

## SUSTAINABLE GROWTH

The Union Budget for 2025-26 has outlined a significant infrastructure boost for Jammu & Kashmir (J&K), focusing on transforming the region's connectivity, economic development, and overall infrastructure to promote sustainable growth. This allocation underscores the government's commitment to ensuring that J&K becomes an integral part of India's economic progress, building upon the region's strategic geographical importance and its rich cultural and natural resources. This focus on infrastructure aims to address longstanding developmental challenges and facilitate a new era of growth in the region.

One of the primary sectors receiving a boost is transport, particularly road and rail infrastructure. The central government has earmarked a significant portion of the budget for expanding the road network in J&K, including the construction of national highways, bridges, and tunnels. The already underway projects like the Jammu-Srinagar National Highway upgrade and the construction of tunnels are expected to enhance road connectivity between various towns and villages, especially in remote and hilly areas.

In addition to road infrastructure, the budget also focuses on enhancing rail connectivity, with proposals to expand the railway network to more areas in the region. The ongoing Jammu-Baramulla rail project will receive additional funding, ensuring that train services are extended to more remote regions, improving mobility for both passengers and goods. Moreover, a new air connectivity plan is in the works, aimed at upgrading existing airports and introducing new regional flight services, which will bolster tourism and trade.

The government has also recognized the importance of energy infrastructure for the region's long-term development. An allocation has been made to upgrade the power supply infrastructure, including the construction of new power plants, solar energy projects, and the improvement of transmission lines. This will not only provide reliable electricity to the region but also promote sustainable energy practices, crucial for reducing the dependency on fossil fuels. Renewable energy projects, particularly hydropower, are also expected to receive attention, given the region's vast potential in this area.

Agriculture remains a key sector for J&K's economy, and ensuring adequate irrigation and water supply is critical. The budget proposal includes investments in expanding and modernizing irrigation systems, especially in the Kashmir Valley and Jammu Division. This will enable better water management, ensuring that farmers can increase crop yields while conserving water resources. Additionally, the government plans to enhance drinking water supply systems to ensure clean and consistent water access to all areas.

Urbanization is rapidly increasing in J&K, and the budget acknowledges the need for modern infrastructure in urban centers like Srinagar and Jammu. The government plans to initiate the Smart City project, which will focus on transforming these cities into centers of efficient public services, smart traffic management, waste management systems, and sustainable living spaces. The development of commercial hubs, as well as the improvement of public transport systems, will help the region accommodate growing urban populations and improve the quality of life for residents.

The major infrastructure boost outlined in the budget is expected to have a transformative impact on J&K's economy. Improved connectivity and infrastructure will promote trade and investment, create job opportunities, and open up new avenues for industries like tourism, agriculture, and manufacturing. The development of smart cities and improved urban planning will contribute to the region's long-term sustainability, enhancing both economic growth and quality of life for residents.

Eco-tourism and adventure tourism are areas the budget highlights, with the goal of creating job opportunities.

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World Cancer Day, observed every year on February 4th, is a global initiative to raise awareness, encourage prevention and promote early detection and treatment of cancer. Established by the Union for International Cancer Control (UICC), this day serves as a reminder of the growing burden of cancer and the need for collective action to fight it. Cancer is one of the leading causes of death worldwide, affecting millions of people and their families. It occurs when abnormal cells in the body grow uncontrollably, forming tumors that can invade nearby tissues and spread to other organs. Several factors contribute to cancer, including genetics, lifestyle choices, environmental pollutants and infections. However, with awareness, preventive measures and early detection, many types of cancer can be prevented or successfully treated. Cancer can affect any organ, with lung, breast, colorectal, prostate and stomach cancers being among the most common types. The emotional, physical and financial burden of cancer makes it a major global health concern.

One of the key aspects of cancer prevention is recognizing early signs and symptoms, which can significantly improve survival rates. Some of the most common warning signs include unexplained weight loss, persistent fatigue, lumps or swelling, changes in bowel habits, prolonged cough, difficulty swallowing and unusual bleeding. Detecting cancer in its early stages through regular screenings such as mammograms, pap smears, colonoscopies and PSA tests, greatly increases the chances of successful treatment. However, many cases go undiagnosed due to lack of awareness, fear or financial constraints, making World Cancer Day an essential platform for educating the public on the importance of early detection. Lifestyle choices, particularly diet and food safety, play a significant role in cancer prevention. Certain foods are known to increase the risk of cancer, including processed meats, deep-fried foods, excessive sugar and food wrapped in newspapers. Newspapers are often used by street vendors and small eateries to wrap food items, but this practice poses serious health risks. The printing ink contains toxic chemicals like lead, cadmium and polycyclic aromatic hydrocarbons (PAHs), which can transfer to food, especially when hot or oily. These substances are known carcinogens that can cause long-term health problems, including digestive issues and cancers of the stomach and intestines. Despite warnings from health authorities like the Food Safety and Standards Authority of India (FSSAI), this practice remains widespread. To curb this health hazard, it is essential to promote safer alternatives such as food-grade paper and biodegradable packaging.

Oily foods, particularly deep-fried items and foods rich in trans fats or saturated fats, can also increase cancer risk. These fats promote inflammation in the body and have been linked to higher rates of colorectal, breast and prostate cancers. When oils are heated to high temperatures, such as during deep frying, harmful compounds like acrylamide and advanced glycation end-products (AGEs) can form, both of which have been associated with cancer development. Another critical dietary factor in cancer prevention is reducing the consumption of excessive sugar and sweetened foods. High sugar intake is linked to obesity, diabetes and metabolic disorders, all of which increase the risk of various cancers, including breast and colorectal cancer. Instead of refined sugar, incorporating natural sweeteners like honey, fruits and jaggery can be a healthier option.

Cosmetics, especially those containing harmful chemicals such as parabens, phthalates and heavy metals, can be absorbed through the skin and may disrupt hormonal balance. Some chemicals in cosmetics, particularly in lipsticks and skin creams, have been linked to an increased risk of cancer over time due to their ability to accumulate in the body and act as endocrine disruptors. The excessive use of plastics, especially in food packaging and storage, poses significant health risks, including an increased chance of cancer due to the presence of harmful chemicals like bisphenol A (BPA), phthalates, dioxins and styrene. These toxic compounds can leach into food and beverages, particularly when plastics are heated, scratched or exposed to acidic substances, leading to hormonal imbalances and potential cancer risks. Studies have linked prolonged exposure to plastic-related toxins to breast, prostate and liver cancers, as well as disruptions in the immune and endocrine systems.

Cancer treatment has advanced significantly over the years, with multiple options available depending on the type, stage and location of the cancer, as well as the patient's overall health. Surgery is one of the most common treatments, used to remove cancerous tumors or affected tissues before they spread. It is often combined with radiation therapy, which uses high-energy rays to destroy cancer cells or chemotherapy, which involves the use of powerful drugs to kill rapidly dividing cells. While chemotherapy is effective, it often comes with side effects such as nausea, hair loss and fatigue due to its impact on healthy cells. Another important approach is targeted therapy, which focuses on specific molecules involved in cancer growth, minimizing damage to normal cells. Immunotherapy has also revolutionized cancer care by boosting the body's immune system to recognize and fight cancer cells more effectively.

Other treatments include hormone therapy, which is particularly effective for cancers like breast and prostate cancer, as it blocks hormones that fuel tumor growth. Stem cell trans-



plants, used mainly for blood cancers like leukemia and lymphoma, help restore the bone marrow after high-dose chemotherapy. Precision medicine, or personalized treatment, is an emerging field where genetic testing helps doctors choose the most effective therapy for each patient based on their cancer's unique genetic makeup. Alternative therapies, such as herbal medicines, acupuncture and dietary modifications are also explored by some patients to complement conventional treatments. Strengthening healthcare infrastructure, establishing more specialized cancer care centers and ensuring affordable treatment options can help bridge the gap and provide better care to cancer patients.

Cancer vaccines are an innovative approach to preventing and treating cancer by stimulating the body's immune system to recognize and fight cancer cells. There are two main types of cancer vaccines: preventive (prophylactic) vaccines and therapeutic (treatment) vaccines. Preventive vaccines are designed to protect against viruses that can lead to cancer. For example, the Human Papillomavirus (HPV) vaccine helps prevent cervical, anal and other cancers caused by HPV infection, while the Hepatitis B vaccine (HBV) reduces the risk of liver cancer by preventing hepatitis B virus infection. These vaccines have significantly reduced the incidence of virus-related cancers worldwide. Four of these preventive cancer vaccines have been approved by the U.S. Food and Drug Administration (FDA). Therapeutic cancer vaccines, on the other hand, are designed to help the immune system attack existing cancer cells. These vaccines work by training immune cells to recognize specific cancer-related proteins and destroy cancerous cells. One example is the Sipuleucel-T (Provenge) vaccine, which is used to treat advanced prostate cancer by boosting the body's natural defenses. Research is ongoing to develop more therapeutic vaccines for cancers such as melanoma, lung cancer and breast cancer. The future of cancer vaccines looks promising, with advancements in personalized cancer vaccines, which are tailored to an individual's unique tumor profile. Combining cancer vaccines with other treatments like immunotherapy and targeted therapy could revolutionize cancer care, making treatments more effective and reducing the global cancer burden.

In Jammu and Kashmir, cancer cases have been rising at an alarming rate. The most commonly diagnosed cancers in the region include lung, esophageal, stomach and colorectal cancer. Several factors contribute to this trend, including high tobacco consumption, pollution and dietary habits. The use of smokeless tobacco, cigarettes and hookah has led to an increase in lung and oral cancers, while the consumption of salted tea (Noon Chai) and fermented foods has been linked to a higher incidence of stomach cancer. Additionally, air pollution caused by biomass burning, industrial emissions and vehicle exhaust has worsened respiratory conditions, increasing cancer risks in the region. A major challenge in Jammu and Kashmir is the lack of advanced cancer treatment facilities in rural areas, forcing many patients to travel to other states for specialized care. Government intervention, along with public awareness campaigns, can help in improving cancer care infrastructure, promoting early detection and reducing exposure to environmental risk factors.

To curb cancer and reduce its impact, a multi-faceted approach is needed. Public education on cancer risk factors, symptoms and early detection should be a priority. Governments and health organizations must enforce strict regulations on tobacco products, food safety measures and pollution control to minimize exposure to carcinogens. Encouraging healthy lifestyles, including regular exercise, balanced diets and quitting smoking, can significantly lower cancer risks.

World Cancer Day serves as a powerful reminder that cancer is not just a health issue, but a social and economic burden that affects families and communities worldwide. By taking collective action whether through lifestyle changes, policy improvements or supporting cancer research, we can work toward a future where cancer is preventable, treatable and no longer a life-threatening disease. Let us use this day to spread awareness, encourage early detection and stand in solidarity with those battling cancer, making sure that no one faces this fight alone.

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# Combating Cancer: Awareness, Prevention and Breaking the Stigma

■ AYAAN SAROORI

Cancer is a major health concern and has been increasing in recent years. It has claimed countless lives as it is deadly disease depending upon the diagnosing. According to a report published in the National Library of medicine, the estimated number of incident cases of cancer in India for the year 2022 was found to be 14,61,427. Lung and breast cancers were the utmost cancer affected parts in males and females, respectively. The report also highlights that 'one in nine people' are likely to develop cancer in their lifetime. Lungs and Breast being primary organs are the main organs to be involved. While every disease has its treatment, cancer requires proper medication and significant expenditure. However, prevention is better than cure and raising awareness is crucial for early detection but requires follow up of an algorithmic awareness.

Cancer being a highly distressing disease has various causes and precautionary measures that need to be acknowledged.

**How 'Prevention is Better Than Cure' Helps in Combating the Cancer Epidemic**

It is a situation when the growth of cells in the body becomes uncontrolled. In simple terms, when the cell shows abnormality in the division, it marks the beginning of cancer in the body. Various factors such as genetics, infections and viruses which weakens the immune system, unhealthy lifestyle etc. contributed to the development of cancer cells in the body. So we have to educate ourselves to prevent the cancer development.

Genetic Mutation: Our body is made up of cells and these perform cellular metabolism to run and control various activities of our body. Similarly, the Deoxyribonucleic Acid (DNA), regulates the growth and division of cells.

When DNA changes during cell copying, it leads to uncontrollable cell growth and some cells do not die when they should. This mutation is often caused by factors such as infections, smoking, pollution and toxic gases. Therefore, it can be prevented by avoiding consumption of unhealthy fatty food, alcohol, and smoking. Additionally, using sunscreen during the day time helps prevent Ultraviolet radiation (UV) radiation damage and vaccinating against viruses that affects the cellular activities and immune system is crucial.

Carcinogens: Substances or gases which causes cancer in the body are called carcinogens. Various habits such as smoking, alcoholism, harmful radiations leads to cancer in different parts of the body. Smoking affects the lungs by the emission of Carbon Monoxide (CO) and other harmful substances. Alcoholic consumption leads to cancer of liver, kidney and

mouth by damaging the hormonal balance and weakening immune system of the body. Moreover, harmful radiations emitted by X-ray machines and sunlight causes skin-type cancer. Though, the effect of carcinogens on ourselves is too harmful. We should not be in contact of any smoker nor with radiative machines as they emit harmful radiations as they contribute much to the cancer development.

Environmental exposure: In the era of automobiles, the air quality is too degraded due to the emission of gases such as Carbon Monoxide, Carbon dioxide, Sulfur dioxide etc. contributes to pollute the air and greenhouse. The outcomes are too carcinogenic as they can cause skin cancer as well as lung cancer. Therefore, emission of harmful gases should be reduced and should wear mask where needed according to the Air Quality Index (AQI).

Hormonal Imbalance: When the glands secrete hormones such as

estrogen, testosterone, thyroid and insulin in an excess, cause development of cancer cells in hormone-sensitive tissues. As in women excessive level of estrogen (female sex hormone) for a prolonged period causes risk of developing of breast cancer. Similarly in males testosterone (male sex hormone) causes the effect and other metabolic hormones which get secreted in an imbalanced manner leads to the cancer and increases its risk.

**Breaking the stigma: The Importance of Awareness**

Awareness plays an important role for preventing the formation of unnecessary taboos and stigmas. The stigma has reached here, that women feel socially inferior to talk openly about the ovarian and breast cancer due to body image. Various people do not talk with cancer patients as they fear to its spread. Unfortunately, it clearly shows the lack of general knowledge regarding and signifies the need to

educate with authentic knowledge.

However, early detection through screening tests such as mammography, colonoscopies etc. should be done over the doctor's prescription so that early detection of the cancer development increases the chances of successful treatment. Additionally, healthy lifestyle over the usage of alcohol and smoking should be cited. As quitting these bad lifestyle habits plays vital role in cancer prevention. With healthy lifestyle authentic knowledge should be achieved over myths and stigmas related to cancer and other deadly diseases. In my opinion, various patients cured but claimed lack of the patients. However, we still lack proper knowledge about it. This highlights the need for generous contribution to support both cancer patients and doctors. Until, when we will live in the world of ignorance?

(The writer is a freelance writer and columnist)

# Cancer Day: Resilience, Awareness and Hopes

■ P K MAM

**Honoring Pioneers in Cancer Research :**

On this day, let us first pay tribute to the nine pioneering scientists who tragically lost their lives in the recent air crash in Brazil. Honoring their legacy with unwavering dedication is the least we can do.

**Remembering Lives Lost and Supporting Survivors**

Cancer Day is also a moment to honor those who have bravely battled this relentless disease. We remember the loved ones we have lost and stand in solidarity with those still fighting. Their courage fuels our collective resolve to advance research, improve treatments, and ultimately defeat cancer.

**The Journey of a Cancer Patient:**

Cancer is more than a diagnosis; it is a profound journey that affects every aspect of life—emotional, physical, and spiritual. The physical toll of treatment, from fatigue and weight loss to the distress of hair loss, is compounded by the emotional challenges of self-identity and confidence.

Actress Hina Khan, a survivor, exemplifies resilience in adversity. Upon learning she would lose her hair, she chose to cut it on her own terms, creating a wig from her locks. Her story highlights the empowerment and self-discovery that can emerge even in the darkest moments, offering hope to others on this journey.

**Pain Management: Bringing Comfort to the Struggle**

Cancer patients often endure immense pain, making effective pain management a critical aspect of care.

Advances in palliative care now focus on holistic approaches, combining medication with therapies like meditation, acupuncture, and counseling. These methods not only alleviate physical pain but also restore emotional balance and dignity, helping patients regain a sense of control over their lives.

**Addressing Financial Barriers to Treatment**

The high cost of cancer treatment remains a significant barrier for many patients. Specialized therapies like immunotherapy, while effective, often come with prohibitive price tags. However, initiatives like India's AB-PMJAY scheme have made significant progress, enabling 90% of cancer patients to begin treatment within 30 days. Ensuring affordable and accessible care is essential to alleviate the emotional and financial burden on families.

**Spiritual Strength: (inner healing)**

In times of illness, many find solace in spirituality or prayer, drawing strength from a sense of connection to a greater purpose. While not everyone turns to spirituality, for those who do, it provides comfort and hope. As Salman Rushdie noted, "I believe in the miracle of science, human miracles, and willpower." For cancer patients, spirituality can take many forms—

prayer, meditation, or quiet reflection—offering inner peace alongside medical treatment.

**Preventive Measures: The Need for Vigilance**

Cancer prevention begins with awareness of hidden risks in daily life. Recent bans on Indian spice brands like MDH and Everest revealed contamination with ethylene oxide (ETO), a carcinogenic compound. Similarly, the illegal practice of ripening fruits with chemicals like arsenic poses significant health risks. Further, US States food regulators have banned Red Dye (Erythrosine), a date used in food, drinks and medicine after evidence found that it causes cancer in rats. Used generally in hotels and chefs.

Public awareness and stricter regulatory enforcement are essential to protect consumers from these dangers and reduce cancer risks.

**Scientific Breakthroughs: A Beacon of Hope**

The year 2024 has brought remarkable advancements in cancer research. AI-powered early detection methods are improving survival rates, while breakthroughs in immunotherapy are enhancing the body's ability to target cancer cells. These developments bring us closer to transforming cancer into a manageable or even curable condition. Supporting research and ensuring access to these innovations are critical

to realizing this promise.

**A Collective Fight: Standing Together Against Cancer**

The fight against cancer is a shared journey, uniting patients, caregivers, researchers, and advocates. By working together, we can break down barriers to diagnosis, push for affordable treatments, and raise awareness of preventable risks.

**Some notable Developments in Cancer Research (2024-25)**

Calcium and Cancer Prevention: A study by Oxford University and Cancer Research UK found that an additional 300mg of calcium daily can reduce bowel cancer risk by 17%.

Alcohol and Cancer Risks: U.S. Surgeon General Vivek Murthy has linked alcohol consumption to increased cancer risk, advocating for warning labels similar to cigarette packaging.

Linear Accelerator Procurement: India has initiated the procurement of advanced Linear Accelerators for precise cancer treatment at SKIMS, Soura.

Vortioxetine for Glioblastoma: A Swedish study found that the antidepressant Vortioxetine may slow tumor growth in aggressive brain cancers.

Biosimilar Drugs: These innovative treatments show promise for cancer patients when used alongside conventional therapies.

**The Danger of Misinformation**

