

Cancer in India and the World

Introduction

Cancer is one of the leading public health challenges of the 21st century. It is not just a disease but a complex health, social, and economic problem that affects millions of lives across the globe. The World Health Organization (WHO) estimates that cancer is responsible for nearly one in six deaths worldwide. While cancer is often associated with developed countries, the burden is shifting rapidly to developing nations, where health systems are often unprepared. India is at the centre of this global crisis. Recent data from the Global Cancer Care Observatory (GCCO) paints a concerning picture – India is among the top three countries in terms of cancer incidence, with one of the highest mortality ratios globally.

Cancer as a Global Menace

Cancer is the second leading cause of death globally after cardiovascular diseases. The GCCO estimates more than 19 million new cases and nearly 10 million deaths annually worldwide. Cancers of the lung, breast, colon, rectum, stomach, and liver dominate the global burden.

Two worrying trends stand out –

1. The rising incidence of cancer in developing countries, partly due to lifestyle changes, urbanisation, pollution, and ageing populations.
2. The widening gap in cancer survival rates between developed and developing nations, due to disparities in access to early diagnosis, advanced treatments, and palliative care.

While survival rates in countries like the US, UK, and Japan have improved significantly due to robust screening and treatment infrastructure, many low- and middle-income countries, including India, lag far behind.

Global Cancer Care Observatory Data on India

According to GCCO data (2022) –

1. India ranks third globally in the number of cancer cases.
2. The mortality-to-incidence ratio in India is 64.47%, the highest among the top 10 high-burden countries.
3. Women account for a slightly higher proportion of cancer cases (51%), which goes against the global trend where men are more affected.
4. Breast and cervical cancers dominate among women, while oral, lung, and gastric cancers are more common among men.
5. Regional disparities are sharp – The Northeast, particularly Mizoram, records the highest lifetime risk – 21% for men and 19% for women, compared to the national average of 11%.

These numbers reflect both epidemiological realities and systemic gaps in detection and reporting.

Why the High Cancer Burden in India?

Several interlinked factors explain India's disproportionate cancer burden –

1. **Late Detection** – Many cancers like oral, lung, and gastric are detected at advanced stages, limiting survival chances.
2. **Lifestyle Risks** – Tobacco consumption (smoking and chewing), alcohol, unhealthy diets, sedentary lifestyles, and pollution are major contributors. Oral cancer alone is strongly linked to tobacco use, prevalent across India.
3. **Environmental Factors** – Rising air and water pollution, exposure to industrial chemicals, and unsafe agricultural practices contribute to cancer incidence.
4. **Inadequate Screening** – Unlike infectious diseases, cancer detection programmes are patchy. Only a fraction of the population is covered under systematic screening.
5. **Weak Data Systems** – The ICMR's 43 registries cover less than 20% of the population. Many large states like UP, Bihar, and Maharashtra lack mandatory cancer data reporting.
6. **Healthcare Inequity** – Advanced cancer treatment is concentrated in urban centres, leaving rural populations underserved.

7. **Socio-cultural Barriers** – Stigma, lack of awareness, and reliance on alternative treatments often delay medical intervention.

Government Measures

India has a long history of attempting to integrate cancer care into its public health programmes. Some key initiatives include –

1. **National Cancer Control Programme (NCCP, launched 1975)** – Focused on prevention, early detection, treatment, and palliative care.
2. **National Programme for Prevention and Control of Cancer, Diabetes, Cardiovascular Diseases and Stroke (NPCDCS, 2010)** – Provides funding for setting up oncology wings in district hospitals.
3. **Tertiary Cancer Centres (TCCs)** – Government support for state-level comprehensive cancer care centres.
4. **ICMR Cancer Registry Programme (1980s)** – Collects cancer incidence and mortality data, though limited in coverage.
5. **Ayushman Bharat – PM-JAY** – Expands financial coverage for cancer care for low-income families.
6. **Mission Indradhanush (Expanded)** – Includes vaccination against HPV, which can prevent cervical cancer.

These measures show intent, but their impact is diluted by poor implementation, limited reach, and lack of coordination between central and state governments.

Way Forward

India needs a multi-dimensional strategy to effectively combat the cancer crisis –

1. **Strengthen Cancer Registries** – Expand ICMR coverage to all states, make cancer reporting mandatory, and use digital platforms for real-time data.
2. **Early Detection & Screening** – Scale up population-level screening for oral, breast, and cervical cancers through primary health centres.
3. **Awareness Campaigns** – Target high-risk areas like the Northeast with region-specific awareness programmes.
4. **Expand Infrastructure** – Establish cancer care units in district hospitals and ensure affordable access to diagnostic facilities.
5. **Leverage Technology** – Use AI, telemedicine, and digital tracking for diagnosis, monitoring, and treatment outreach.
6. **Preventive Measures** – Stronger anti-tobacco laws, reduction in industrial pollution, and promotion of healthy lifestyles.
7. **Public-Private Partnerships** – Collaborate with private hospitals and NGOs to expand affordable treatment options.
8. **Human Resource Development** – Train more oncologists, oncology nurses, and palliative care professionals.
9. **Research and Innovation** – Promote indigenous R&D in affordable cancer drugs and diagnostic tools.

Conclusion

Cancer is no longer just a health challenge; it is a test of India's healthcare governance and social preparedness. The Global Cancer Care Observatory data underscores India's high mortality ratio and glaring gaps in detection and care. With rising incidence, the disease threatens to derail the demographic dividend by disproportionately affecting productive age groups.

India must respond with urgency – building robust data systems, scaling up preventive and treatment infrastructure, and focusing on equity in healthcare access. Combating cancer is not only about curing patients but about preventing avoidable deaths, reducing suffering, and ensuring that healthcare systems are responsive and inclusive.

A coordinated, well-funded, and forward-looking strategy can help India transform its cancer care landscape – turning what is today a looming crisis into an opportunity to build a stronger, healthier nation.

Main practice Questions

1. "India has one of the highest cancer mortality burdens globally despite decades of national programmes. Analyse the reasons for this paradox, the effectiveness of government measures, and the way forward."

Answering Guidelines

1. Introduction (50–60 words)

1. Define cancer as a non-communicable disease with rising global prevalence.
2. Quote *Global Cancer Care Observatory 2022* – India has the 3rd highest cases, with 64.47% mortality-to-incidence ratio (highest among top 10 nations).
3. Briefly note paradox – growing programmes but poor outcomes.

2. Global & Indian Data (100–120 words)

1. Global – US, China, India lead in cancer cases.
2. India – 700k+ deaths annually; women form 51% of reported cases (contrary to global trend).
3. Common cancers – breast & cervical (women), oral, lung, gastric (men).
4. Mizoram shows highest lifetime cancer risk (21% men, 19% women).

3. Reasons for High Burden in India (150 words)

1. **Late diagnosis** – Oral & lung cancers often detected in advanced stages.
2. **Regional vulnerabilities** – Northeast, urban slums, lifestyle-linked factors.
3. **Registry gaps** – Only 20% of population covered; no legal mandate in major states (UP, Bihar, Maharashtra).
4. **Awareness deficit** – Stigma, lack of routine screening.
5. **Environmental & lifestyle risks** – Tobacco, air pollution, diet.

4. Government Measures (150 words)

1. ICMR Cancer Registry (1980s) – now 43 registries.
2. National Cancer Control Programme (1975), NPCDCS (2010).
3. Ayushman Bharat & Health and Wellness Centres – secondary screening.
4. Digital tools for cancer data (pilot registries).
5. State initiatives – Kerala, Mizoram community health drives.
6. Gaps – fragmented, uneven coverage, weak inter-state coordination.

5. Way Forward (200 words)

1. **Comprehensive cancer map** – Expand registry to all states, legal mandate for data reporting.
2. **Targeted regional interventions** – Oral cancer in Northeast & Gujarat; cervical screening nationwide.
3. **Strengthen infrastructure** – More oncology centres beyond metros.
4. **Preventive approach** – Anti-tobacco campaigns, HPV vaccination for girls.
5. **Affordable treatment** – Public funding, PPP models for cancer hospitals.
6. **Community awareness** – Localised campaigns in Indian languages.
7. **Research & innovation** – Indigenous diagnostics, cheaper therapies.

6. Conclusion (60–70 words)

Cancer is a growing public health emergency and a test for India's healthcare resilience. ☒ Data-driven, preventive, and inclusive strategies are essential. ☒ India must shift from episodic interventions to a comprehensive, long-term strategy that integrates prevention, detection, treatment, and palliative care. A healthier India is central to achieving SDGs and inclusive development.