# 5. India's Cancer Map - Health

Population-based cancer registries (PBCRs) covering 10–18% of India's population across 23 states/UTs (2015–2019) provide insights into incidence, mortality, and geographical disparities. Estimated 2024 burden - 15.6 lakh cases, 8.74 lakh deaths. Data informs public health planning, policy interventions, and resource allocation.

## About Population-based Cancer Registries (PBCRs)

Population-based Cancer Registries (PBCRs) are systematic data collection mechanisms that record all new cancer cases occurring within a well-defined population in a specific geographic area. They obtain information from multiple sources of registration (SoR) such as Government and Private Hospitals, Nursing Homes, Clinics, Diagnostic Laboratories, Imaging Centres, Hospices, and even official Registrars of Births & Deaths. The aim of PBCRs is to provide comprehensive, reliable, and population-level data on cancer incidence, prevalence, mortality, and survival trends, which helps policymakers design targeted cancer control strategies.

### About the Study

**Data Source -** The present study is based on an analysis of 43 cancer registries across India, covering the period 2015–2019.

**Findings -** During this period, the registries recorded about 7.08 lakh new cancer cases and 2.06 lakh deaths, highlighting the growing cancer burden.

**Lifetime Risk -** The lifetime risk of developing cancer in India was estimated at 11%, meaning that roughly 1 in 9 individuals is likely to develop cancer during their lifetime.

**Conducted By -** The research was carried out by leading cancer institutions – AIIMS Delhi, Tata Memorial Centre, and Adyar Cancer Institute, Chennai.

**Exclusion -** Data for 2020 was excluded due to the COVID-19 pandemic, which disrupted cancer detection, reporting, and treatment systems globally.

### Key Trends

#### 1. Gender-based Trends

**Incidence vs Mortality -** Women accounted for 51.1% of cancer cases, while men accounted for 48.9%, showing slightly higher incidence in women. However, men accounted for 55% of cancer deaths, compared to 45% in women, due to late detection and poorer prognosis of cancers common among men.

**Common Cancers in Women -** Breast and cervical cancers dominate in women. These cancers are often detected earlier, leading to better prognosis and survival rates, supported by dedicated screening programs.

**Common Cancers in Men -** Oral, lung, liver, stomach, and oesophageal cancers are prevalent in men, but these are usually diagnosed at advanced stages, resulting in higher mortality rates.

**Underlying Disparity -** The disparity arises because cancers in women are more amenable to early detection and intervention, whereas men's cancers are often aggressive and linked to high-risk lifestyle factors like tobacco and alcohol use.

#### 2. Rising Oral Cancer in Men

Oral cancer has overtaken lung cancer to become the most common cancer among Indian men.

**Risk Factors** - Despite a significant reduction in tobacco use (from 34.6% in 2009 to 28.6% in 2017), the long latency period of cancer (10–20 years) and rising alcohol consumption continue to drive oral cancer incidence.

**Combined Risk -** The co-use of tobacco and alcohol multiplies the risk of oral, gastric, colorectal, and liver cancers, making it a major public health concern.

#### 3. Regional Variations

The Northeast region, particularly Aizawl (Mizoram), reported the highest cancer incidence rates -

1. Males - 198.4 per 100,000

2. Females - 172.5 per 100,000

**Contributing Factors -** Very high consumption of tobacco and betel nut. Dietary habits like sa-um (fermented pork fat), smoked/salted meats, fish, and spicy food. High intake of hot beverages and soda additives. Infectious agents such as *Helicobacter pylori*, Hepatitis viruses, *Salmonella typhi*, and HPV. Indoor air pollution due to traditional heating and cooking practices. These combined lifestyle, dietary, and environmental exposures explain the disproportionately high cancer burden in the Northeast compared to other regions.

### 4. Geographical Spread of Key Cancers

**Breast Cancer -** Highest in Hyderabad (54 per 100,000 women).
**Cervical Cancer -** Highest in Aizawl (27.1 per 100,000 women).
**Lung Cancer -** Highest in Srinagar for men (39.5 per 100,000) and Aizawl for women (33.7 per 100,000).
**Oral Cancer -** Highest in Ahmedabad for men (33.6 per 100,000) and East Khasi Hills for women (13.6 per 100,000).
**Prostate Cancer -** Highest in Srinagar (12.7 per 100,000 men).
**Regional Patterns -** Lung cancer is concentrated in southern and metropolitan cities such as Visakhapatnam, Bengaluru, Kollam, Thiruvananthapuram, Malabar region, Chennai, and Delhi. Oral cancer is more common in western, central, and northern regions such as Ahmedabad, Bhopal, Mumbai, and Prayagraj.

## Significance of the Analysis

The findings highlight the urgent need for targeted cancer control programs, focusing on screening, awareness, and early detection.

**HPV Vaccination -** Essential for preventing cervical cancer, which is strongly linked to HPV infection (responsible for 95% of cases).
**Breast Cancer Burden -** Since breast cancer constitutes nearly 30% of all female cancer cases, scaling up awareness and screening programs is critical.
**Cervical Cancer Control -** Emphasises the importance of HPV vaccination and regular screening across registries, especially in high-incidence areas.
**Northeast Focus -** The disproportionately high cancer burden in the Northeast calls for improved healthcare infrastructure, community-driven awareness programs, and lifestyle interventions.
**Prevention Potential -** According to WHO, 30–50% of cancers are preventable through lifestyle modifications (diet, exercise, reduced tobacco/alcohol), early detection, and timely treatment.

## Initiatives Towards a Cancer-Free India

**National Programme for Prevention and Control of Cancer, Diabetes, Cardiovascular Diseases and Stroke (NPCDCS) – 2010 -** Launched under the National Health Mission (NHM). Focuses on the three most common cancers – oral, breast, and cervical. Emphasises health promotion, community screening, and strengthening cancer treatment infrastructure.
**Strengthening of Tertiary Care for Cancer Scheme – 2019 -** Expands specialised cancer care facilities across states. Aims to decentralise cancer treatment so patients can access advanced care closer to home.
**Ayushman Bharat Yojana – 2018 -** India's largest health insurance and universal health coverage initiative. Ensures cancer treatment within 30 days of diagnosis, covering chemotherapy, radiotherapy, and surgical oncology. Benefits particularly rural and economically weaker groups.
**Health Minister's Cancer Patient Fund (HMCPF) – 2009 -** Operates under Rashtriya Arogya Nidhi (RAN). Provides financial aid of up to ₹5 lakh per patient for those below poverty line (BPL).
**National Cancer Grid (NCG) – 2012 -** A pan-India initiative to ensure standardised, high-quality, and affordable cancer care. Works in collaboration with Ayushman Bharat – PMJAY to deliver evidence-based treatment across the country.

**Union Budget 2025–26 Provisions**

1. Nearly ₹1 lakh crore has been allocated to the Ministry of Health and Family Welfare.

2. Day Care Cancer Centres will be established in all district hospitals within the next three years, expanding access to treatment.
3. Customs Duty Exemptions have been announced for 36 lifesaving drugs, including those for cancer, rare, and chronic diseases, to make treatment more affordable.

## Awareness and Lifestyle Programmes

**Community Awareness Campaigns -** Carried out through Ayushman Aarogya Mandirs, social media, print/electronic platforms, and Cancer Awareness Days to spread knowledge on prevention and screening.

**Healthy Eating Campaigns** - FSSAI's Eat Right India movement encourages healthy, nutritious diets to reduce cancer risk.

**Fitness and Wellness Initiatives** - The Fit India Movement and AYUSH-led yoga programs promote regular physical activity, stress reduction, and holistic well-being as preventive measures against cancer.

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