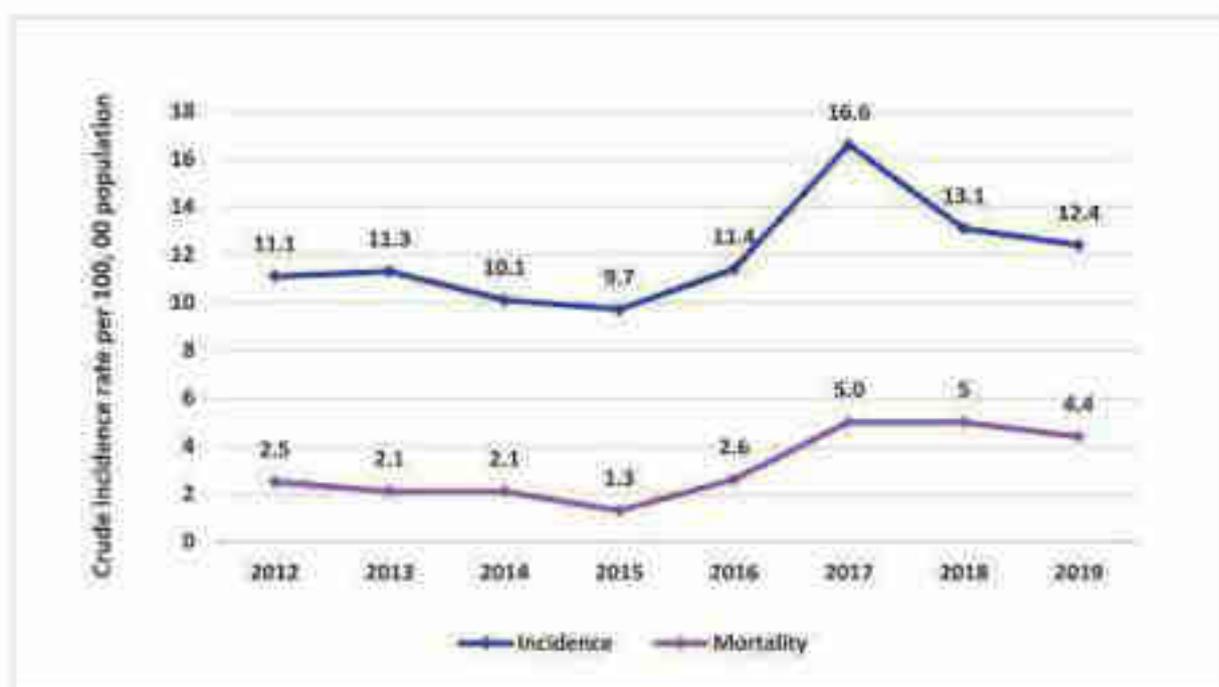


Figure 10: Crude incidence rates of colon and rectum cancers among males in Colombo district 2012-2019

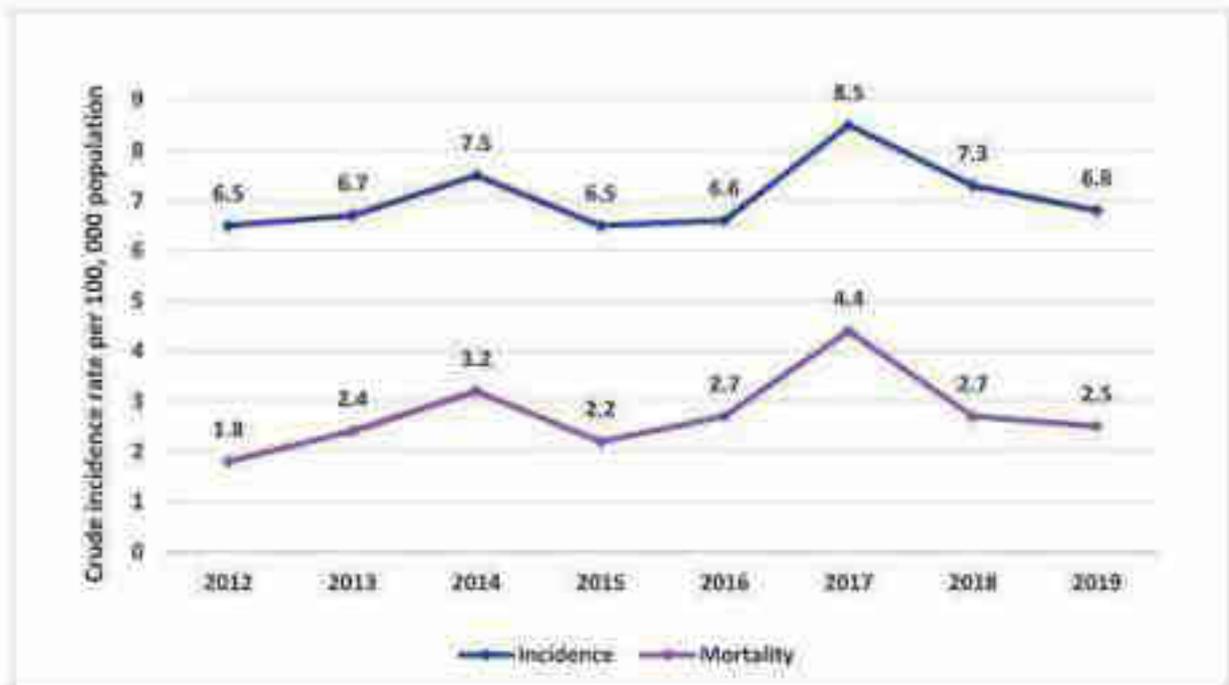


Figure 11: Crude incidence rates of oesophagus cancers among males in Colombo district 2012-2019

Trends of Leading cancers among Females, 2012 - 2019

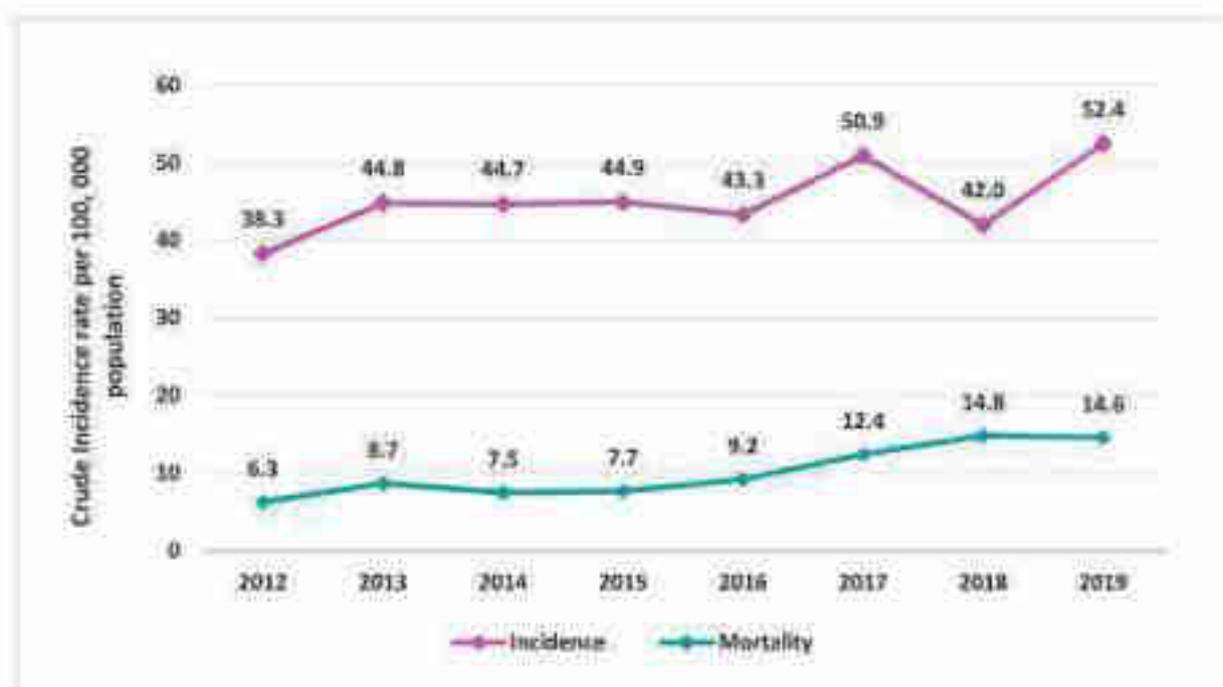


Figure 12: Crude Incidence rates of breast cancers among females in Colombo district 2012-2019

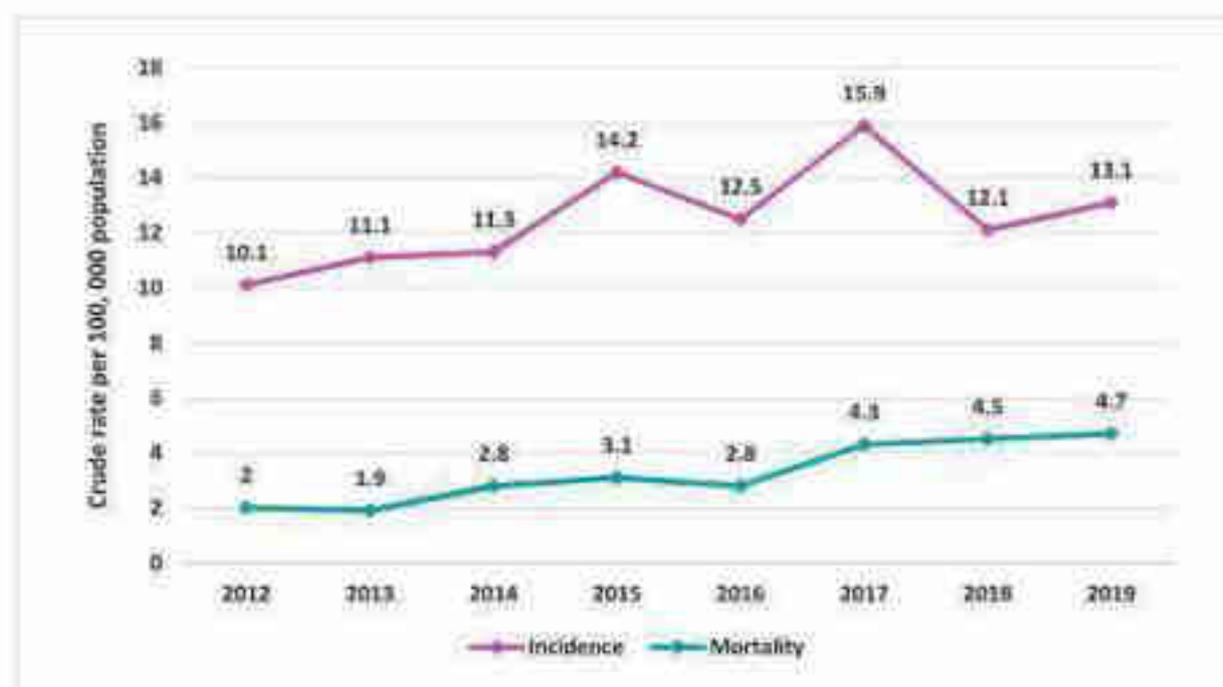


Figure 13: Crude incidence rates of ovary cancers among female in Colombo district 2012-2019

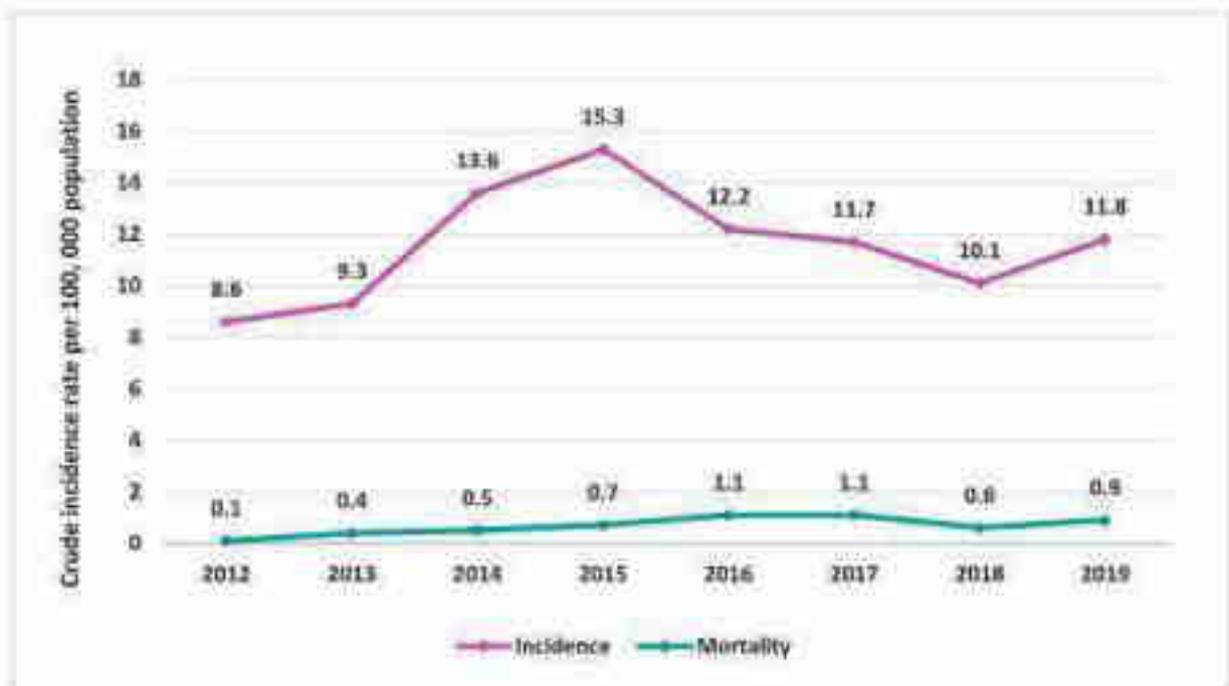


Figure 14: Crude incidence rates of thyroid cancers among female in Colombo district 2012-2019

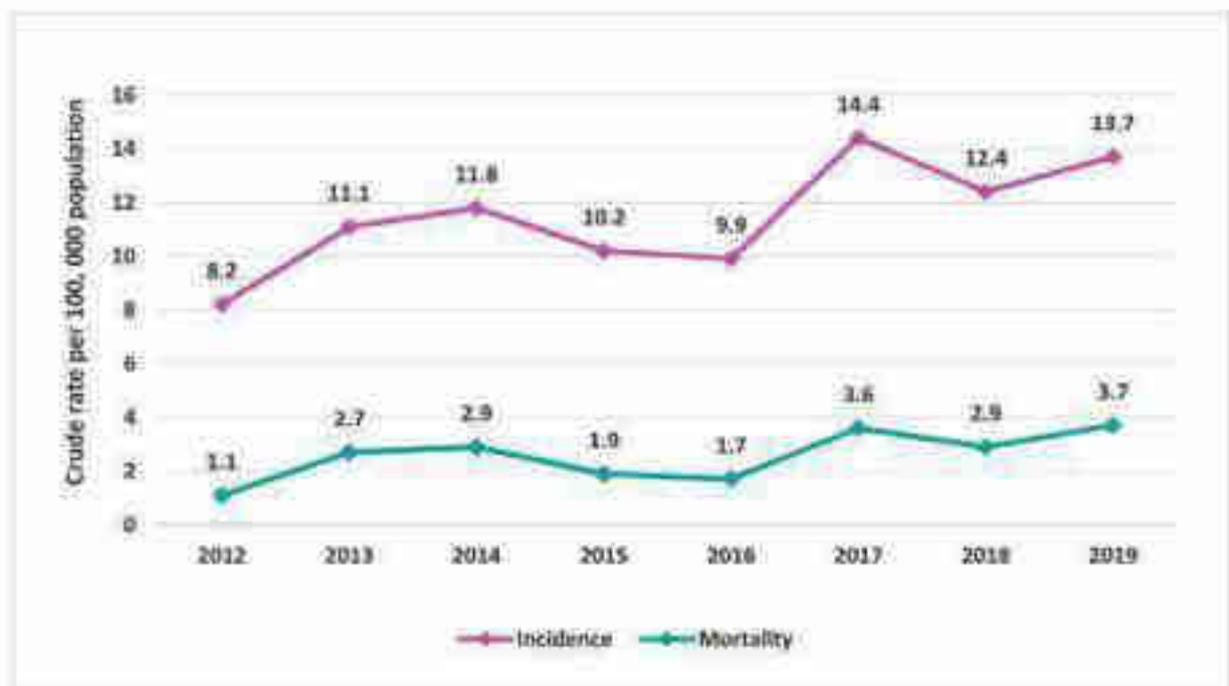


Figure 15: Crude incidence rates of uterus cancers among female in Colombo district 2012-2019



Figure 16: Crude incidence rates of Cervix cancers among females in Colombo district 2012-2019

Statistical Terminology

Population at risk

The population at risk includes all individuals susceptible to a specific cancer. It is defined on the basis of demographic variables, such as place of residence, sex, age group. Years of risk duration are counted in person-years.

Incidence

Incidence quantifies the number of new cases that develop in a population of individuals at risk during a specified time interval. Usually it is given as per 100,000 population per year.

Mortality

Mortality is the number of deaths occurring in a given 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.

Crude rate

Data on incidence or mortality are often presented as rates. For a specific tumour and population, a crude rate is calculated simply by dividing the number of 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.

$$\text{Crude incidence rate} = \frac{\text{Total number of cases in the year}}{\text{Total midyear population at risk}} \times 100,000$$

$$\text{Crude death rate} = \frac{\text{Total number of deaths in the year}}{\text{Total midyear population at risk}} \times 100,000$$

Age-specific rate

The age-specific rate is calculated simply by dividing the number of new cancers or cancer deaths 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. The result is usually expressed as an annual rate per 100,000 person-years. In this publication, five-year age categories are used.

$$\text{Age-specific incidence rate} = \frac{\text{Number of cases in the five-year age group}}{\text{Population at risk in the corresponding age group}} \times 100,000$$

$$\text{Age-specific death rate} = \frac{\text{Number of deaths in the five-year age group} \times 100,000}{\text{Population at risk in the corresponding age group}}$$

ASR (Age standardized rate)

An age-standardised 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 dying from 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 mortality rate is then called age-standardised mortality rate (world). The world standard population used within the application is as proposed by Segi (1960) and modified by Doll and *al.* (1966). The ASR is also expressed per 100,000.

Age distribution of the world standard population	
Age group	W _i
0-4	12000
5-9	10000
10-14	9000
15-19	9000
20-24	8000
25-29	8000
30-34	6000
35-39	6000
40-44	6000
45-49	6000
50-54	5000
55-59	4000
60-64	4000
65-69	3000
70-74	2000
75-79	1000
80-84	500
85+	500
Total	100000

Life time risk (Cumulative Risk)

Cumulative incidence/mortality is the probability or risk of individuals getting/dying from the disease within a specified age interval within a time period.

[The cumulative risk is the risk which an individual would have of developing the cancer under study during a certain age span if no other causes of death were in operation].

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