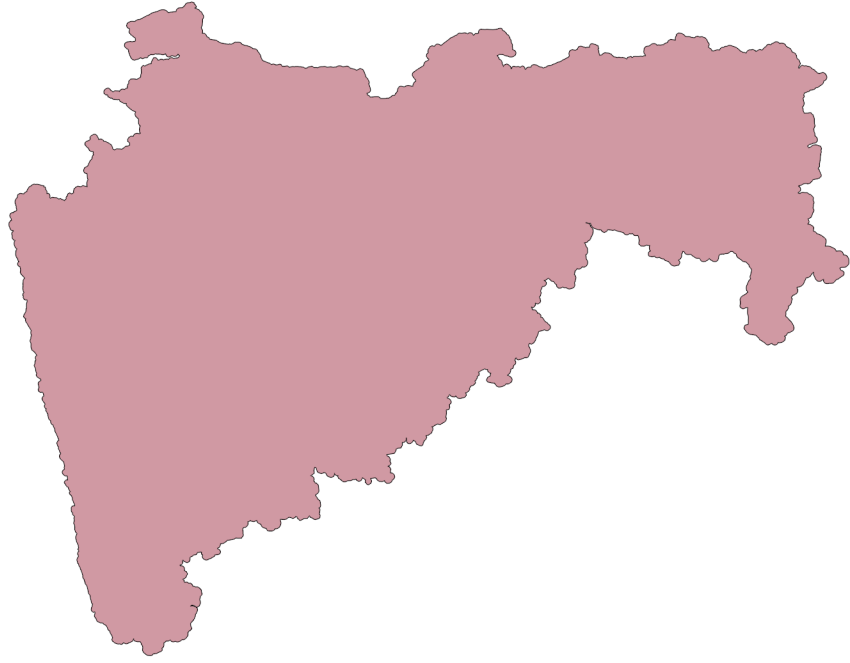


# ICMR-National Centre for Disease Informatics and Research

## Profile of Cancer and Related Factors - Maharashtra

**2021**



# Maharashtra

## 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 Maharashtra, 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 2012-16 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.
  - 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 the three HBCRs under 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. Estimated Age Specific Incidence Rates (ASPr) for the entire State is calculated (for the year 2020).

## I. CANCER PROFILE

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

PBCRs	Establishment Year	Location	Coverage Area	Area (in Sq.km)	Urban (%)	Rural (%)
<b>Aurangabad</b>	1978	Indian Cancer Society, Mumbai	Aurangabad City Agglomeration	148	100.0	0.0
<b>Osmanabad &amp; Beed</b>	1987	Nargis Dutt Memorial Cancer Hospital, Barshi	2 Districts - Osmanabad & Beed	18262	18.7	81.3
<b>Barshi rural</b>	1987	Nargis Dutt Memorial Cancer Hospital, Barshi	Rural Area of 3 Taluks namely Barshi from Solapur district and Bhum & Paranda from Osmanabad district	3713	0.0	100.0
<b>Mumbai</b>	1963	Indian Cancer Society, Mumbai	Greater Mumbai / (Mumbai City & Mumbai Suburban District)	603	100.0	0.0
<b>Pune</b>	1972	Indian Cancer Society, Mumbai	Pune City Corporation	613	100.0	0.0
<b>Wardha District</b>	2010	Mahatma Gandhi Institute of Medical Sciences, Sevagram	Wardha District	6309	32.5	67.5
<b>Nagpur</b>	1980	Indian Cancer Society, Mumbai	Nagpur City Agglomeration	237	100.0	0.0
<b>Nagpur rural</b>	2020	R.S.T. Regional Cancer Hospital & Research Centre, Nagpur	Rural areas of Saoner and Nagpur rural of Nagpur district	1228.93	0.0	100.0

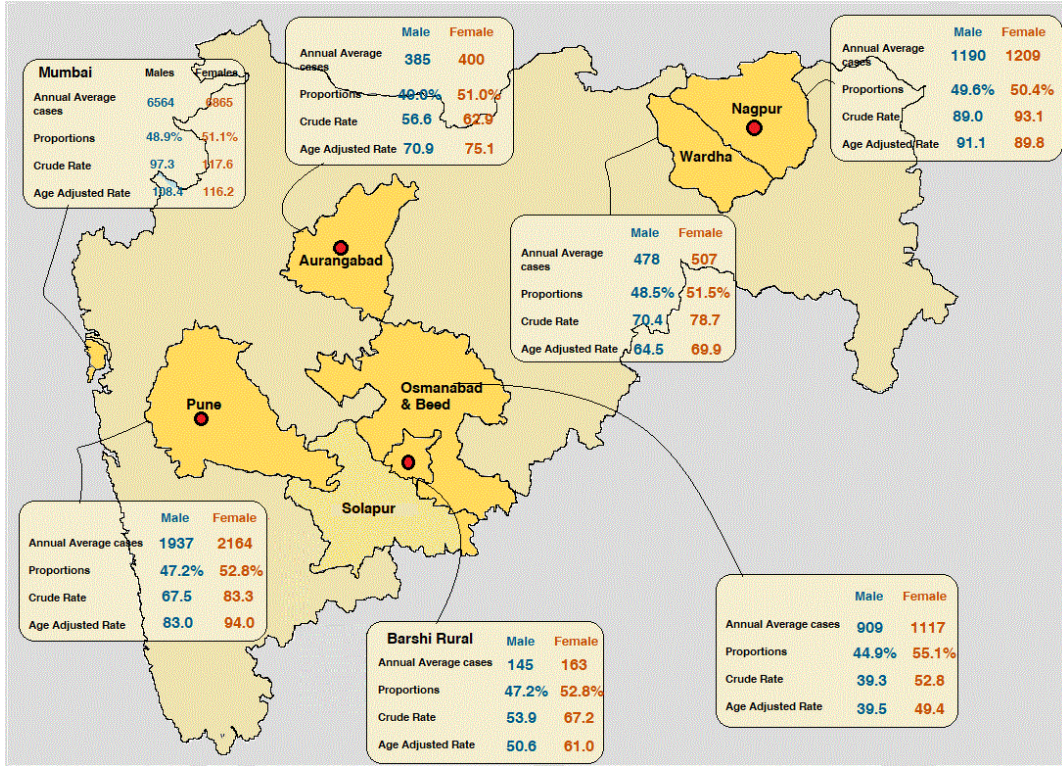
#### Hospital Based Cancer Registry: Reports on the clinical profile of patients availing of care at a specific hospital

#### Number of Hospitals: 5

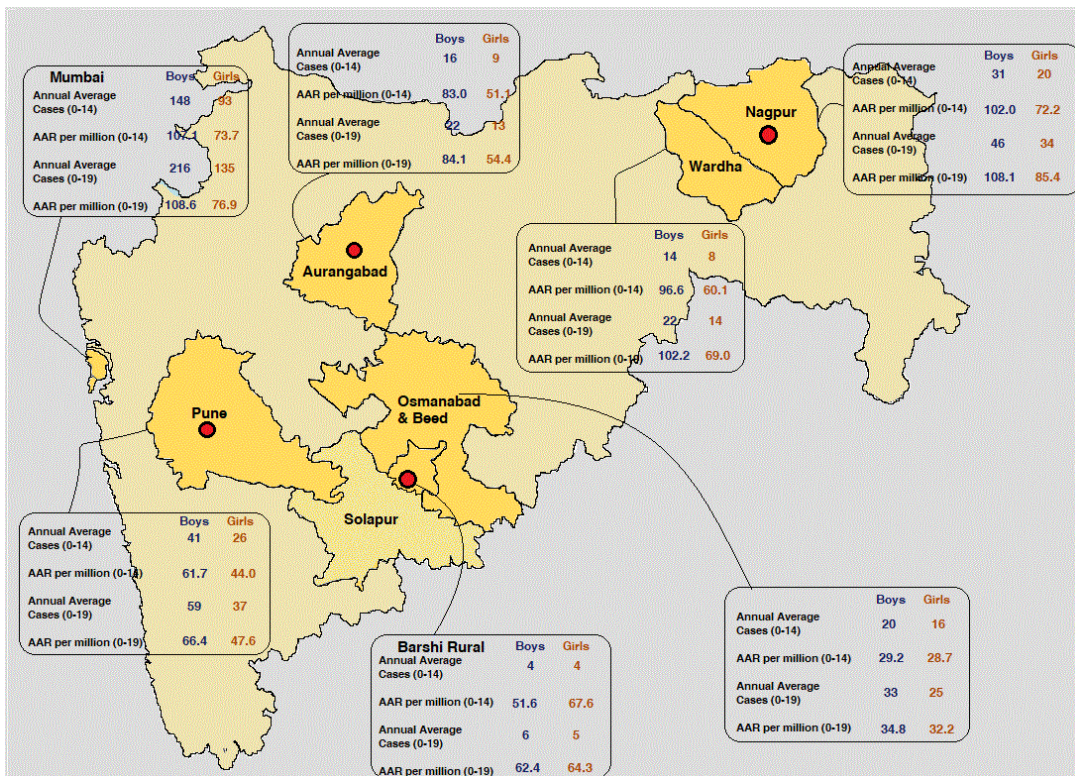
- Kokilaben Dhirubhai Ambani Hospital and Research Institute, Mumbai
- Kolhapur Cancer Centre, Kolhapur
- Pravara Institute of Medical Science, Loni
- Rashtra Sant Tukdoji Regional Cancer Hospital and Research Centre, Nagpur
- Tata Memorial Hospital, Mumbai

**CANCER INCIDENCE AND RISK**

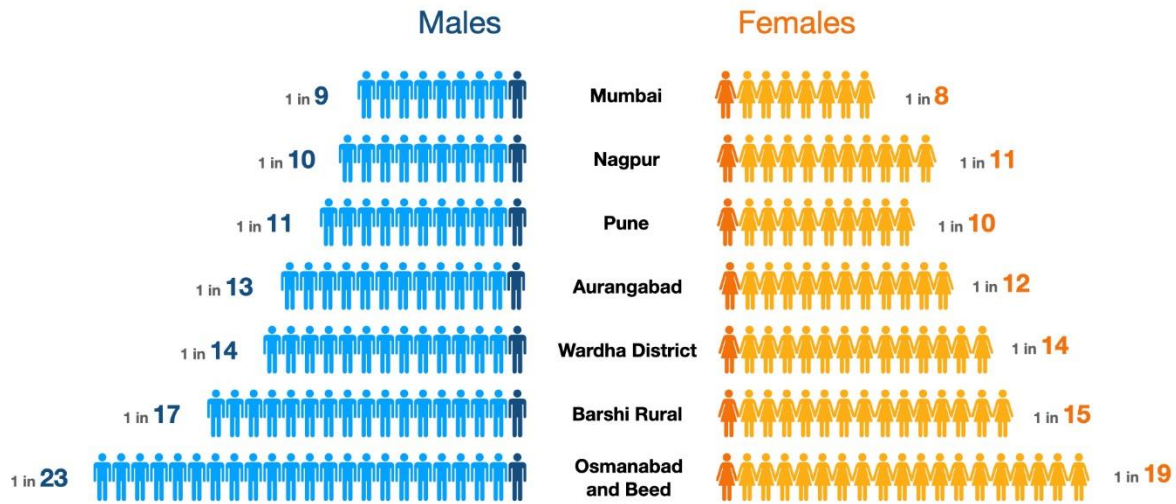
**Average Annual number of Incidence and rates per 100,000 of all ages**



**Age adjusted Incidence rates (AAR) of childhood cancers per million**

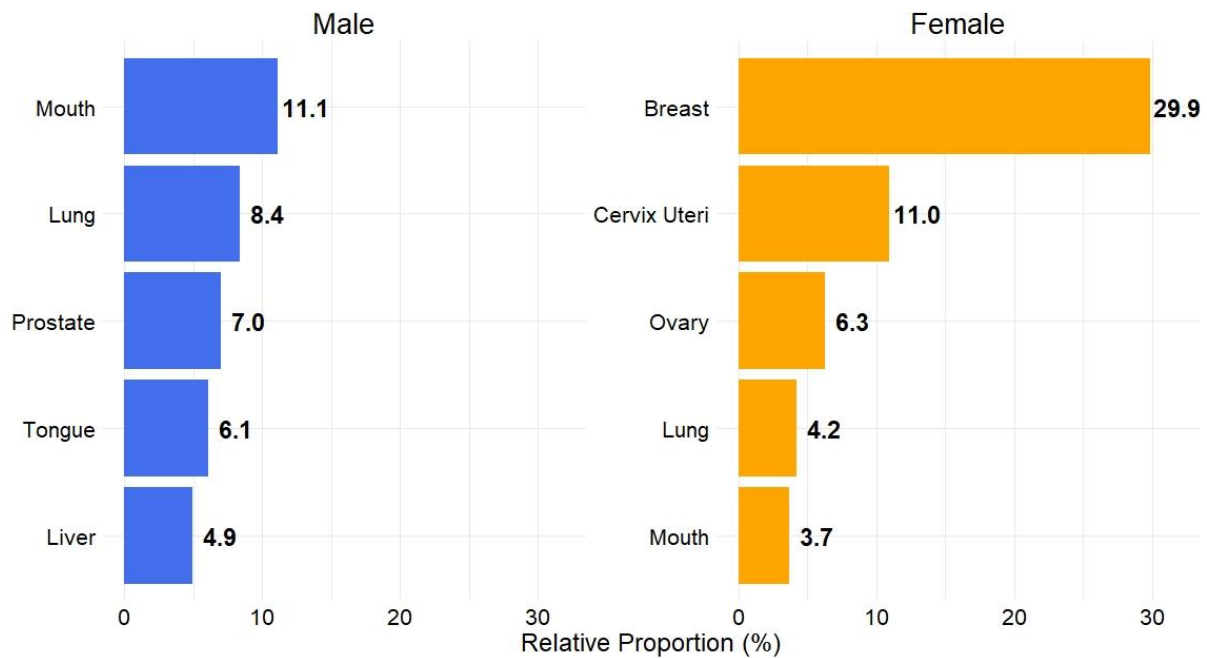


### Cumulative risk of developing cancer of any site in 0-74 years of age group

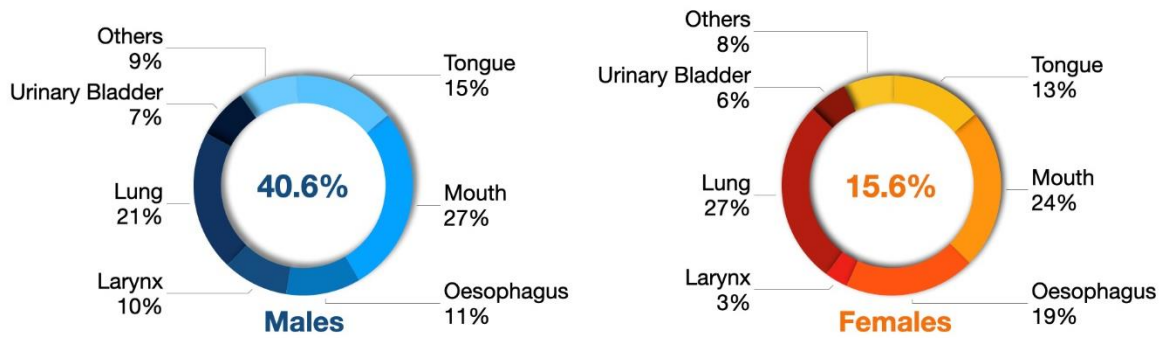


## B. Leading Cancer Sites

### Five Leading Sites of Cancers



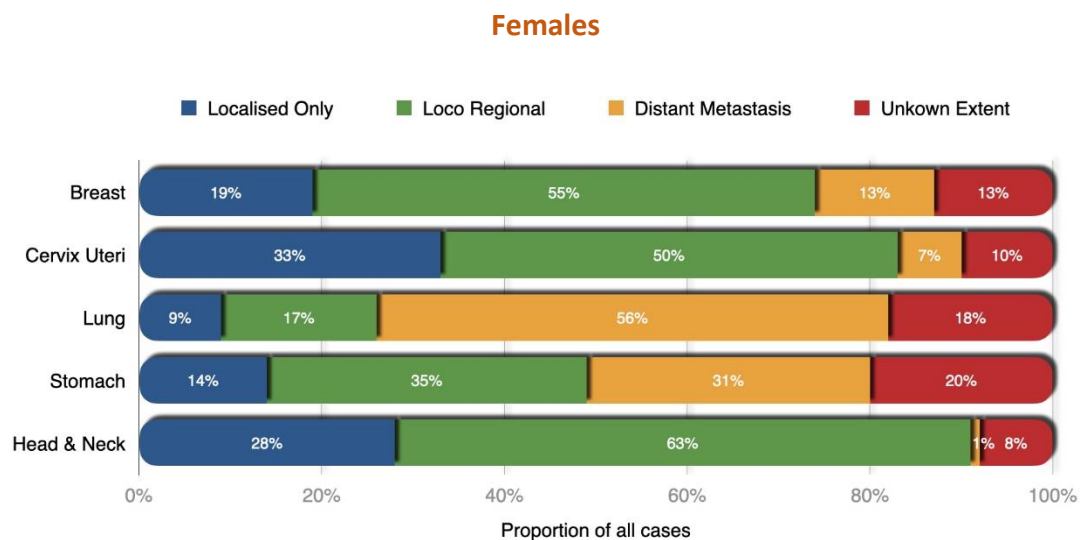
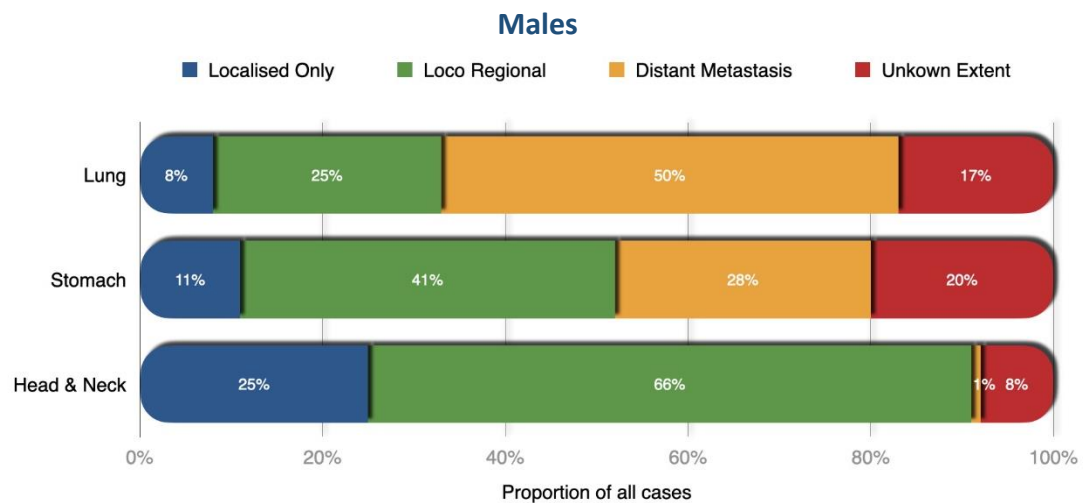
### Proportion (%) of Cancer Sites associated with the use of tobacco



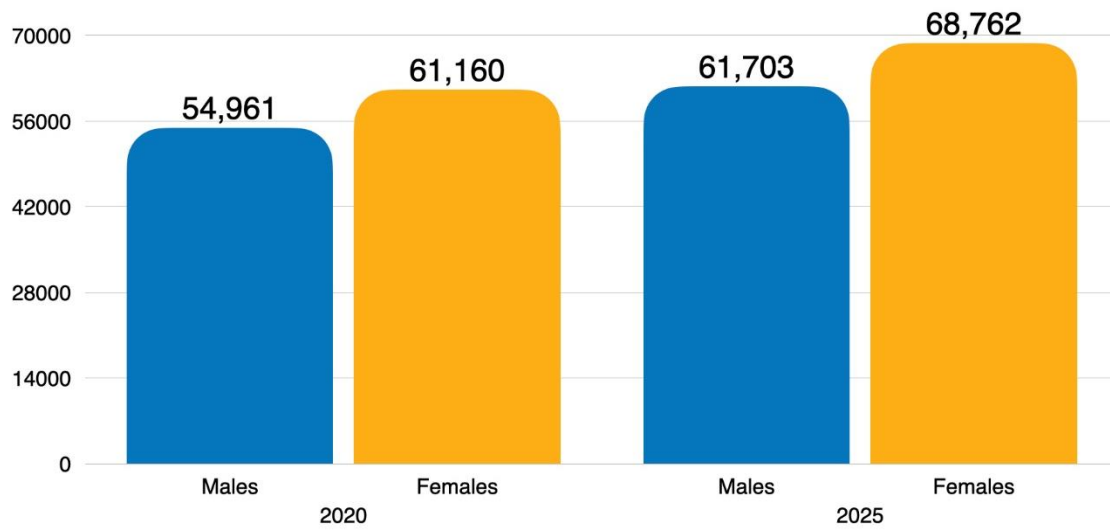
Others - Lip, Other oropharynx, Hypopharynx, and Pharynx Unspecified

### C. Clinical Profile

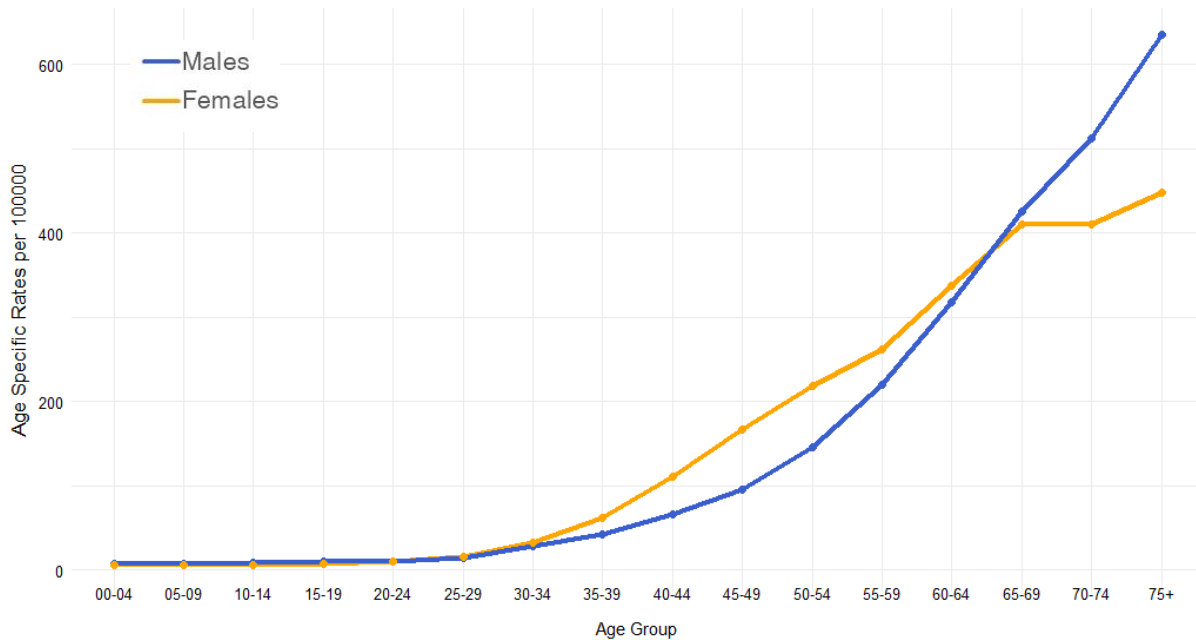
#### Clinical Extent of Disease at presentation for cancers of selected anatomical sites



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



**Estimated Age Specific Incidence Rates (All Sites -2020)**



## II. CANCER RELATED INFORMATION

### A. Socio-demographic profile <sup>[4]</sup>

(a) Population	Total	11,23,74,333
	Males	5,82,43,056
	Females	5,41,31,277
	Gender Ratio	929
(b) Literacy Rate	Total	82.3 %
	Males	88.4 %
	Females	75.9 %

### B. Health Indicators

(a) Life Expectancy (2016) <sup>[5]</sup>	Males	65.3 years
	Females	69.3 years
(b) Proportion of total disease burden from NCDs' <sup>[5]</sup>		63.1 %
(c) Proportion of NCDs' Medically Certified Deaths – Neoplasms <sup>[6]</sup>		9.7 %
(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	26.6 %
	Males	35.5 %
	Females	17.0 %
Prevalence of alcohol use in males and females (age 15-49 years) <sup>[8]</sup>	Males	13.9 %
	Females	0.4 %
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	89.9 %
	Females	89.5 %
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	52.6 %
	Females	55.4 %
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>	
Proportion of overweight/obesity in males and females (age 15-49 years) <sup>[8]</sup>	Males	24.7 %
	Females	23.4 %
(e) Prevalence of other NCDs' <sup>[8]</sup> Hypertension (age 15-49 years)		



	Males	24.4 %
	Females	23.1 %
<hr/>		
Raised random blood glucose level (age 15-49 years)		
	Males	13.6 %
	Females	12.4 %
<hr/>		
<b>C. Health Infrastructure</b>		
<hr/>		
(a)	Government health facilities <sup>[9]</sup>	
	• Sub-centres + Health and Wellness Centres – Sub Centres (HWC-SCs)	10668
	• Primary Health Centres + Health and Wellness Centres - Primary Health Centres (HWC-PHCs)	2366
	• Community Health Centres	401
	• District hospitals	23
<hr/>		
(b)	Number of medical colleges <sup>[10]</sup>	57
<hr/>		
(c)	Regional / Tertiary Cancer Care Centres <sup>[11],[12]</sup>	
	▪ Tata Memorial Hospital, Mumbai (RCC*)	
	▪ Rashtrasant Tukdoji Regional Cancer Hospital & Research Centre, Nagpur (RCC*/TCCC***)	
	▪ Government Medical College, Aurangabad (SCI**)	
	▪ Vivekanand Foundation & Research Centre, Latur (TCCC***)	
<hr/>		
(d)	State Government Health Schemes <sup>[13]</sup>	
	▪ Integrated Mahatma Jyotiba Phule Jan Arogya Yojana (MJPJAY) and Ayushman Bharat-Pradhan Matri Jan Arogya Yojana (AB-PMJAY)– Covers Medical Oncology, Paediatric Cancer, Radiation and Surgical Oncology	

\*Regional Cancer Centre

\*\*State Cancer Institute

\*\*\*Tertiary Cancer Care Centre

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