



Newsletter

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Advancements in Cancer Care: From Detection to Survival

Cancer is a pressing global health concern with significant health, psychological, and social consequences. Its burden continues to increase, accounting for one in six deaths worldwide. In 2019, non-communicable diseases (NCDs) accounted for 74% of total deaths, with cancer being the second leading cause globally.

The World Health Organization (WHO) estimates that cancer is the leading or second leading cause of death before the age of 70 in many countries. India has one of the highest cancer incidence rates, with 1.3 million new cases annually. The increasing cancer burden necessitates global and national interventions to prioritize prevention, detection, and treatment.

Recognizing the urgency of the situation, the World Health Assembly (WHA) passed the 'Cancer Resolution' in its 70th Assembly, emphasizing the need for attention, investment, and prioritization of cancer prevention and control by governments and international organizations.

The Sustainable Development Goals (SDGs) for 2030 also call for a one-third reduction in premature mortality from non-communicable diseases, including all forms of cancer. In response, the Government of India (GoI) has introduced several initiatives focused on cancer prevention and treatment. While the initial emphasis was on equipping cancer hospitals with infrastructure and equipment, the GoI later shifted its focus to primary prevention and early detection through programs like the National Programme for Prevention and Control of Cancer, Diabetes, Cardiovascular Diseases, and Stroke (NPCDCS).

Key Challenges to Cancer Care in India:

Access to equitable and affordable cancer care remains a persistent public health challenge in India due to various factors. These challenges include:

- **Disproportionate Access:** Rural areas in India lack adequate healthcare facilities, including cancer care centers. Patients often travel long distances to major cities for treatment, which adds financial burden and creates high patient loads in urban centers, hindering efficient care delivery.
- **Inadequate Resources:** There is a shortage of trained healthcare professionals and physical infrastructure. The density and distribution of medical oncologists are imbalanced, with limited availability in rural areas.
- **Gaps in Reporting:** Cancer is not currently classified as a notifiable disease in India, leading to challenges in data collection and reporting. This lack of comprehensive data hinders the understanding of the true burden of cancer and limits targeted interventions.
- **Inadequate Awareness:** Limited awareness among the public and primary care providers about cancer prevention and early detection contributes to delays in seeking medical help, and late-stage diagnoses, which negatively impacts treatment outcomes.



Dr Swati Mahajan

Lead – Health Systems
Strengthening, PATH



Dr Tomeshkumar Harinkhede

Lead – Project Management Unit,
Health Systems Strengthening, PATH

Strategy to Address the Challenges:

- **Targeted Initiatives for Cancer Prevention:** Implement evidence-based prevention strategies, raise awareness about risk factors, and promote lifestyle modifications to reduce the incidence of cancer.
- **Strengthen Healthcare Infrastructure:** Focus on establishing new cancer treatment centers, particularly in rural areas, and improving the availability of trained healthcare professionals to ensure better access to cancer care services.
- **Skill and Capacity Building:** Enhance the skills and capabilities of healthcare staff in rural areas through targeted training and upskilling programs.
- **Awareness and Early Detection:** Conduct targeted awareness campaigns and educational programs to increase public knowledge about cancer symptoms, screening methods, and the importance of early detection. Involve community health workers in promoting awareness.
- **Affordable Treatment:** Take measures to reduce the cost of cancer drugs, improve insurance coverage for cancer care, and implement schemes to provide financial assistance to underprivileged patients, ensuring that treatment is affordable and accessible.
- **Research and Collaboration:** Foster collaboration between academia, industry, and healthcare providers to promote cancer research and innovation. This collaboration can lead to the development of new treatments, technologies, and strategies for cancer care.

- **Palliative Care and Rehabilitation:** Enhance palliative care services to manage pain and improve the quality of life for patients with advanced cancer. Implement rehabilitation programs to support cancer survivors in their physical, emotional, and social recovery.

The way forward

Several global initiatives aim to promote the importance of cancer survivorship and increase awareness. National Cancer Survivors Day, observed on the first Sunday in June, honors cancer survivors, provides support to those battling the disease, and recognizes healthcare professionals and caregivers. It promotes survivorship care plans to address the long-term effects of cancer treatment and aid in reintegration.

World Kidney Cancer Day, observed on the third Thursday of June, raises awareness about kidney cancer, educates on risk factors and treatment options, and encourages collaboration among healthcare professionals. It emphasizes early detection, prevention strategies, lifestyle modifications, and funding for research to improve outcomes for kidney cancer patients.

In India, targeted efforts are needed for prevention, early detection, and equitable access to cancer care. This requires an increase in budgetary allocation and global resource mobilization. Key priorities must include studying patient navigation pathways, providing training on patient-centered care, establishing a national patient navigation system, investing in information systems, strengthening governance structures, and setting comprehensive and realistic targets in national cancer programs. These measures will contribute to accessible, effective, and value-based cancer care in the country.

National Developments



Policy Insight

- **THEME:** Cancer Treatment
- **UPDATE:** Kolkata state cabinet approves Cancer Care Hub in collaboration with Tata Memorial Hospital Mumbai.

Key Highlights

- In a significant development, the Kolkata state cabinet has approved the government's plan for a Cancer Care Hub (CCH) in collaboration with Tata Memorial Hospital (TMH) Mumbai. To support this initiative, the health department has created 12 new posts for the unit. Additionally, the procurement process has begun for two linear accelerators and a brachytherapy machine, which will be used for cancer treatment at the CCH.
- To facilitate the CCH plan, health officials have recognized the need to establish a department of surgical oncology at IPGMER-SSKM Hospital. The approval for the 12 new posts includes positions for professors, associate professors, assistant professors, and senior residents in surgical oncology and radiotherapy. The department will provide specialized training in surgical oncology at the post-doctoral level.

- According to IPGMER Director Manimoy Banerjee, the first phase of the new structure is expected to be handed over by December. Simultaneously, the procurement of the linear accelerator and brachytherapy machines will be completed. Construction of a 10-storey building for the CCH has already begun, with the first two storeys anticipated to be finished by the end of the year. The CCH is expected to commence operations from there, and further facilities and infrastructure will be added as the entire building is completed.
- The project, announced by Chief Minister Mamata Banerjee in June 2021, is a collaborative effort with Tata Memorial Hospital Mumbai. While the construction of the new building will take time, the steering committee has decided to initiate the functioning of the CCH from existing facilities and annexes of IPGMER. The surgical oncology OPD began operating in January last year at SSKM, followed by the addition of preventive oncology services at Kolkata Police Hospital in July. In November last year, a pediatric oncology unit was also established.
- This progress signifies the commitment of the Kolkata government to enhance cancer care services by establishing a dedicated Cancer Care Hub in partnership with Tata Memorial Hospital. The creation of new posts and the procurement of advanced treatment equipment highlight the efforts to strengthen cancer treatment capabilities in the region.

Policy Insight

- **THEME:** Cancer Prevention
- **UPDATE:** Meghalaya Chief Minister launches Meg Can Care project for cancer screening and early detection in the state.

Key Highlights

- The launch of the Meghalaya Cancer Care (Meg Can Care) project in Shillong highlights the urgency of addressing the high incidence of cancer cases in the state, particularly in East Khasi Hills. Chief Minister Conrad K Sangma emphasized the need for collective responsibility from the government, society, and individuals to reduce cancer cases, save lives, and improve citizens' lifespan. The alarming statistics, with Meghalaya ranking second in the country for overall cancer incidence and first for esophagus cancer, underscore the severity of the problem.
 - Sangma acknowledged that health and prevention begin with lifestyle choices and highlighted the importance of early detection in not only cancer but also other diseases. He emphasized that 80% of cancer cases are curable if detected early, underscoring the significance of screening and detection programs. The Meg Can Care program, backed by a competent team and advanced screening technology, aims to make a difference in addressing this healthcare challenge.
- However, the low awareness among cancer patients about the availability of screening processes is a concern. Only 16% of patients were aware of cancer screening, according to Sampath Kumar, the Principal Secretary of Health. This highlights the crucial need to educate and inform the public about the importance of early screening and the potential for successful treatment outcomes. Non-communicable diseases, including cancer, contribute significantly to the state's mortality rate, further emphasizing the need for proactive measures.
 - The launch of a dedicated cancer helpline number (14410) and the participation of Cancer Ambassador cyclists demonstrate the government's commitment to raising awareness and promoting early detection initiatives. The success of the Meg Can Care project hinges on increasing public participation and ensuring that individuals take the issue seriously.
 - While the launch of the Meg Can Care project is a positive step, it is important to closely monitor its implementation and assess its impact on cancer detection, treatment, and patient outcomes in Meghalaya. Continuous evaluation and improvement of the program will be crucial in effectively addressing the state's cancer burden and improving the overall healthcare landscape.

Policy Insight

- **THEME:** Cancer Burden
- **UPDATE:** Study finds alarming levels of heavy metal contamination in Ghaggar river water, posing significant health risks.

Key Highlights

- The presence of heavy metals in the Ghaggar river water poses a significant health risk to people living nearby, particularly children, according to a study by Punjabi University and Thapar University. Water samples from three monitoring stations revealed alarming levels of contamination, with lead, iron, and aluminum exceeding permissible limits set by the Central Pollution Control Board. Badi Nadi was found to be highly contaminated compared to other sites. The study also highlighted the high cancer risk associated with pollutants, with cadmium exhibiting the highest risk, followed by nickel and lead. The cancer risk among children exceeded that of adults in all three study areas.
- The findings of the study underscore the urgent need for consistent evaluation of water bodies and the implementation of better management plans to address groundwater quality and remove heavy metals. The high levels of contamination and elevated cancer risk demand immediate action to protect the health of the local population.

- Efforts should be made to identify the sources of contamination and implement measures to reduce pollution in the Ghaggar river. Additionally, further research and monitoring are necessary to fully understand the extent of the problem and develop effective mitigation strategies.
- The study's recommendations for evaluating water bodies and implementing management plans can guide local government and planning authorities in addressing the issue. It is crucial to prioritize the health and well-being of the affected communities and take proactive steps to ensure access to clean and safe water. Public awareness campaigns and community engagement efforts can also play a role in raising awareness about the risks and advocating for necessary interventions.

Pipeline News

- **THEME:** Cancer Treatment
- **UPDATE:** Sir Ganga Ram Hospital Achieves Landmark with First Cryoablation Cancer Treatment in North India

Key Highlights

- Sir Ganga Ram Hospital, located in North India, achieved a significant milestone by performing the first-ever cryoablation procedure for cancer treatment in the region. Cryoablation is a novel technique that utilizes a cryoprobe to circulate extremely cold gases, such as liquid nitrogen, to freeze and effectively eliminate cancer cells within the body.
- Cryoablation is a minimally invasive procedure that offers a promising alternative for patients who are not suitable candidates for conventional surgical interventions. This innovative approach has the potential to revolutionize cancer treatment by providing an effective and less invasive option.
- The procedure involves the precise placement of a cryoprobe directly into the cancerous growth with the guidance of ultrasound or CT scans. The cryoprobe then releases the extremely cold gases, causing the cancer cells to freeze and subsequently die. Afterward, the tissue is allowed to thaw, and another cycle of freezing may be performed if necessary.

- Apart from its successful application in this specific case of gall bladder cancer, cryoablation has demonstrated its effectiveness in managing various other types of cancers, including lung, kidney, bone, liver, and breast tumors. The versatility of cryoablation expands its potential impact across a wide range of cancer treatment scenarios.
- Cryoablation offers several advantages over traditional surgical approaches, such as lower risks for the patient, faster recovery times, and minimal damage to the surrounding healthy tissue. Additionally, cryoablation can be repeated if needed, providing an adaptable and potentially curative treatment option for patients in various stages of

Pharma and Medical Device

■ **THEME:** Cancer Burden

■ **UPDATE:** HCG to expand in tier-2, 3 cities, adds beds, explores acquisitions, focusing on cancer care.

Key Highlights

- Healthcare Global Enterprises (HCG), a prominent cancer care provider, has unveiled plans to expand its operations and extend its reach to tier-2 and tier-3 cities in India over the next 3-5 years. This expansion strategy involves a mix of organic growth and acquisitions to tap into the growing demand for cancer care in these regions.
- To facilitate this expansion, HCG is actively conducting comprehensive market research to gain valuable insights into the Indian cancer market. The company recognizes the increasing incidence of cancer, relapse cases, improving affordability, and inflation in the country, which collectively contribute to the projected 11-12% growth of the oncology market in India to approximately Rs 26,300 crore by 2024.

- Raj Gore, the CEO of Healthcare Global Enterprises, expressed the company's intention to strategically expand its presence in key locations. HCG is actively evaluating inorganic opportunities in cancer care that would add value to the company. The focus is on both increasing bed capacity through organic growth and pursuing partnerships and acquisitions to provide tertiary and quaternary care services.
- HCG has been steadfast in its efforts to expand its footprint in recent years. Between 2016 and 2020, the company successfully established ten new hospitals across the country. It has also invested in technology and innovation to enhance its services and improve patient care. Currently, HCG operates 22 comprehensive cancer centers in India, alongside a cancer care center in Nairobi, Kenya.
- As part of its expansion plans, HCG aims to add six linear accelerators (LINACs) to its inventory within the next 1-2 years. Additionally, ongoing greenfield expansions in Ahmedabad and Bengaluru will result in the addition of 125 beds. The company anticipates significant growth in regions like Maharashtra, driven by newer centers in Mumbai, as well as in the East, with Kolkata leading the way.

Policy Insight

■ **THEME:** Cancer Burden

■ **UPDATE:** Haryana Assembly Speaker flags off mobile cancer screening vans, bringing prevention services to rural areas for early detection and treatment.

Key Highlights

- In a significant step towards enhancing cancer prevention and screening services, Haryana Assembly Speaker, Gian Chand Gupta, flagged off three mobile cancer prevention units at PWD Rest House, Sector-1, aimed at reaching rural areas.
- The Foundation for Community Development and Health Care in India initiated this program to bring healthcare services, particularly cancer prevention, closer to people residing in villages and slum areas.
- These mobile units will provide comprehensive healthcare services, including cancer prevention awareness and screenings, to rural communities, ensuring early detection and timely intervention.

- Speaker Gian Chand Gupta emphasizes the importance of not hiding the disease and encourages individuals to seek timely treatment, as cancer can be curable if detected at an initial stage.
- Dr. Harvinder Singh Bakshi, Chairman of the Foundation for Community Development and Health Care in India, highlights the primary objective of raising awareness about cancer prevention in villages, emphasizing the critical role of early detection in improving survival rates.

Pharma and Medical Device

■ **THEME:** Cancer Treatment

■ **UPDATE:** Glenmark reduces price of Trumab, making it the most affordable breast cancer drug in India.

Key Highlights

- Mumbai-based pharmaceutical company Glenmark has significantly reduced the price of its Trumab, a version of Trastuzumab, used in the treatment of HER2-positive breast cancer, from Rs 54,000 per 440 mg vial to Rs 15,749 per vial, making it the most affordable brand in India.
- Breast cancer is a prevalent disease in India, accounting for nearly 17.4% of all cancer cases in the country. Approximately 1.78 lakh new cases are diagnosed each year, with a five-year prevalence of 4.5 lakh cases, as reported by GLOBOCAN 2020.
- HER2-positive breast cancer is known for its aggressive nature, rapid growth, metastasis (spread), and recurrence. This subtype of breast cancer is characterized by the overexpression of the HER2 protein, which promotes cancer cell growth and spread. The incidence of HER2-positivity in the Indian population ranges from 26% to 50%, indicating a significant proportion of new cancer cases per 100,000 individuals.

- Trastuzumab, a monoclonal antibody, has been a crucial treatment option for HER2-positive breast cancer for many years. However, the high cost of existing Trastuzumab brands in the Indian market, priced between Rs 40,000 and Rs 54,000 per 440 mg vial, has been a major barrier for patients seeking affordable treatment.
- The reduced price of Trumab by Glenmark will make the per mg cost around INR 35, making it the most accessible and affordable treatment option for HER2-positive breast cancer in India. This price reduction is expected to increase accessibility and bring hope to over 75% of self-paying HER2-positive breast cancer patients in India.

Policy Insight

■ **THEME:** Infrastructure

■ **UPDATE:** Kerala and Cuba collaborate in health and sports sectors for mutual growth.

Key Highlights

- Kerala and Cuba have reached an agreement to cooperate in the fields of health and sports, with the goal of enhancing these sectors within the state. The collaboration aims to leverage Cuba's renowned expertise in public health care, tropical medicine, neuroscience research, molecular immunology, and cancer treatment.
- During discussions between Kerala Chief Minister Pinarayi Vijayan and Cuban officials, the focus was on Cuba's significant strides in biotechnology and pharmaceuticals, which have led to the production of drugs and medical devices that meet international standards. Cooperation in this sector is expected to bring impressive changes to Kerala's health sector.
- The Chief Minister expressed his welcoming stance towards global participation and investment in health-related sectors. In particular, there was interest in establishing a vaccine manufacturing facility in Kerala through collaboration with BioCubaFarma, an organization of biotechnology and pharmaceutical industries in Cuba.

- To ensure continuous exchange and cooperation between health institutions in Cuba and Kerala, the Chief Minister assured the Cuban officials of creating favorable conditions for collaboration. Annual workshops and other activities were proposed as means to maintain a long-term relationship in the health sector. A working group, led by the Principal Secretary of the Health Department in Kerala, will be formed to facilitate further steps.

Pharma and Medical Device

■ **THEME:** Cancer Treatment

■ **UPDATE:** Kotak Securities funds 'Hyperbaric Oxygen Therapy' unit at Visakhapatnam Cancer Hospital

Key Highlights

- Kotak Securities, as part of its Corporate Social Responsibility (CSR) initiative, has established a state-of-the-art 'Hyperbaric Oxygen Therapy' unit at the Homi Bhabha Cancer Hospital in Visakhapatnam.
- This unit, funded under Kotak Securities' CSR program on healthcare, is the first of its kind in the Eastern coast of India, bringing advanced medical technology to the region.
- The Hyperbaric Oxygen Therapy (HBOT) is a specialized treatment used for various medical conditions, including gas embolism, decompression sickness, radiation-induced cystitis and proctitis, diabetic foot, and tissue flap salvage.
- In addition to emergency treatments, the unit will also contribute to cancer diagnostics and care research, focusing on reducing complications associated with cancer treatment and improving patient outcomes.

- Jaideep Hansraj, MD & CEO of Kotak Securities, expressed the company's commitment to saving lives and enhancing the well-being of cancer patients in Eastern India through this initiative, highlighting the significant impact it will have on cancer treatment and patient care in the region.

Policy Insight

■ **THEME:** Infrastructure

■ **UPDATE:** Visually impaired women in India detect breast cancer through tactile examinations.

Key Highlights

- Visually impaired women in India are trained as medical tactile examiners (MTEs) to use their heightened tactile abilities to detect breast lumps or changes that may indicate cancer, providing a unique and valuable contribution to breast cancer screening.
- This initiative is supported by the Helmsley Charitable Trust, enabling the training and deployment of MTEs across different regions in India.
- MTEs utilize braille-marked documentation tapes to meticulously measure the breast centimeter by centimeter during examinations, allowing them to detect lumps as small as 6-8mm, surpassing the capabilities of sighted physicians.
- Studies have shown that tactile examinations conducted by visually impaired MTEs have an accuracy level similar to or even better than examinations performed by physicians, making them a highly effective and reliable screening resource.

- By conducting routine breast cancer screenings in urban and rural communities, as well as workplaces where traditional screening methods are limited, MTEs help address the lack of government-run screening programs in India, contributing to early detection and improved outcomes for women with breast cancer.

International Developments



Pipeline News

- **THEME:** Cancer Diagnosis
- **UPDATE:** NHS trial: blood test detects 50+ cancers, 2/3 cases identified, 85% site accuracy. Further research needed.

Key Highlights

- A recent NHS trial has shown promising results for a blood test capable of detecting over 50 types of cancer. The study involved 5,000 individuals in England and Wales with suspected symptoms, and the test correctly identified two-thirds of the cancer cases. It also successfully determined the primary site of cancer in 85% of positive cases. The Galleri test looks for specific genetic code changes that are present in different types of cancer, offering potential for increased cancer detection rates.
- While the Galleri test shows promise, researchers from Oxford University emphasize that it is still a work in progress and requires further development. However, it has demonstrated its value in clinical settings. Lead researcher Prof Mark Middleton notes that the test's 85% accuracy in identifying the source of cancer can guide healthcare professionals in determining the most appropriate diagnostic procedures, streamlining the diagnostic process for patients.

- The study findings will be presented at the American Society of Clinical Oncology conference and published in The Lancet Oncology journal. Additionally, the NHS has been evaluating the Galleri test in thousands of asymptomatic individuals to assess its effectiveness in detecting hidden cancers. If successful, the NHS plans to expand the test's usage to one million people between 2024 and 2025. This expansion could provide a non-invasive and comprehensive diagnostic tool for early cancer detection.
- Dr David Crosby from Cancer Research UK recognizes the potential of the Galleri test in supporting general practitioners' clinical assessments. However, he emphasizes the need for further research through larger trials to determine its impact on improving GP assessments and patient outcomes. Continued research and development are crucial to refining the test and maximizing its potential in cancer detection and treatment.

Pipeline News

■ **THEME:** Cancer Treatment

- **UPDATE:** Hadassah-University Medical Center's CAR-T therapy achieves 90% remission rate in multiple myeloma, offering hope for patients.

Key Highlights

- Hadassah-University Medical Center in Jerusalem has achieved a remarkable 90% success rate in treating multiple myeloma, the second-most common hematological disease. This groundbreaking achievement comes after years of experiments in the hospital's bone-marrow transplant and immunotherapy department. The treatment utilizes CAR-T therapy, a genetic engineering technology that enhances the patient's immune system to target and eliminate cancer cells. More than 90% of the 74 patients treated at Hadassah went into complete remission, marking a significant advancement in the fight against a previously considered incurable disease.
- The CAR-T therapy developed by Hadassah offers hope to patients with multiple myeloma, extending their life expectancy and improving their quality of life. Prof. Polina Stepensky, head of the department, emphasized the impressive results and highlighted the high demand for the treatment, with a waiting list of over 200 patients from Israel and around the world.

However, due to the complexity of production and treatment, the therapy is still being conducted as an experiment, limiting its availability to one patient per week.

- The success of Hadassah's CAR-T therapy has attracted international attention, leading to collaborations with partners in the United States and the acquisition of a patent license by the American company "IMMX Bio." Clinical trials are set to be conducted in the US, with the goal of obtaining commercialization and FDA approval within a year. This expansion will provide access to the treatment for more patients globally, offering them a chance at remission and improved outcomes.
- Not only does Hadassah's achievement in CAR-T therapy bring hope to multiple myeloma patients, but it also positions Israel as a leading force in cancer research and treatment. With the development, manufacturing, and delivery of CAR-T treatment happening exclusively at Hadassah, the institution is spearheading advancements in the field. This success paves the way for future breakthroughs in using CAR-T cells for other types of cancer, underscoring the transformative potential of genetic engineering in the fight against the disease.

Policy Insight

- **THEME:** Cancer Burden
- **UPDATE:** US cancer medicine shortage leads to treatment delays, substitutions, and supply challenges.

Key Highlights

- The United States is grappling with a severe shortage of cancer medicines, forcing treatment facilities to substitute medications and even delay treatments for patients.
- Over a dozen medications, including carboplatin and cisplatin, commonly used in cancer treatment, are experiencing limited supply in recent months.
- Shortages of carboplatin and cisplatin have been reported at almost all cancer centers, creating challenges for patients and potentially compromising their treatment options.
- Switching cancer medications due to the shortage has practical consequences and can impact the effectiveness of treatment plans for newly diagnosed patients.

- The US Food and Drug Administration (FDA) has taken measures to address the shortage, including allowing the temporary importation of select cisplatin formulations and working to restore production capacity at the affected facility in India.

Policy Insight

- **THEME:** Cancer Burden
- **UPDATE:** Arsenic contamination of food and water poses a global public health issue linked to cancer

Key Highlights

- Arsenic contamination of food and water is a pressing global public health concern, affecting millions of people worldwide. Recent estimates suggest that up to 200 million individuals are exposed to arsenic-contaminated drinking water, surpassing the legal limit of 10 parts per billion set by organizations like the U.S. Environmental Protection Agency and World Health Organization. This issue is pervasive across more than 70 countries, including the United States, Spain, Mexico, Japan, India, China, Canada, Chile, Bangladesh, Bolivia, and Argentina.
- Chronic arsenic exposure has emerged as a significant risk factor for the development of cancer stem cells, which play a critical role in the growth and spread of various types of cancer. While the precise mechanisms by which arsenic triggers cancer formation are still not fully understood, scientific research indicates that it can inflict DNA damage, disrupt essential cell signaling pathways, and compromise the immune system's ability to prevent malignant cell growth.
- Arsenic enters the human body through multiple routes, but the primary source of exposure is often contaminated drinking water or food. Individuals residing in regions with naturally high levels of arsenic in the soil and water are particularly vulnerable to its detrimental effects. In the United States, regions such as Arizona, Nevada, and New Mexico, located in the Southwest, are known to have elevated levels of arsenic. Additionally, human activities like mining and agriculture can contribute to increased arsenic levels in food and water sources.
- Notably, high concentrations of arsenic can also be found in certain food and drink products, with rice and rice-based products, including rice cereals and crackers, being a major concern. In fact, investigations have revealed that some brands of bottled water in the U.S. contain arsenic levels exceeding the legal limit. Alarming studies have also detected excessive amounts of arsenic in popular baby food brands, posing potential risks to infants and young children.
- To effectively mitigate the health impacts of arsenic contamination, preventive measures that address chronic exposure are critical. Continued monitoring and regulation of this toxic metal in food and water sources are essential to protect affected communities. Furthermore, further research efforts are necessary to deepen our understanding of how arsenic induces the formation of cancer stem cells and to develop effective strategies for prevention and intervention in cancer progression.

Pipeline News

■ **THEME:** Cancer Research

■ **UPDATE:** AI algorithms outperform standard models in predicting breast cancer risk, leveraging additional mammographic features for accuracy.

Key Highlights

- In a comprehensive study analyzing thousands of mammograms, AI algorithms showcased their superiority over the standard clinical risk model in predicting breast cancer risk. The research focused on 13,628 women who underwent negative screening mammograms at Kaiser Permanente Northern California in 2016, and it compared the performance of AI algorithms with traditional clinical models.
- By leveraging deep learning techniques, AI algorithms extracted a multitude of additional mammographic features that went beyond the scope of information gathered by clinical models, such as age, family history, and childbirth history. The findings revealed that AI algorithms outperformed the standard risk model in predicting breast cancer risk over a five-year period, suggesting their ability to identify missed cancers and detect breast tissue characteristics that contribute to future cancer development.

- Particularly noteworthy was the AI algorithms' ability to predict high-risk patients, including those with interval cancer, which often requires further screening or follow-up imaging. Furthermore, even AI algorithms trained for short time horizons demonstrated remarkable accuracy in predicting cancer risk up to five years, even when no cancer was detected during screening mammography.
- The study highlighted the potential of combining AI algorithms with the standard risk model to further enhance breast cancer prediction accuracy, presenting a promising avenue for accurate, efficient, and scalable risk assessment in women's breast health.

Policy Insight

■ **THEME:** Cancer Treatment

■ **UPDATE:** Scotland's 10-year cancer strategy aims to reduce late-stage diagnoses and address health inequalities.

Key Highlights

- The Scottish government has released a comprehensive 10-year cancer strategy with the objective of significantly reducing the number of late-stage cancer diagnoses and addressing health inequalities associated with the disease.
- The strategy aims to decrease the proportion of people diagnosed with cancer at stages three and four from the current 42% to 24% by the year 2033, resulting in a potential reduction of around 5,000 cases of late-stage cancer over a decade.
- To achieve these goals, the strategy includes a three-year Cancer Action Plan consisting of 136 actions. It focuses on improving all aspects of cancer services, ranging from prevention and early detection to treatment and post-treatment care, with a particular emphasis on less-survivable cancers.

- The Scottish government intends to invest further in the Detect Cancer Earlier (DCE) Programme, which has been instrumental in raising awareness and improving early cancer detection rates. The aim is to enhance the effectiveness of cancer screening initiatives and ensure that individuals have prompt access to high-quality diagnostic and treatment services.
- The strategy also aims to tackle health inequalities associated with cancer by addressing factors such as lower screening uptake in deprived areas, higher incidence rates of specific cancers in disadvantaged communities, and disparities in cancer-related deaths based on socio-economic status. Additionally, the plan focuses on improving accessibility to cancer services in rural and island communities, recognizing the unique challenges faced by individuals living in these areas.

Policy Insight

- **THEME:** Cancer Burden
- **UPDATE:** Governments and organizations reaffirm commitment to eliminating cervical cancer, highlighting vaccine potential and sharing progress during the World Health Assembly.

Key Highlights

- WHO Director-General Dr Tedros Adhanom Ghebreyesus emphasizes the potential of vaccines in eliminating cervical cancer during the 76th World Health Assembly.
- Antigua and Barbuda aims to become the first country in the Caribbean to reach the 90-70-90 goals for cervical cancer elimination and procures HPV tests through PAHO's strategic fund.
- Niger, Bahrain, Samoa, Namibia, Brazil, and China express their commitment to preventing cervical cancer through vaccination, screening, and treatment, showcasing progress and efforts in their respective regions.

- Governments and organizations, including Australia, Bangladesh, Colombia, Ethiopia, Indonesia, Malawi, the United States, the Bill & Melinda Gates Foundation, Gavi, UNICEF, and the World Economic Forum, organize a side event during the World Health Assembly to share perspectives and strategies on cervical cancer elimination.
- WHO releases a new publication titled "WHO Cervical Cancer Elimination Initiative: from call to action to global movement," providing an overview of the establishment of the initiative and the commitments made by WHO Member States to eliminate cervical cancer as a public health problem.

Pipeline News

■ **THEME:** Cancer Innovation

■ **UPDATE:** Japan leads in cancer treatment patents, with innovative therapies like heavy particle-beam and photo-immunotherapy emerging.

Key Highlights

- Japan has emerged as the leading global powerhouse in cancer treatment patents, surpassing the United States.
- The advent of cutting-edge treatment options such as heavy particle-beam therapy, boron neutron capture therapy (BNCT), and photo-immunotherapy has sparked immense anticipation. These breakthroughs, alongside conventional anti-cancer drugs and immunotherapies, hold great potential in the fight against cancer.
- The remarkable success of Japan can be attributed to the concerted efforts of its government in prioritizing the development of advanced treatment technologies.

- Japan's commitment to innovation is exemplified by the presence of eight Japanese companies and institutions, including esteemed names like Hitachi and Toshiba, ranking among the top 10 organizations with the highest number of cancer treatment patents. This collective achievement underscores the collaborative nature of advancements in the country.

Policy Insight

- **THEME:** Cancer Prevention
- **UPDATE:** The Netherlands is addressing record skin cancer levels by providing free sun cream through dispensers placed in various public locations.

Key Highlights

- The Netherlands is taking proactive steps to address the alarming rise in skin cancer by providing free sun cream to its citizens. As part of this initiative, sun cream dispensers will be strategically placed in various public locations such as schools, universities, festivals, parks, and sports venues across the country.
- The government's objective is to make sun protection easily accessible to everyone, eliminating barriers such as cost and inconvenience. Inspired by Australia's successful slip, slop, slap campaign, which encourages sun safety practices, Dutch authorities hope to cultivate a culture where applying sun cream becomes an unquestioned habit.

- The campaign was launched at a festival in the city of Breda and is gaining support, with Venlo-Venray hospital collaborating with health insurers to provide sun cream in primary schools. The idea of repurposing hand disinfectant dispensers from the pandemic to hold sun cream originated from a skin doctor at the hospital, highlighting creative solutions to promote sun protection.
- Medical experts have observed a concerning increase in skin cancer cases, emphasizing the importance of sun cream as the most effective protection against the disease.

Pharma and Medical Device

- **THEME:** Cancer Treatment
- **UPDATE:** AstraZeneca's Tagrisso pill reduces lung cancer deaths by half in early-stage patients.

Key Highlights

- AstraZeneca's groundbreaking drug, Tagrisso, demonstrated remarkable efficacy in reducing lung cancer deaths by half among patients with early-stage disease who had undergone surgery.
- The impressive clinical trial results were presented at the prestigious American Society of Clinical Oncology's annual meeting in Chicago and simultaneously published in the esteemed New England Journal of Medicine.
- Tagrisso specifically targets a receptor responsible for the growth of cancer cells, representing a significant advancement in the treatment of early-stage lung cancer and its impact on patient survival.
- The international study, which included 682 lung cancer patients from more than 20 countries across the globe, revealed that those who received Tagrisso as a once-daily pill for three years had a significantly lower overall risk of death compared to those who received a placebo.

- The findings have exceeded expectations, suggesting that Tagrisso has the potential to revolutionize the treatment landscape for early-stage lung cancer and may lead to wider prescription rates and increased insurance coverage for this life-saving medication.



**WE THANK YOU FOR YOUR
CONTINUED SUPPORT IN OUR
EFFORTS IN FIGHT AGAINST CANCER.**

CONTACT US

Dr Nalini Kaushik

Lead: Policy and Government Affairs

Integrated Health & Wellbeing Council

RAPID: Global Cancer Alliance

M: +91 9958227730 | E: nalini@rapidglobal.org

