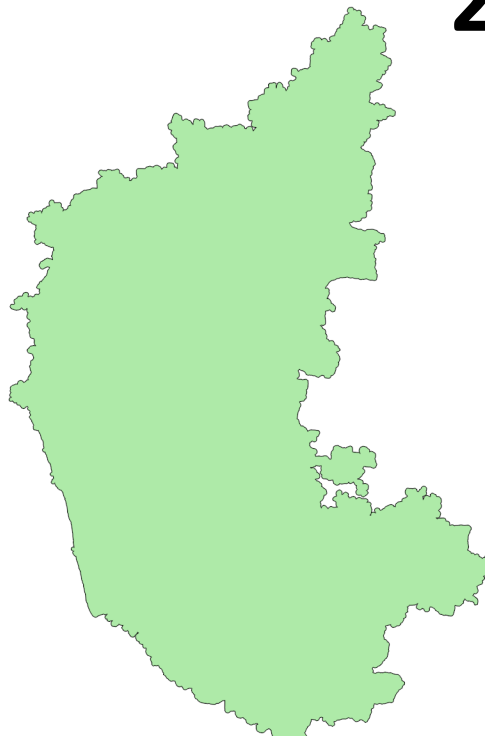


# ICMR-National Centre for Disease Informatics and Research

## Profile of Cancer and Related Factors - Karnataka

**2021**



# Karnataka

## Profile of Cancer and Related Factors

### Background

Non Communicable Diseases (NCDs) include cardiovascular disease (heart attack and stroke), diabetes, cancer, and chronic respiratory diseases. In India, NCDs' are responsible for 63% of the deaths, among which cancers account for 9% of deaths. <sup>[1]</sup> Cancer is a disease characterized by uncontrolled growth of the body cells in any part, which can spread to other parts of the body. The normal cells in the body are transformed into tumour cells, resulting from an interaction between an individual's genetic factors and exposure to external agents or 'carcinogens'. Many behavioural and environmental risk factors, such as tobacco use, alcohol use, unhealthy diet, physical inactivity, obesity, infections, air pollution, are associated with the risk of developing cancer. Close to half of the cancer deaths can be avoided by the prevention and control of risk factors. <sup>[2]</sup>

In India, the National Cancer Registry Programme (NCRP) has systematically collected data on cancer since 1981. The NCRP is implemented by National Centre for Disease Informatics and Research (NCDIR) of the Indian Council of Medical Research at Bengaluru. Cancer data is collected through a network of population-based cancer registries (PBCRs) and hospital-based cancer registries (HBCRs).

The Cancer Fact Sheet presents the epidemiological profile and pattern of cancer in Karnataka, based on findings from the 'Report of National Cancer Registry Programme 2020' <sup>[3]</sup> In addition, related information on the socio-demographic profile, health status indicators and health infrastructure is also presented. These have a significant bearing on the occurrence and outcome of cancer.

### Methodology used in cancer profile description

The cancer statistics presented in Section I are described in terms of cancer incidence, cumulative risk, leading sites of cancer and proportion of cancers in sites associated with tobacco use. These indicators are based on data from 2012-14 and calculated for the Population Based Cancer Registry areas (as shown in Section I). Cancer incidence and cumulative risk are defined as-

(i) *Cancer incidence*

- Crude incidence rate: The number of new cancers per 100,000 persons
- Age adjusted incidence rate: The incidence rate a population would have if that population had a standard age structure. It is expressed as the number of new cancer cases per 100,000 population using world standard population.
- Age specific incidence rate: The number of new cancers per 100,000 persons in a specific age category.
- Cancer incidence rates for childhood cancers are expressed as per million.

(ii) **Cumulative risk** : Cumulative risk (probability that an individual will be diagnosed with cancer [0 to 74 year old age group] in the absence of any competing cause of death and assuming that the current trends prevail over time).

The Clinical Extent of Disease at presentation (%) for cancers of selected anatomical sites has been calculated from 11 HBCRs' in the state. However, this may not be representative for the entire state.

Projected incidence of cancer cases is given for the state for the year 2020 and 2025 according to gender using incidence data from the composite period of 2012-2016 was used as a reference.

## I. CANCER PROFILE

### A. DESCRIPTION OF THE NATIONAL CANCER REGISTRY PROGRAMME IN KARNATAKA

#### Population Based Cancer Registry- *Reports on cancer incidence in a defined geographic area*

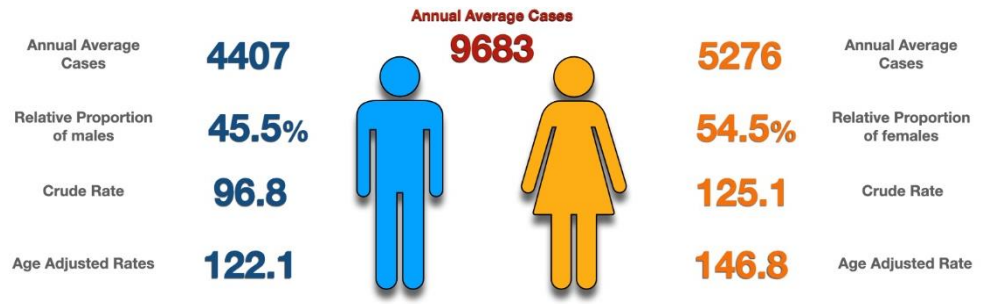
<b>Location</b>	Kidwai Memorial Institute of Oncology (KMIO), Bengaluru
<b>Establishment Year</b>	1981
<b>Coverage Area</b>	Bangalore Urban Agglomeration/Municipal Corporation
<b>Area (in Sq.km)</b>	741
<b>Urban &amp; Rural (%)</b>	100.0 & 0.0

#### Hospital Based Cancer Registry: *Reports on the clinical profile of patients availing of care at a specific hospital*

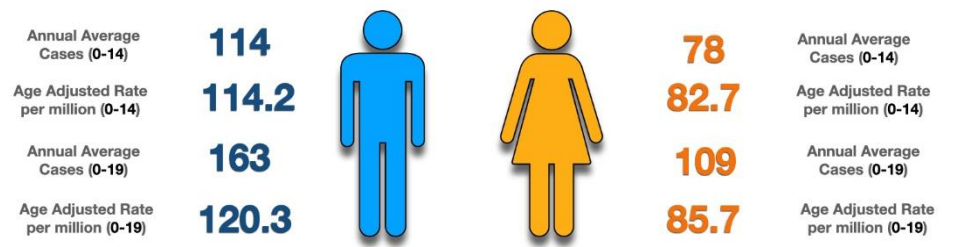
- Number of Hospitals: 13**
- A.J. Institute of Medical Sciences & Research Centre, Mangaluru
  - Apollo Hospital, Bannerghatta Road, Bengaluru
  - Cytocare Hospital Pvt Ltd., Bengaluru
  - Father Muller Medical College Hospital, Mangaluru
  - HCG Bangalore Institute of Oncology, Bengaluru
  - HCG Cancer Center, Kalaburgi
  - Kasturba Medical College, Mangaluru
  - Kidwai Memorial Institute of Oncology, Bengaluru
  - Mandya Institute of Medical Sciences, Mandya
  - Narayana Health City, Bengaluru
  - Sri Shankara Cancer Hospital & Research Centre, Bengaluru
  - St. John's Medical College Hospital, Bengaluru
  - Vydehi Institute of Medical Sciences & Research Centre, Bengaluru

**B. CANCER INCIDENCE AND RISK**

**Average Annual number of Incidence and rates per 100,000 of all ages**



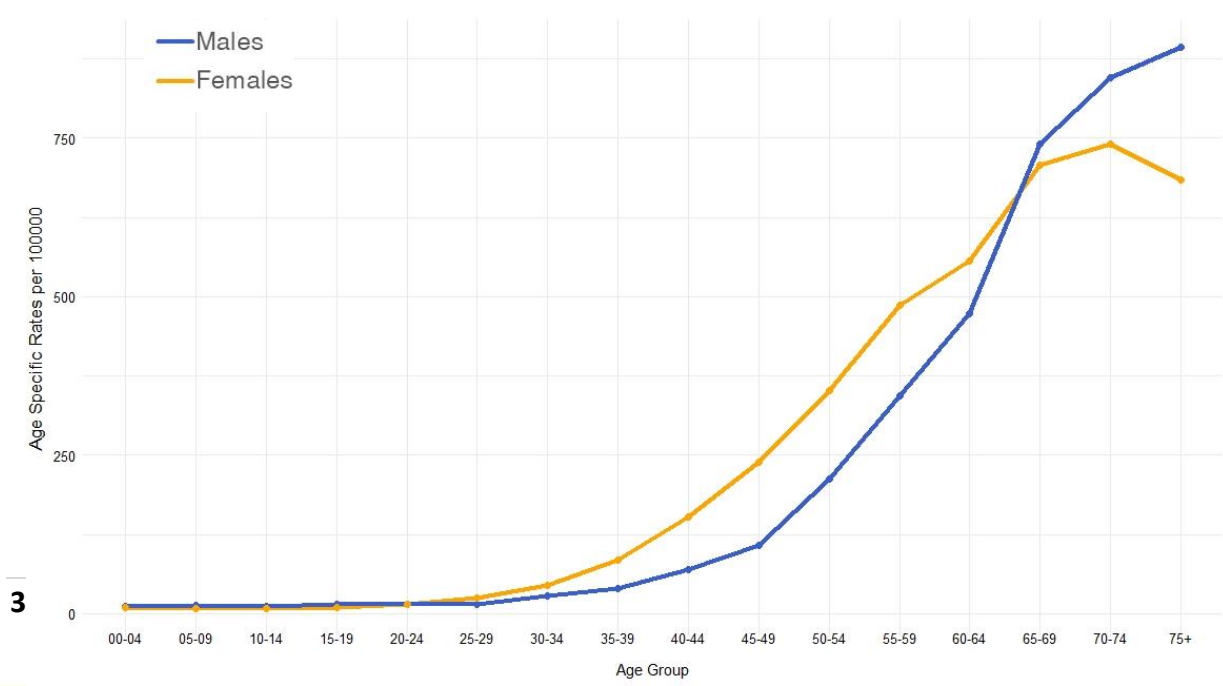
**Age adjusted Incidence rates of childhood cancers per million**



**Cumulative risk of developing cancer of any site in 0-74 years of age group**

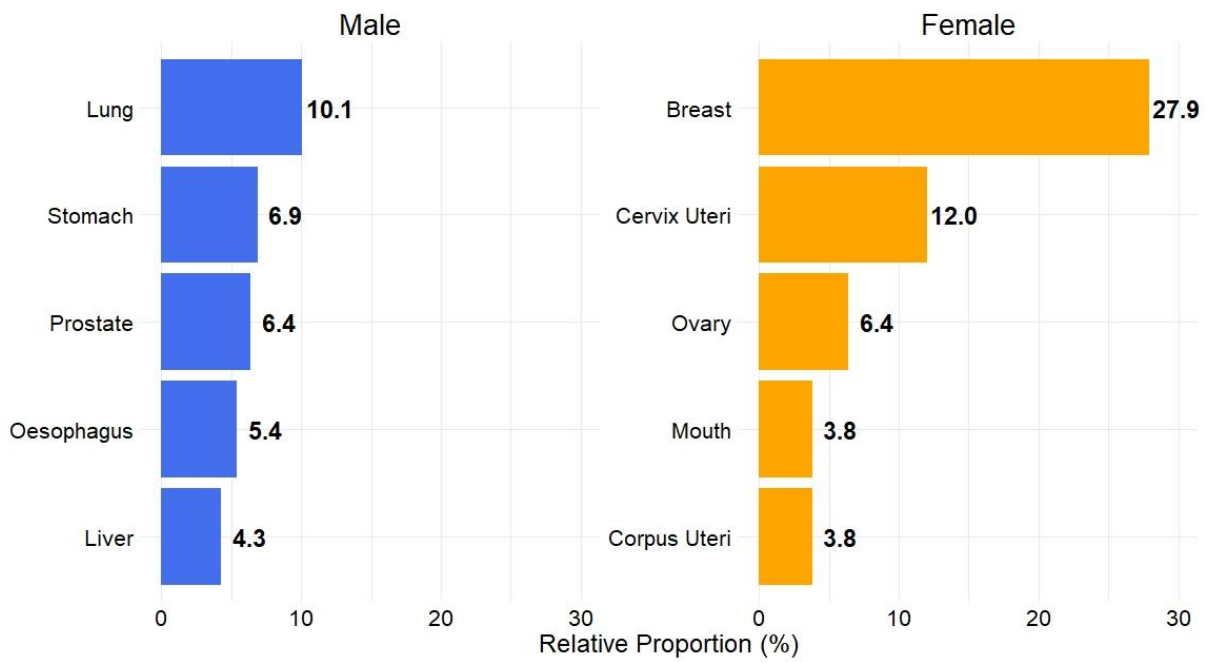


**Age Specific Incidence Rates (All sites of Cancer)**

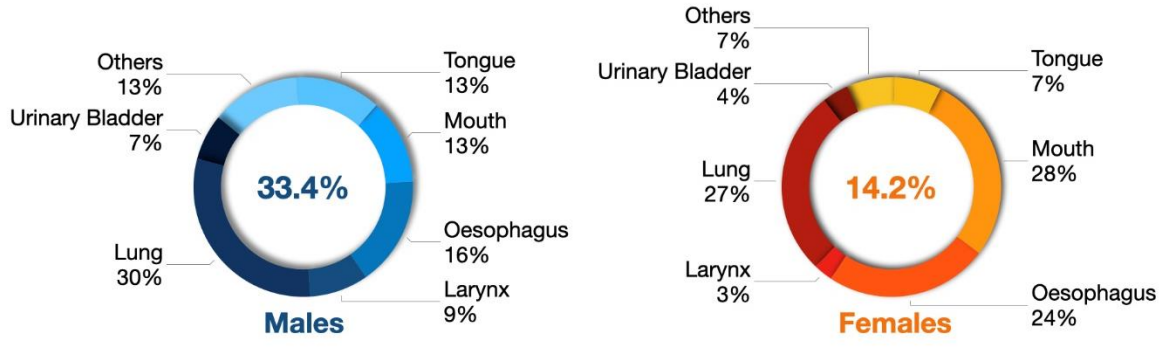


**C. Leading Cancer Sites**

**Five Leading Sites of Cancers**



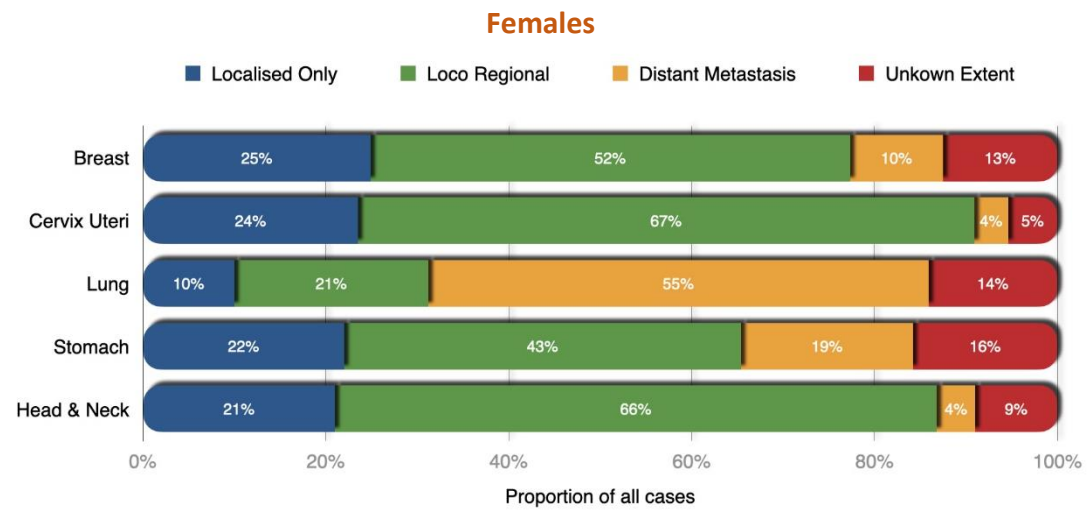
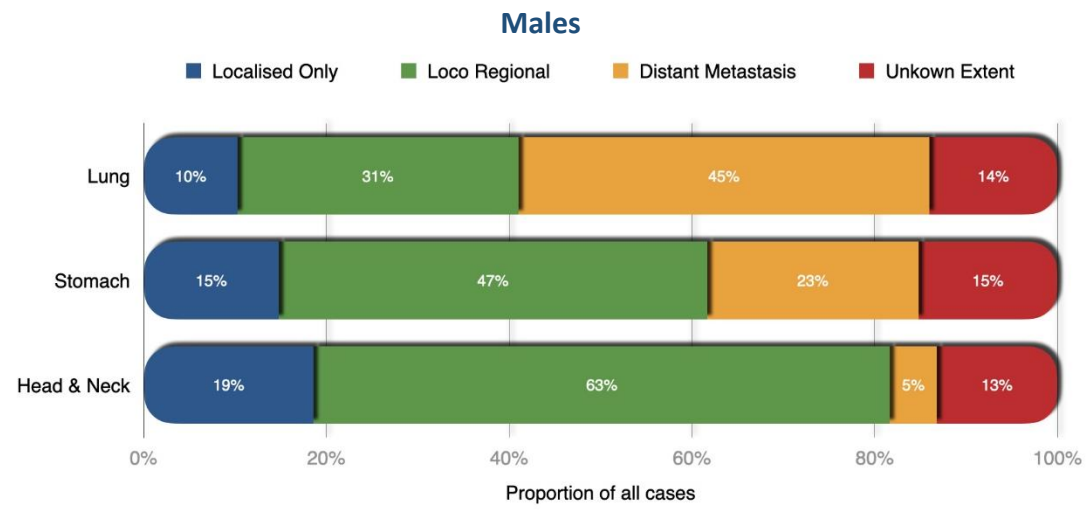
**Proportion (%) of Cancer Sites associated with the use of tobacco**



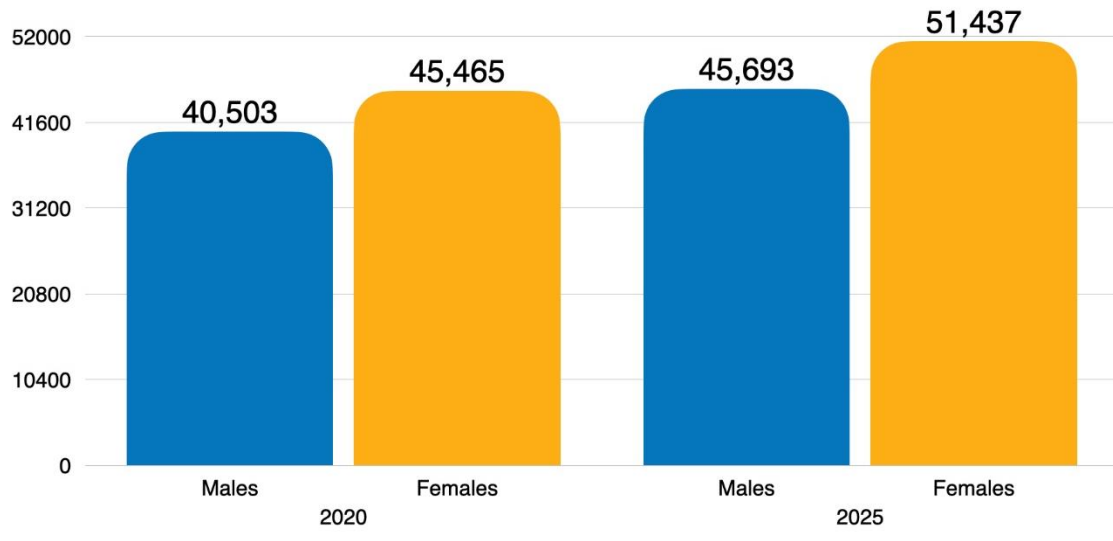
Others - Lip, Other oropharynx, Hypopharynx, and Pharynx Unspecified

**D. Clinical Profile**

**Clinical Extent of Disease at presentation for cancers of selected anatomical sites**



**E. Projected Incidence of cancer cases for 2025**



**II. CANCER RELATED INFORMATION**

**A. Socio-demographic profile [4]**

(a) Population		
Total		6,10,95,297
Males		3,09,66,657
Females		3,01,28,640
Gender Ratio		973
(b) Literacy Rate		
Total		75.4 %
Males		82.5 %
Females		68.1 %

**B. Health Indicators**

(a) Life Expectancy (2016) <sup>[5]</sup>		
Males		67.1 years
Females		71.1 years
(b) Proportion of total disease burden from NCDs <sup>1</sup> [5]		62.0 %
(c) Proportion of NCDs <sup>1</sup> Medically Certified Deaths – Neoplasms <sup>[6]</sup>		9.0 %
(d) Prevalence of cancer related risk factors		
Prevalence of current tobacco use (smoking and/or smokeless)-in adults over 15 years of age <sup>[7]</sup>		
Total		22.8 %
Males		35.2 %
Females		10.3 %

Prevalence of alcohol use in males and females (age 15-49 years) <sup>[8]</sup>		
	Males	16.5 %
	Females	0.9 %
Proportion of consumption of dark green leafy vegetables at least once a week in males and females from 15 to 49 years of age <sup>[8]</sup>		
	Males	92.5 %
	Females	96.8 %
Proportion of consumption of fruits at least once a week in males and females from 15 to 49 years of age <sup>[8]</sup>		
	Males	71.2 %
	Females	77.0 %
	Proportion of households using clean fuel for cooking <sup>[8]</sup>	79.7 %
	Proportion of households reporting exposure to second hand smoke <sup>[8]</sup>	29.2 %
Proportion of overweight/obesity in males and females (age 15-49 years) <sup>[8]</sup>		
	Males	30.9 %
	Females	30.1 %
(e) Prevalence of other NCDs' <sup>[8]</sup>		
Hypertension (age 15-49 years)		
	Males	26.9 %
	Females	25.0 %
Raised random blood glucose level (age 15-49 years)		
	Males	15.6 %
	Females	14.0 %

### C. Health Infrastructure

(a) Government health facilities <sup>[9]</sup>		
	• Sub-centres + Health and Wellness Centres – Sub Centres (HWC-SCs)	10009
	• Primary Health Centres + Health and Wellness Centres - Primary Health Centres (HWC-PHCs)	2562
	• Community Health Centres	207
	• District hospitals	15
(b) Number of medical colleges <sup>[10]</sup>		
(c) Regional / Tertiary Cancer Care Centres <sup>[11],[12]</sup>		
	▪ Kidwai Memorial Instt. of Oncology (RCC*/SCI**)	
	▪ Mandya Institute of Medical Sciences, Mandya (TCCC***)	
(d) State Government Health Schemes <sup>[13]</sup>		
	▪ Arogya Karnataka Scheme	

\*Regional Cancer Centre

\*\*State Cancer Institute

\*\*\*Tertiary Cancer Care Centre



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