Title:
How can we bridge the gap between Innovation and Access in cancer treatment?

Full Name:
Sakthi Vignesh D

Name of the Institution:
Government Kilpauk Medical College, Chennai

State:
Tamilnadu

Objective of your solution: (Briefly define the primary outcome of your solution to this challenge):
Key objective is to bridge the gap between innovation and access to recent advances. We need to take steps such that a patient is not denied standard-of-care treatment due to geographic or financial constraints by promoting "Hub & Spoke models" and bringing recent equipments and therapies and clinical trial opportunities even in rural settings. We should try to bridge the knowledge gap to ensure that even physicians in rural centers are trained adequately and confident enough to administer complex treatment regimens and tackle their side effects also. We need to coordinate with international bodies (FDA, NCCN) and bring fast-track approvals of recently approved drugs to cater to our population at the earliest. We should try to bring clinical trials even to tier 2/3 cities and ensure maximal patient participation to get standard-of-care treatment. By implementing these measures, we can make sure that innovation is not a mere scientific achievement, but it benefits the intended treatment population.

Describe your solution/proposal: Provide a detailed account of your solution/ proposal to this challenge. You could type your solution/ proposal here. (Disclaimer: Solution/proposal should not exceed more than 300 words):
Policymakers and DCGI should collaborate with international societies and adopt accelerated approval of drugs (with proven survival benefits), parallel to FDA approval, so that it becomes easier to incorporate in national insurance schemes and hospital drug procurements under the national grid. Steps should be taken to bring clinical trials to tier 2/3 cities, with approval in ethical committee with some amount of leniency.
Promotion of "Hub & Spoke models" in rural areas, along with pharma company-sponsored screening and diagnostic tests needed for initiation of specific monoclonal antibodies and targeted therapies. Measures should be made to price the patented drugs according to per capita income of the Indian population, and not according to US/UK standards. Measures taken to eliminate import tax for life-saving anti-cancer medications.
Government can make MoU with MNC companies and diagnostic companies, and provide drugs and testing at nominal rates, by giving them incentives in their research and business portfolios. We can help them, under CSR and public-private partnership, to maintain cold storage systems, drug procurement, and maintenance.
Premier institutes can conduct frequent CME, hands-on training, and fellowship courses for MBBS and physicians on pre-chemo workup, proper administering of drugs, toxicity follow-up, and management

Full Name:
Dr Rajdeep Bose

Name of the Institution:
AK Azad Road, Arya Nagar, Guwahati

State:
Assam

Objective of your solution: (Briefly define the primary outcome of your solution to this challenge):
The primary outcome of this solution is to improve completion of curative-intent cancer treatment among socioeconomically vulnerable patients by reducing treatment interruption caused by geographic and logistical barriers. This is particularly relevant in North-East India, where hilly terrain, long travel distances, difficult transportation, and seasonal disruptions often make regular hospital attendance during prolonged treatment difficult. For patients receiving therapies in which continuity is critical for cure, including definitive chemoradiation, brachytherapy, and multimodality surgical treatment, the model seeks to preserve curative outcomes by enabling sustained access to care. A secondary objective is to establish a scalable care-delivery framework that reduces geographic inequity in access to cancer innovations and can be adapted to other difficult-terrain and resource-constrained settings.

Describe your solution/proposal: Provide a detailed account of your solution/ proposal to this challenge. You could type your solution/ proposal here. (Disclaimer: Solution/proposal should not exceed more than 300 words):
I propose a structured residential support model for selected curative-intent cancer patients along with one attender, offering temporary lodging near the cancer center during active treatment. The model addresses an overlooked barrier in cancer care: many patients lose the benefit of effective therapy not because treatment is unavailable, but because they cannot remain near the treating center long enough to complete it. This is especially relevant in North-East India, where difficult terrain, long travel distances, and transport barriers may compromise treatment continuity.

Support would be targeted, with selection by treating doctors and hospital social workers based on expected treatment duration, distance from hospital, financial vulnerability, and risk of treatment default. Lodging and meals could be provided at a nominal subsidized rate through government health schemes, supplemented by institutional welfare funds, NGOs, or CSR-supported programmes.

The innovation lies in using residential support as a targeted intervention to reduce default and preserve continuity of curative-intent care. While charitable accommodation exists, structured eligibility-based residential support designed specifically to address treatment interruption in geographically challenging regions remains underdeveloped.

Full Name:
Reshma Abraham

Name of the Institution:
Manipal Hospital, Bangalore

State:
Karnataka

Objective of your solution: (Briefly define the primary outcome of your solution to this challenge):

1. Cancer lacks a dedicated identity as a national programme, currently bundled under the NP-NCD (The National Programme for Prevention and Control of Non-Communicable Diseases) group program, and the funding model relies predominantly on one-time grants rather than periodic, performance- and feedback-based allocation.
2. Workforce attrition and training Gaps-specialist shortages in rural areas with unmanaged attrition at tier-2 and tier-3 TCCCs (tertiary cancer care centres) driven by financial disparity with metro living colleagues, professional isolation and lack of professional growth, and family logistics
3. Inadequate Private Sector utilisation in Oncology Care.

Describe your solution/proposal: Provide a detailed account of your solution/ proposal to this challenge. You could type your solution/ proposal here. (Disclaimer: Solution/proposal should not exceed more than 300 words):

a) Dedicated National Cancer Control Program (NCCP 2.0). Cancer should be moved out of the NP-NCD group into a revised NCCP 2.0 (as in the earlier NCCP), recognizing that cancer itself comprises multiple distinct diseases, unlike other components in the NCD group such as diabetes or stroke. Though it currently does have separate additional funding, I would want to strongly suggest it should have a revised central budget and a dedicated program management unit at MoHFW under senior IAS leadership with oncology technical advisors. The governing council should include representation from NCG, ICMR-NCDIR, TMC, AIIMS, DGCI, and State Cancer Institutes/TCCCs.

b) Funding should change from one-time grants to performance-feedback-linked allocations, with NCG as the main accreditation and audit body conducting six-monthly inspections against defined benchmarks: screening-to-treatment time, treatment completion rates, and stage-stratified five-year survival.

c) Specialists at tier-2/3 TCCCs should receive IAS/IPS-equivalent housing, schooling, and spousal-employment support. Professional growth should be ensured through mandatory NCG virtual tumors boards, periodic fellowships at TMH and apex centers, and performance-linked incentives similar to the private sector. Administrative burden must not hinder patient care.

d) Frontline ASHA/ANM workers are to be employed in adequate numbers. They should be trained in oncology and palliative care from apex centres and with NCG-based fellowship programs. They can then deliver home-based follow-up, particularly in pediatric cancers such as “ALL” to reduce attrition. Equipping them with AI-enabled smartphone screening tools (e.g., for oral cancer) can strengthen cancer awareness, mirroring on their proven success in maternal-child health. Achievements must be rewarded with incentives.

e) Private Participation: We should scale the proven “Tata Trusts” Assam model nationally: specialised TCCCs built through 25 30-year Public Private Partnership (PPP) and Build Operate Transfer (BOT) partnerships, with a zero-denial, single-standard-of-care guarantee for poor patients, outcome-linked tax benefits. Outsource high-skill services such as NGS testing to private labs with a mandated cross-subsidy ratio (e.g., 25 subsidized tests at TCCCs per 100 commercial tests nationally).

Channel the significant CSR funds through structured three-year commitment plans (at least two plans per tenure), with one tenure dedicated to rural oncology infrastructure. Contributing companies would nominate representatives to engage an advisory board of oncology technical experts and government planning members to jointly decide resource allocation.

Full Name:
Foram Joshi

Name of the Institution:
Kidwai Memorial Institute of Oncology, Bangalore

State:
Karnataka

Objective of your solution: (Briefly define the primary outcome of your solution to this challenge):
Breakthrough innovations and advances in cancer care are continuously evolving, and one of the greatest challenges for oncologists is to remain updated with the changing standards of care and effectively incorporate these innovations into clinical practice. However, equitable healthcare for all still remains a global challenge, especially in resource-limited settings. Therefore, there is a need to understand practical limitations and develop strategies that help bridge these gaps.

In an era where immunotherapies train the body to attack malignant cells, precision medicine targets tumors with remarkable specificity, and artificial intelligence detects cancers that may not be visible to the human eye, oncologists carry a greater responsibility to develop practical strategies, encourage innovation, and implement evidence-based medicine in real-world practice.

Describe your solution/proposal: Provide a detailed account of your solution/ proposal to this challenge. You could type your solution/ proposal here. (Disclaimer: Solution/proposal should not exceed more than 300 words):
Cancer screening remains a significant challenge in resource-limited countries. A major barrier in economically deprived settings is the lack of awareness about cancer, particularly the fact that many cancers are preventable. Cancer detection should be approached as a collective, team-based effort rather than being seen solely as a burden on the healthcare sector.
One of the most critical pillars in this effort is educating people about early signs and symptoms and helping them understand when it is time to seek medical attention. In today's era of Instagram, Facebook, and YouTube, where many unskilled influencers spread misinformation and myths about cancer, there is a clear need for stronger regulation of such content.
Our ultimate goal must be to disseminate precise, evidence-based information about cancer unfiltered and free from bias driven by advertising or commercial interests. At the same time, we must empower individuals with knowledge about treatment options, screening and early detection methods, preventive strategies, and awareness of available government schemes and NGOs.

In this digitalized era, we must recognize that much more is possible than we often assume. Governments need to actively encourage and support fund-raising initiatives and screening programmes so that these services can become accessible to all sections of the population. One of the biggest challenges in a country like India is its large population coupled with a poor doctor-patient ratio.
If we consider lung cancer screening, including insights from recent clinical trials conducted by Chinese groups, it becomes evident that even a seemingly simple screening CT scan for chronic smokers is not easy to implement at large scale. Government hospitals already face long waiting lists even for patients with confirmed cancer diagnoses. In such a scenario, expecting access to CT scans purely for screening purposes along with timely interpretation is extremely difficult. At the same time, many individuals cannot afford these investigations in the private sector. This gap clearly needs to be addressed.
Molecular testing, genetic testing, and counselling are still rare in resource-limited settings, with access limited to perhaps only a small fraction of the population. This is not only due to financial constraints but also because of the lack of availability of high-quality infrastructure and prolonged turnaround times. These services should ideally be supported through mandatory funding, at least for high-risk populations, so that screening becomes meaningful and effective.

Another major challenge, in my view, is counselling individuals who are at high risk but have not yet developed cancer. This is often one of the most difficult aspects of cancer care. Convincing a healthy individual to undergo regular annual screening or consider risk-reducing surgery is not easy, particularly in a society that is still not fully prepared to accept such preventive strategies. As a result, default rates in this group remain high. It becomes crucial for counselling teams to promote shared decision-making, ensuring that the individual's quality of life is not compromised.

The psychological impact of identifying someone as high risk, even when they are currently healthy, can be profound. The constant fear of developing cancer can affect every aspect of their life. Therefore, psychological support and counselling must be considered an essential component of any screening programme. Screening individuals with hereditary or familial cancer risk is particularly complex, as they may be predisposed to multiple malignancies. Providing reassurance in such cases is extremely challenging for any counselling team. Additionally, many individuals in this high-risk group may also have lifestyle-related risk factors, such as addictions, which further complicate their overall risk profile and must be addressed as part of a comprehensive approach.

From my perspective, in resource-limited countries, unless we begin to bridge the gap between demand and supply at least for cancer care, large-scale population screening will remain difficult to achieve. However, we can make meaningful progress by leveraging digitisation and artificial intelligence to extend our reach. These tools can help educate the population, provide clear pathways for access to care, and ensure that high-risk individuals are identified early, thereby improving outcomes and quality of life.

Every cancer center should ideally have a dedicated multidisciplinary screening team. This team should include oncologists, onco-surgeons, molecular pathologists, genetic counsellors, psychologists, NGOs for fundraising support, and patient navigators who can track individuals and reduce default rates. In addition, health insurance policies should include coverage for cancer screening so that a larger segment of the population can benefit from early detection and potentially curative treatment.

In the era of artificial intelligence, its thoughtful and careful integration is essential. AI is already being used in protocol development, algorithm design, risk assessment, diagnosis, and even treatment planning. In the context of screening, its most immediate impact is likely to be in radiological and pathological interpretation. This can help reduce the workload on healthcare professionals and assist in triaging patients who require urgent attention. However, AI is not without limitations, and errors are possible. Its use must therefore be cautious, with reliance on robust validation through clinical trial data before widespread adoption.

With ongoing research and emerging clinical trial data on vaccines for cancer prevention, another important challenge in resource-limited settings is the gap between innovation and accessibility. Financial toxicity and limited availability often prevent these advances from reaching those who need them most. It is important to promote participation in clinical trials, generate validation data within our own population, obtain approvals from regulatory authorities such as the Central Drugs Standard Control Organization (DCGI), and ensure equitable access once these interventions are proven effective.

Cancer screening and detection in resource-limited countries cannot be dismissed as impossible. However, meaningful progress will require sustained, incremental efforts to address these barriers and build systems that are both accessible and practical.

Full Name:
Habeeb K A

Name of the Institution:
VPS Lakeshore, Kochi

State:
Kerala

Objective of your solution: (Briefly define the primary outcome of your solution to this challenge):

1. Bridge the knowledge gap through continuous education, real-time digital updates, and improved patient awareness of cancer prevention and early detection.
2. Address the attitude gap by reducing fear, stigma, and mistrust through survivor advocacy, culturally sensitive communication, and shared decision-making.
3. Close the practice gap by strengthening healthcare infrastructure, workforce capacity, and referral systems for real-world implementation of cancer care.
4. Expand equitable access to oncology services using tele-oncology, mobile units, biosimilars, and public-private partnerships.
5. Transform cancer care into a patient-centered, technology-enabled system that ensures knowledge translates into trust, access, and improved survival outcomes.

Describe your solution/proposal: Provide a detailed account of your solution/ proposal to this challenge. You could type your solution/ proposal here. (Disclaimer: Solution/proposal should not exceed more than 300 words):

Cancer treatment has advanced rapidly with innovations like immunotherapy, precision oncology, and AI diagnostics. However, many patients, especially in low- and middle-income countries, still cannot access these benefits. The problem is not a lack of science, but a gap in knowledge, attitude, and practice (KAP) between what we know, believe, and deliver.

1. Knowledge Gap (What we don't know)
Clinicians often struggle to keep pace with evolving guidelines, while patients lack awareness of early symptoms, screening, and treatment options, leading to late diagnosis. Policymakers may underestimate the value of investing in cancer care.
Solution: Digital oncology platforms with real-time updates, AI-based decision support, continuous medical education, and multilingual awareness campaigns can improve knowledge and promote early detection.

2. Attitude Gap (What we don't believe)
Fear, stigma, and mistrust delay care. Many patients equate cancer with death. Clinicians may hesitate to adopt new technologies, and policymakers may see innovation as unaffordable.
Solution: Survivor-led awareness, culturally sensitive communication, community influencers, screening reminders, and shared decision-making tools can build trust and change perceptions.

3. Practice Gap (What we fail to implement)
Limited infrastructure, workforce shortages, high costs, and weak referral systems prevent real-world implementation. Rural populations often lack timely access to care.
Solution: Tele-oncology, mobile cancer units, task-sharing with trained staff, affordable biosimilars, and public-private partnerships can expand access. Digital referral systems ensure continuity.

In my view, care must shift from hospital-centered to patient-centered, technology-enabled systems.
Knowledge--> Trust--> Access--> Survival.
Cancer innovation must not remain in journals; it must reach every patient.

Full Name:
Monish Balaji S

Name of the Institution:
Kilpauk Medical College, Chennai

State:
Tamil Nadu

Objective of your solution: (Briefly define the primary outcome of your solution to this challenge):
Reimagining trials, microdosing, indigenous manufacturing, tech kiosks, tiered pricing, and policy hacks to make breakthroughs affordable in LMICs.

Describe your solution/proposal: Provide a detailed account of your solution/ proposal to this challenge. You could type your solution/ proposal here. (Disclaimer: Solution/proposal should not exceed more than 300 words):

Inclusion of patients from LMIC in clinical trials: Most clinical trials are conducted in the developed world and predominantly include patients who would even otherwise have access to newer, innovative management strategies. By ensuring inclusion of LMIC populations, not only is adequate scientific knowledge in this distinct subgroup obtained, but also these patients would have greater accessibility to these novel therapies.

Low-dose solutions: While protocols utilize drug doses extrapolated from trials, these are usually the maximum tolerated dose and not the minimal effective dose. Studies to identify the efficacy and toxicities of such low-dose formulations could decrease financial toxicity and increase accessibility.

Drug delivery kiosks: These can function like ATMs and can be located in remote locations where patients could refill oral medications like tyrosine kinase inhibitors or novel endocrine therapy agents after video consultation through the console with an oncologist, thereby decreasing costs associated with travel and stay.

Tiered pricing system: higher cost in developed countries and subsidized rates in LMICs

Importing duty waivers for drugs, radiation therapy devices, surgical instruments and diagnostic systems, both at the individual level as well as the level of corporations.

Tax deduction for individual cancer spending.

Development of indigenous alternatives such as for adoptive cell therapy or surgical robots.

Incentives to corporations for local biosimilars development.

Use of alternate energy options for radiation therapy delivery such as solar or hydroelectric energy.

Inclusion of newer cancer therapeutics, vaccines and treatment under National Health programmes and Government Insurance schemes.

Public-private partnership to increase access to diagnostic testing including genetic and molecular testing and next-generation imaging.

Use of AI in pathology, radiology and drug designing to decrease costs.

Full Name:
Vaidya Vedant Shripad

Name of the Institution:
JIPMER, Puducherry

State:
Tamil Nadu

Objective of your solution: (Briefly define the primary outcome of your solution to this challenge):
Objective: At our high-volume regional cancer centres, a profound gap exists between oncology innovation and treatment access for the majority of patients who belong to low-income strata and travel far off. Our objective is to bridge this chasm through a digitized, decentralized "Hub-and-Spoke" framework. By integrating advanced software for facility identification and patient tracking alongside the specialized training of MD physicians and nurses, we aim to ensure that life-saving innovations and palliative care are accessible, compliant, and scalable across the Indian healthcare landscape.

Describe your solution/proposal: Provide a detailed account of your solution/ proposal to this challenge. You could type your solution/ proposal here. (Disclaimer: Solution/proposal should not exceed more than 300 words):

To effectively bridge the gap between innovation and access, we must move beyond the constraints of tertiary centres and leverage technology to bring specialized care to the patient's doorstep. Our experience suggests a three-pronged strategy:

1. Digitalization for Compliance and Follow-up

In a high-volume setting, digitalization is the only way to prevent patient attrition. By developing specialized software to promptly identify the nearest health facility, we can ensure "good compliance" for patients who find traveling to a central hub prohibitive. This digital infrastructure allows for the real-time monitoring of treatment milestones, whether for standard chemotherapy or validated frugal innovations like low-dose immunotherapy (e.g., 40mg nivolumab), ensuring that patients from low socio-economic backgrounds receive consistent care.

2. Decentralized Hub-and-Spoke Model

A centralized system cannot adequately serve a population where most cannot afford standard care. We propose a "Hub-and-Spoke" model where the tertiary centre (the Hub) manages complex protocols, while local facilities (the Spokes) handle routine administration and palliative care. This decentralization reduces the burden on the funding agencies and patients by lowering the indirect costs of care, such as travel and loss of wages.

3. Capacity Building and Human Resource Training

Innovation only reaches the periphery if there is a trained workforce to deliver it. A core component of our solution involves the rigorous training of MD Medicine physicians and nursing staff in oncology protocols. This empowers non-specialists to manage stable patients and identify complications early. By combining this trained workforce with "frugal innovation" and digital tracking, we create a sustainable ecosystem that democratizes access to advanced cancer therapeutics across India.

Full Name:
Dr. Chilamkurty Maitreyi

Name of the Institution:
Stanley Medical College, Chennai

State:
Tamil Nadu

Objective of your solution: (Briefly define the primary outcome of your solution to this challenge):
Problem statement: Cancer patients in high-patient-load hospitals frequently experience prolonged outpatient waiting times due to overcrowding, inefficient triage systems, fragmented workflows, repeated documentation, delayed laboratory coordination, and lack of real-time patient flow management. Critically ill or treatment-sensitive patients often remain in the same queue as stable follow-up cases, leading to delayed clinical decisions, missed treatment windows, avoidable emergency admissions, and compromised quality and care. Despite advances in cancer therapeutics, access to timely oncology care remains a major operational gap, where innovation in treatment exists but quality of care and delivery systems fail the patient. Patient journey after entry to hospital-->Registration->file creation->waiting->resident review->investigations pending->another queue->consultant review->treatment room queue->counselling->pharmacy queue->billing/Insurance->availability of bed in ward for daycare->waiting for bed clearance for chemotherapy->pharmacy Indent delay->patient IV access delay sometimes->chemotherapy postponed sometimes /delivered lately. To develop and implement an AI-enabled oncology care support model that improves access to timely cancer care by reducing prolonged outpatient waiting time through Triage, workflow, and dynamic patient flow management.

Describe your solution/proposal: Provide a detailed account of your solution/ proposal to this challenge. You could type your solution/ proposal here. (Disclaimer: Solution/proposal should not exceed more than 300 words):

Solution: ONCOFLOW AI-Turning Innovation into Access through Voice-Guided Cancer Navigation.

I propose a multilingual AI-enabled cancer care navigation platform designed specifically for high patient load settings, including patients with low health literacy, Limited digital familiarity, and language barriers.

Framework structure:

1. Patient access (Easy entry): through Hospital touch screen kiosks, WhatsApp chatbot, voice call assistant, nurse-assisted registration tablet, caregiver mobile app. For illiterate patients, the interface will be voice-based, local language enabled, icon-driven (doctor symbol, lab symbol, pharmacy symbol), one touch response buttons. For example: Instead of typing, patient hears: "Do you have fever? Press red button or say Yes".
2. AI Smart Triage: AI collects symptoms, treatment purpose (new patient/follow up/chemotherapy), Appointment details, uploaded prescription/lab reports. Then AI categorizes: RED-URGENT; AMBER-PRIORITY; GREEN-ROUTINE. This prevents sick patients from waiting in general queues.
3. Clinical document Intelligence: AI reads pathology reports, prescriptions, and blood tests. Generates simple doctor-ready summaries. Reduces repeated paperwork.
4. Real-time workflow coordination- integrates registration, consultation queue, lab, pharmacy, daycare chemotherapy chairs, and billing. AI predicts delays and redirects patients automatically.
5. Patient navigation support- receives audio instructions, token alerts, and next step guidance. For example, "please go to lab counter 2 now". For visually weak elderly: large Fonts and audio prompts.
6. Clinician Dashboard-Doctors see risk flags, pending labs, chemotherapy readiness, and delayed cases. This speeds up decisions.

7. Pharma Industry partners like Roche can support ONCOFLOW AI through patient access grants, digital infrastructure funding, biomarker testing navigation modules, treatment education content, adherence support systems, and affordability pathway integration and reduces major real-world barriers that prevent innovative therapies from reaching eligible patients, generation of anonymized real-world access insights, stronger health equity impact improves appropriate therapy uptake stronger treatment persistence. For example, when a patient is eligible for targeted therapy or immunotherapy, the platform can automatically guide them through diagnostic confirmation, PAPs, toxicity education, and follow-up through an ethically governed.

   Example Impact on cancer patients: Current journey-7-8-hour chaotic waiting.

   AI journey: pre-triage -> direct routing -> faster clearance -> same-day treatment. Expected benefit is conversion of complex hospital systems into a simple voice-guided cancer navigation assistant, making advanced cancer care accessible even for illiterate elderly, rural, and vulnerable patients.

Full Name:
Snigdha Das

Name of the Institution:
Madras Medical College, Chennai

State:
Tamil Nadu

Objective of your solution: (Briefly define the primary outcome of your solution to this challenge):
PROBLEM STATEMENT: Cancer treatment today has reached an extraordinary stage of innovation. We have immunotherapy, targeted therapy, molecular testing, AI-assisted diagnosis, tele-oncology, and precision medicine that can help patients live longer and better lives. Yet for many families, the biggest challenge is not whether treatment exists; it is whether they can actually access it without fear, stigma, financial burden, or social isolation.

One of the deepest gaps in cancer care is stigma. In many communities, cancer is still believed to be a contagious, communicable disease or a social burden. Patients often suffer not only from the disease, but from isolation and fear created by society.

I remember a patient from Vellore who travelled to Chennai for treatment. The family could not afford accommodation, so they stayed at a relative's house during chemotherapy. After a few days, the relatives became uncomfortable because they believed cancer could spread to their children. The family was asked to leave the house. With no money for rent and nowhere to stay, the patient began missing appointments and eventually discontinued treatment. The innovations existed chemotherapy, diagnostics, specialists, but stigma and lack of social support created a barrier stronger than the disease itself.

Another heartbreaking reality is the emotional and psychological trauma associated with cancer. A young woman with breast cancer came for chemotherapy and developed hair loss after two cycles. For the medical team, alopecia was a known side effect. But for the family, it became emotionally devastating. Her husband struggled to accept her changed appearance and the social pressure surrounding cancer. The emotional distress became overwhelming, and tragically, he later died by suicide. This was not simply the story of a side effect; it was the story of how poorly society understands cancer, body image, mental health, and the emotional burden carried by families.

These stories remind us that bridging the gap between innovation and access is not only about medicines or machines; it is also about empathy, awareness, mental health support, and social acceptance. I offer the following real-world solutions to these problems.

Describe your solution/proposal: Provide a detailed account of your solution/ proposal to this challenge. You could type your solution/ proposal here. (Disclaimer: Solution/proposal should not exceed more than 300 words):

SOLUTION- Bridging the gap between innovation and access in cancer care requires solutions that address not only technology, but also stigma, affordability, and emotional support. In many communities, cancer is still believed to be communicable, causing patients to face social isolation during treatment. Therefore, awareness must become the first step toward innovation.

1. Large-scale campaigns in local languages through schools, villages, television, and social media should educate people that cancer is treatable and non-contagious. Survivor-led storytelling can normalize conversations around chemotherapy, hair loss, and recovery, reducing fear within families and communities.
2. Tele-oncology can play a transformative role in improving access. Many patients travel long distances to tertiary centers, leading to financial burden and treatment discontinuation. Virtual consultations, digital follow-ups, and linking district hospitals with cancer centers can allow patients to receive expert guidance closer to home. Mobile screening units and portable diagnostics can further improve early detection in rural areas.
3. Psychosocial support is equally important. Affordable patient hostels near hospitals, caregiver counseling, support groups, and patient navigators can help families continue treatment with dignity.
4. Companies like Roche can bridge this gap beyond providing medicines. Roche can establish Rural Oncology Connect Hubs with tele-oncology services, digital pathology, and AI-assisted screening tools to bring expert care closer to underserved regions. It can support Cancer Care Companion Programs where counselors guide patients regarding side effects, nutrition, emotional stress, and financial aid throughout treatment.
5. Roche can also invest in mobile cancer screening vans, low-cost accommodation facilities for outstation patients, caregiver mental-health programs, and multilingual digital apps for symptom tracking and follow-up care.

   True innovation is not only discovering advanced therapies it is ensuring that every patient can access treatment with dignity, hope, and human support regardless of geography or social background.

Full Name:
Dr Mohamed Thanish

Name of the Institution:
Stanley Medical College, Chennai

State:
Tamil Nadu

Objective of your solution: (Briefly define the primary outcome of your solution to this challenge):
To diagnose the specific structural mechanisms through which oncological innovation is generated in India but fails to reach patients, and to propose a registry-embedded clinical trial matching system and a DCGI conditional early access pathway for breakthrough therapies that closes the translation gap at both the regulatory and institutional levels.

Describe your solution/proposal: Provide a detailed account of your solution/ proposal to this challenge. You could type your solution/ proposal here. (Disclaimer: Solution/proposal should not exceed more than 300 words):

India generates oncology research, and Indian investigators are named on landmark trials. Indian institutions participate in global drug development programmes. And yet the median interval between FDA or EMA approval of a novel cancer therapy and its meaningful clinical availability to Indian patients remains between three and seven years, depending on the drug class. We are not absent from global innovation. We are systematically late to benefit from it.

The reasons are specific and addressable. The DCGI regulatory pathway currently requires Indian bridging data for most oncology approvals, which creates a structural delay even when the originating trial included Indian patients. A conditional early access programme for drugs that have received FDA Breakthrough Therapy or EMA PRIME designation, with mandatory pharmacovigilance and outcome reporting as conditions of early approval, would bring evidence-supported novel therapies to Indian patients during the post approval, pre routine approval window without compromising safety oversight. Several countries, including South Korea, Singapore, and Australia have variants of this model operational. India's CDSCO has the regulatory framework to implement it without legislative change.

The second structural gap is clinical trial access at the patient level. India has over 300 registered active oncology trials on the Clinical Trials Registry of India, the majority of which are at a small number of academic centres. The proportion of eligible patients who are ever screened for trial eligibility at most cancer centres is below five percent, not because patients are unsuitable but because no systematic screening process exists. A registry embedded trial matching tool, integrated into the electronic medical records of NCG member institutions, that flags trial eligibility criteria against incoming patient data at the time of diagnosis, would transform trial participation from an incidental event into a systematic practice. This simultaneously expands patient access to innovation and generates the Indian population evidence base that our oncology practice currently lacks.

Full Name:
Anand Kumar C

Name of the Institution:
Madras Medical College, Chennai

State:
Tamil Nadu

Objective of your solution: (Briefly define the primary outcome of your solution to this challenge):
To address the gap between the innovations of modern Oncology, it's access in our country.

Describe your solution/proposal: Provide a detailed account of your solution/ proposal to this challenge. You could type your solution/ proposal here. (Disclaimer: Solution/proposal should not exceed more than 300 words):

1. Innovations should be indigenous, pragmatic and should be cost effective and be culturally acceptable.
2. Cutting-edge Western innovations should be explored and acquired indigenously by contextual R & D, local validation, and technology transfer.

3. Doctors, scientists, and innovators should be given consistent exposure to cutting-edge technologies through collaborative workshops, conferences, and robust student exchange programs (cross-pollination of surgical and clinical techniques).
4. Interdisciplinary collaboration by basic science researchers and bedside clinicians will ensure innovations are always driven to the patient's needs.
5. Regulatory approval, policy guidelines, lengthy approval process should be streamlined by the government and stakeholders
6. Awareness of the available innovations to the patients should be made available through social media platforms or app-based platforms.
7. An effective risk assessment model for each cancer for screening, incorporating AI
8. Universal treatment guidelines aligning newer innovations, ensuring standardized care in all tiers.
9. Decentralizing care by telemedicine and mobile units
10. Public-private partnership to build comprehensive cancer care units containing advanced molecular labs and regional radiotherapy units.
11. Policy changes to insurance coverage to accommodate newer immunotherapy and CAR T, asct.

Full Name:
Jarfin I M

Name of the Institution:
Gleneagles Health City, Chennai

State:
Tamil Nadu

Objective of your solution: (Briefly define the primary outcome of your solution to this challenge):
To ensure that cancer innovation does not remain a privilege of wealthy patients but becomes a responsibly delivered benefit for every suitable patient.

Describe your solution/proposal: Provide a detailed account of your solution/ proposal to this challenge. You could type your solution/ proposal here. (Disclaimer: Solution/proposal should not exceed more than 300 words):

The access gap exists at many levels: late diagnosis, lack of molecular testing, shortage of trained specialists, uneven radiation facilities, high drug costs, weak referral systems, poor clinical-trial access, and inadequate awareness. In India, innovation often reaches the conference slide before it reaches the ordinary patient.

Bridging this gap needs more than charity. First, every innovation should be assessed for real value: survival gain, quality of life, toxicity, cost and feasibility. Second, Tamil Nadu can strengthen hub-and-spoke oncology care, where tertiary centres guide district hospitals through tele-tumour boards, shared protocols and referral pathways. Third, CMCHIS and public hospitals should prioritize high-value innovations in cancers where benefit is clearly proven.

Molecular testing must become faster and more affordable through validated regional labs. Clinical trials should move beyond metros into government medical colleges with proper ethics, monitoring and patient protection. Real-world Indian registries can identify which innovations truly work in our population.

Roche can help responsibly by supporting testing access, patient-assistance programs, clinician education, registry development and public-private partnerships that are transparent and equity-focused.

Innovation without access is incomplete science. The real success of modern oncology is not discovering a new drug alone, but ensuring that the right patient, whether rich or poor, can receive it with dignity, safety and hope.

Full Name:
Rajarajan

Name of the Institution:
Madurai Medical College, Madurai

State:
Tamil Nadu

Objective of your solution: (Briefly define the primary outcome of your solution to this challenge):
Bridging the gap between innovation and patients in middle- and low-income countries by involving insurance schemes, the government, and NGO sectors.

Describe your solution/proposal: Provide a detailed account of your solution/ proposal to this challenge. You could type your solution/ proposal here. (Disclaimer: Solution/proposal should not exceed more than 300 words):
Though advancements in cancer therapeutics are happening through R & D done by players involved in this field, the innovations are not reaching patients in low- and middle-income countries because of the cost of the drug when it is introduced in the market. It is unaffordable for most of the patients. By approaching the concerned government officials to include such lifesaving drugs in government insurance may make the innovations reach even the lower strata of patients. Other efforts can be taken to involve NGOs involved in cancer in those countries to support the price either partly or in toto.

Full Name:
Himaprathyusha Parupalli

Name of the Institution:
MNJIORCC, Hyderabad

State:
Andhra Pradesh and Telangana

Objective of your solution: (Briefly define the primary outcome of your solution to this challenge):
To extend the reach of a single clinical counselling session beyond the hospital into homes, across districts, and into the ears of every decision-maker in a patient's family by recording it once and making it replayable in local language, offline, by anyone who needs to hear it.

Describe your solution/proposal: Provide a detailed account of your solution/ proposal to this challenge. You could type your solution/ proposal here. (Disclaimer: Solution/proposal should not exceed more than 300 words):

Sahayak: A Vernacular, Audio-First Digital Counselling and Adherence Platform for Oncology Care in Low-Literacy Settings. She was 22, newly married, sitting across from me with a look I can only describe as staring at incomprehension. Her husband, 25, high-risk ALL with CNS spread, needed a bone marrow transplant. I counseled her. She brought his elder brother two days later. I counselled him. Then the village head came. Please tell him also, she said. He will explain to our people. I told the same story three times in one week. Caregivers mishear, misremember, or hand me their phone mid-consultation so I can speak to someone 400 kilometers away. "Sahayak," meaning helper, is a recorded, vernacular, audio-first digital support tool. I record the counselling once, and it goes home as audio in Telugu, Hindi, or whatever language they actually think in. The brother, the village head, the mother-in-law, on a call from another district, hears exactly what I said, in my voice, without distortion from a game of medical telephone. But Sahayak does more. It sends audio instructions for medications—PPIs before food, painkillers after food, chemotherapy diet restrictions. It sends reminders for medications, appointments, and discharge drugs to both patient and caregiver. It sends a red-flag alert when a post-chemotherapy patient reports fever—preventing febrile neutropenia from becoming a death. It tells patients their pathology report takes seven days—so they do not return on day three and leave with nothing. Everything works offline. Sahayak does not replace the doctor. It makes the one conversation we have go further—into homes, across districts, and into the ears of every person whose voice matters in that family's decision.

Full Name:
Mohamed Farook M

Name of the Institution:
Madurai Medical College, Madurai

State:
Tamil Nadu

Objective of your solution: (Briefly define the primary outcome of your solution to this challenge):
Dedicated collaborative forum to share practical operative innovations, refine them through peer feedback, and receive appropriate academic and professional recognition

Describe your solution/proposal: Provide a detailed account of your solution/ proposal to this challenge. You could type your solution/ proposal here. (Disclaimer: Solution/proposal should not exceed more than 300 words):
Problem statement - Many surgeons develop subtle yet highly useful innovative techniques through years of experience, but they often lack the time to publish them, or such techniques may not be accepted by reputed journals. Consequently, these valuable innovations are passed on only to those who train under them and fail to benefit the wider surgical community

Proposed Solution - A dedicated collaborative forum can address this gap by enabling surgeons to share practical operative innovations, refine them through peer feedback, and receive appropriate academic and professional recognition. Such a platform would democratize access to tacit surgical knowledge, preserve valuable experiential techniques, and accelerate the collective advancement of surgical practice worldwide

This can be achieved through a digital, peer-driven platform where surgeons can upload short videos, operative tips, technical modifications, and case-based innovations in a structured format. Submissions can undergo rapid peer review and community discussion, allowing techniques to be refined, validated, and adapted across specialties and resource settings. Features such as expert ratings, citation systems, authorship recognition, and searchable archives would encourage participation and academic credibility. Integration with surgical societies, training programs, and continuing medical education platforms could further enhance

adoption. Such a collaborative ecosystem would preserve experiential knowledge and make practical surgical innovations globally accessible, reproducible, and continuously improvable.

Full Name:
Ananda N S

Name of the Institution:
Kidwai Memorial Institute of Oncology, Bengaluru

State:
Karnataka

Objective of your solution: (Briefly define the primary outcome of your solution to this challenge):
To identify barriers causing disparity between innovation and access in cancer care, and to propose practical and scalable solutions suitable for resource-limited settings.

Describe your solution/proposal: Provide a detailed account of your solution/ proposal to this challenge. You could type your solution/ proposal here. (Disclaimer: Solution/proposal should not exceed more than 300 words):

Problems:

1. Financial Barriers: Out-of-pocket expenditure and lack of insurance coverage.

2. Geographical Inequality: Disproportionate distribution of health care facilities among Metro and Tier 2/3 cities.

3. Workforce Shortage: Lack of a trained workforce to cater to the ever-increasing unmet needs.

4. Delayed Diagnosis and Awareness Gaps: Lack of awareness about disease and screening programmes and social stigma contributes to patients presenting at a later stage, leading to reduced survival rates.

5. Regulatory and Research Gaps: Lack of motivation to conduct clinical trials and complexity involved in the Regulatory approval of new drugs create a widening gap that keeps the best of the world away from the rest of the world.

Solutions:

1. Strengthening Public Health Financing: To push Ayushman Bharat to include targeted and immunotherapy. Bulk procurement and donations through CSRs and negotiated prices can help in cutting costs.

2. Encouraging Biosimilars and Indigenous Innovation: Make in India- Biosimilars can avoid the need for expensive imported medical therapies.

3. Decentralized Cancer Care: A “Hub-and-spoke” model reduces load on tertiary centres. Tele-Oncology services can be used to monitor spoke centres. A recent Karnataka Government initiative in setting up a day-care spoke centre in each district exemplifies this.

4. Early Detection and Awareness: Training ASHA workers and PHC doctors aids in proper screening

and prompt referral for early diagnosis.

5. Workforce Development: Increasing both quality and quantity among health workers related to oncology.

6. Expanding Indian Clinical Research: To maintain Indian cancer registries and Multicentric RCTs to promote clinical research.

7. Industry-Supported Access Programs: Free or subsidized molecular testing (e.g., LuNGS Alliance supported by AstraZeneca, Pfizer, and Roche) and patient assistance or starter-dose programs (e.g., Prarambh scheme by Samarth Life Sciences) can improve affordability and access to advanced cancer care in resource-limited settings.

8. Clinical Trial-Based Access: Ethically conducted biosimilar trials can provide voluntary, consenting patient access to newer molecules.

Full Name:
Rishika Goyal

Name of the Institution:
Kidwai Memorial Institute of Oncology, Bengaluru

State:
Karnataka

Objective of your solution: (Briefly define the primary outcome of your solution to this challenge):
Innovations in the field of oncology are holding no boundaries, and every changing day, newer innovations are raising the horizons, heralding the onset of improvement in cancer survival. These advancements range from diagnostics to therapeutics. The notable mentions in this latest decade are the advent of target-based therapy, immune therapy, transforming dynamics into molecular diagnostics, and the recent inception of CAR-T cell-based therapy.
The major impediments for low- and middle-income countries like India remain whether ever-increasing advancements can ever realistically be brought within the reach of the general cohort of patients
The prime objective is to develop a nationwide tailored blueprint that ensures breakthroughs in oncology extend beyond the conventional centres and reach the broader patient base across variable regional backgrounds. This approachability should be independent of one's longevity or access, should not depend on where a patient lives or purchasing power parity, but should solely depend on one's clinical eligibility

Describe your solution/proposal: Provide a detailed account of your solution/ proposal to this challenge. You could type your solution/ proposal here. (Disclaimer: Solution/proposal should not exceed more than 300 words):
Gaps: Multi-domain failure in oncology care culminated in several gaps

1. **Diagnostic roadblock**: The First Barrier Appears Before Treatment Starts. The inception of diagnosis in contemporary oncology if being driven by biomarkers, which are either very expensive or clustered in a few metropolitan centres. These are outside the preview of common patients and, even when performed, cause marked depletion of financial resources at the very early phase of diagnosis itself, thereby creating a huge barrier to optimum treatment care. Legitimate patients are never being diagnosed and hence never being considered for novel treatment modalities.
2. **The financial burnout:** A large number of patients in LMICs like India fail to initiate or continue their treatment due to being overpowered by financial constraints. This results in soundless relinquishment of the treatment and silent acceptance of poor outcomes.
3. **Lack of structured financial care ecosystem**: There are multiple financial assistance schemes and programs being driven by the government at the state and national levels, apart from multiple philanthropic activities and NGO support systems. But these are well scattered and function

independently of each other. Often, navigating multiple schemes or proving one's eligibility itself becomes too complex for the patient.

4. **Spatial inequality in innovation**: Most of the time, advanced oncology care is provided by the apex centres in India or large-scale tertiary centres of a state. In a country like India, where 70% of the population comes from a rural background, they often encounter delayed diagnosis at the local level, delayed referral to the nodal centre, travel expenditure and lodging costs, which further adds up to a heavy toll.
5. **Reliance on externally sourced innovations**: India relies heavily on foreign-sourced drugs and diagnostics, which always widens the gap between healthcare and lower purchasing power

Solution

1. Formation of ONCO-SAARTHI

Every newly diagnosed cancer patient should be linked to an ONCO-SAARTHI unit led by a trained junior doctor, oncology nurse, or social care worker. Once the medical oncologist establishes the diagnosis, determines the need for biomarker testing, and finalizes the treatment plan, the patient is handed over to the ONCO-SAARTHI pathway.

The role of ONCO-SAARTHI is not to make clinical decisions but to ensure that innovation reaches eligible patients without delay. The unit would streamline biomarker testing, screen patients for clinical trial enrolment, identify eligibility for novel therapies, activate appropriate financial support mechanisms, and track treatment compliance and follow-up. This prevents patients from getting lost in a fragmented healthcare system.

2. Cancer UPI System

India transformed digital payments through UPI by bringing multiple platforms into one ecosystem. A similar approach can be adopted for cancer care financing.

A unified Cancer UPI platform should integrate government schemes, insurance providers, patient assistance programs, NGOs, CSR initiatives, and philanthropic funding. Once a treatment plan is generated, the system automatically identifies and activates the most suitable financial pathway, reducing delays and improving treatment initiation.

3. Hub-and-Spoke Oncology Network

Cancer care should adopt a hub-and-spoke model similar to stroke care networks. Apex cancer centres act as hubs for treatment planning, protocol development, and specialist guidance, while peripheral centres deliver treatment under supervision through tele-oncology platforms.

This model improves access to advanced therapies, reduces travel burden, minimizes diagnostic delays, and brings quality cancer care closer to patients' homes.

4. Sustainable Affordability and Innovation

Affordability should extend beyond price discounts through outcome-based pricing, pooled procurement, rational dosing strategies, and validated shorter treatment schedules. Simultaneously, India must strengthen indigenous innovation through biosimilars, local CAR-T manufacturing, academia-industry partnerships, and regional manufacturing hubs, ensuring long-term access to advanced cancer therapies at affordable costs.

Full Name:
Mahathi G

Name of the Institution:
Kidwai Memorial Institute of Oncology, Bengaluru

State:
Karnataka

Objective of your solution: (Briefly define the primary outcome of your solution to this challenge):
The Oslo Manual 2018 defines innovation as a new or improved product or process (or combination thereof) that differs significantly from the unit's previous products or processes. In cancer, innovation spans diagnostics, treatment, community reach, and real translational medicine, which involves translating breakthroughs in the lab into documented improvements in patient care across various economic strata. Innovation cannot result in Dollar 300,000 CAR-T cell treatments for those at the bottom of the economic pyramid. Innovation must entail democratizing prices, streamlining processes, and delivering tertiary care to remote communities.
After a few unbiased curbside conversations with patients and attenders, I uncovered a few intricacies. The prevalent two-tier oncological care - where access to innovation is available only to the affluent- should be overcome by an LMIC like India by watering our home turf rather than looking up to HICs for passed-down knowledge.

Describe your solution/proposal: Provide a detailed account of your solution/ proposal to this challenge. You could type your solution/ proposal here. (Disclaimer: Solution/proposal should not exceed more than 300 words):
Pharmaceutical companies adhering to the NMC guidelines requiring compulsory internships in the curriculum of MD Pharmacology should absorb promising trainees into the company, tying up resources with academic institutes that harbor the intellect.
An online/offline consortium encouraging brainstorming among clinical researchers from LMICs would lead to more relatable and tangible benefits due to similarities in the prevalence of cancers, economic, and political perspectives.
Cross-subsidization is a win-win for all classes. The fundamental novelty is that it commoditizes ease and luxury rather than clinical safety. The diagnostic equipment, surgical instruments, chemotherapeutic drugs, and clean operating rooms are the same for a millionaire and a migrant worker.
In an LMIC, fund allocation to research needs to be strategic. Cancer registries and real-world evidence lend a helping hand to prioritise research on cancers which are overlooked in HICs due to lower prevalence. This helps avoid overselling precision medicine.
Value-based pricing and risk-sharing models link the high cost of cutting-edge cancer medicines to their clinical performance, protecting India's "Missing Middle" class from disastrous medical costs. Pharmaceutical companies provide medications via these controlled access programs at reduced prices or cover all costs if the patient doesn't meet predetermined clinical or radiological benchmarks.
Networking programmes to encourage knowledge sharing among academic scientists, clinicians, and the pharma industry, thus making the collaboration between industry and academia concurrent rather than sequential.
In multicentre clinical trials, informed consent in India shows lower quality compared with HICs, with higher refusal rates, inadequate understanding, and therapeutic misconception.
Decentralisation of recruitment by telemotoring with the aid of artificial intelligence to disseminate expertise, and task shifting by appropriate training of mid-level health care workers to intensify community awareness about clinical trials are promising avenues to support precision oncology efforts remotely.
The typical wait period for a biosimilar to appear in the Indian market after patent expiry is 2-4 years. Trastuzumab appeared earlier (6m-12m) because companies had already started working on the molecule before patent expiry. Pharmaceutical companies should encourage more such efforts.

Full Name:
Livin T

Name of the Institution:
Madurai Medical College, Madurai

State:
Tamil Nadu

Objective of your solution: (Briefly define the primary outcome of your solution to this challenge):
Pushing trial access down to regional centers suddenly gives our poorer patients a shot at cutting-edge therapies long before commercial launch. We also need to heavily back our domestic biosimilar production to finally drag those ridiculous drug prices back down to earth.

Describe your solution/proposal: Provide a detailed account of your solution/ proposal to this challenge. You could type your solution/ proposal here. (Disclaimer: Solution/proposal should not exceed more than 300 words):
Sitting in a multidisciplinary tumor board reviewing flawless survival curves from the newest ESMO trials is honestly a deeply frustrating exercise. You know exactly what a novel targeted agent could do for a specific prognosis. But then you step out onto the actual clinic floor. The brutal financial reality of our patients completely derails science. The gap between global oncology innovation and what we can realistically offer a family here in Tamil Nadu is frankly staggering.

A breakthrough biologic gets stamped right into the NCCN guidelines. But it usually costs way more than what a local patient will earn in a whole decade. The disconnect isn't purely about buying expensive drugs, either. Simply getting the upfront molecular sequencing done to even hunt for targetable mutations is a massive logistical nightmare.

But how do we practically fix this massive disconnect? We really need to overhaul how clinical trials operate in this country. Right now, all the major trial arms are heavily gatekept by massive corporate hospitals in tier-one cities. We have to aggressively decentralize those hubs. Pushing trial access down to regional centers suddenly gives our poorer patients a shot at cutting-edge therapies long before commercial launch.

And we desperately need state authorities to start playing hardball with pharma. We must force them into strict outcome-based pricing contracts. Because if a highly touted neoadjuvant biologic fails to downstage a mass enough for me to pull off a clean R0 resection in the OR, our health infrastructure absolutely shouldn't be paying the premium rate. We also need to heavily back our domestic biosimilar production to finally drag those ridiculous drug prices back down to earth.

Full Name:
Ashritha Reddy

Name of the Institution:
Mahatma Gandhi Cancer Institute, Visakhapatnam

State:
Andhra Pradesh and Telangana

Objective of your solution: (Briefly define the primary outcome of your solution to this challenge):
Problem Statement: Cancer care in India is fragmented across diagnosis, treatment, and follow-up, leading to delayed decisions, incomplete records, poor coordination, and loss to follow-up, especially when patients move between diagnostic centres, surgical units, chemotherapy, radiotherapy, and palliative services.

There is no unified digital system for longitudinal tracking of cancer patients across the care continuum.

The objective is to develop a dedicated cancer care portal for cancer centres that supports end-to-end patient tracking from suspicion and diagnosis through treatment, recurrence surveillance, and long-term follow-up, enabling standardized documentation, real-time care coordination, treatment milestone monitoring, and analytics to improve continuity, quality, and outcomes.

Describe your solution/proposal: Provide a detailed account of your solution/ proposal to this challenge. You could type your solution/ proposal here. (Disclaimer: Solution/proposal should not exceed more than 300 words):

I propose to develop a dedicated digital cancer care portal for cancer centres that functions as a longitudinal patient tracking and workflow management platform across the full continuum of care, from first suspicion and diagnosis to treatment, recurrence surveillance, survivorship, and end-of-life care.

The portal will create a single longitudinal cancer record for each patient, capturing demographics, referral source, risk factors, pathology, staging, imaging, biomarkers, multidisciplinary treatment plans, surgery, chemotherapy, radiotherapy, toxicities, response assessment, and follow-up outcomes. It will include role-based access for clinicians, pathologists, surgeons, radiation oncologists, nurses, navigators, and administrators to ensure coordinated care across departments and centres.

The platform will function as an operational care system, not merely a registry. Key features will include structured case registration, standardized documentation templates, treatment milestone tracking, missed-visit and interruption alerts, referral and transfer tracking, survivorship monitoring, and real-time dashboards for centre- and programme-level reviews. Evidence from cancer reporting workflow redesign shows that improved information sharing and workflow optimization can significantly reduce reporting delays, supporting the value of a live digital system.

The proposed portal will also support tele-oncology, audit, quality improvement, and analytics for indicators such as time to diagnosis, treatment initiation, completion rates, interruptions, recurrence, and loss to follow-up. By improving continuity, accountability, and data-driven decision-making, this solution can strengthen quality and outcomes in cancer centres, especially where care is fragmented across multiple facilities.

Full Name:
Kiran Narayan Chavan

Name of the Institution:
Regional Cancer Centre, Thiruvananthapuram

State:
Kerala

Objective of your solution: (Briefly define the primary outcome of your solution to this challenge):

Science has run far ahead of our ability to deliver it. Checkpoint inhibitors, antibody-drug conjugates, CAR-T and precision diagnostics are genuinely changing outcomes, but the patients who stand to gain most are usually the ones who never reach them. The reasons are stacked on top of one another. A course of a modern agent, or a single NGS panel or PET-CT, can cost more than a family earns in a year, and close to two-thirds of cancer spending in India still comes straight out of the patient's pocket. Care sits in a handful of city hospitals while most of our patients live in districts and villages with no oncologists within reach. Approvals and reimbursement lag; our patients are barely represented in the trials that set global practice, and many present late simply because nobody told them what to look for. Left like this, each breakthrough only widens the gap.

Describe your solution/proposal: Provide a detailed account of your solution/ proposal to this challenge. You could type your solution/ proposal here. (Disclaimer: Solution/proposal should not exceed more than 300 words):

No single lever fixes this, and price cuts alone certainly will not. On affordability, we can push differential pricing tied to what people can actually pay, widen patent pools, and use compulsory licensing when a needed drug is held out of reach, but our strongest card is domestic manufacturing. Indian biosimilars of trastuzumab, rituximab and bevacizumab already cost a fraction of the originator, and pooled procurement through the National Cancer Grid has shown it can drive prices lower still.

Coverage matters as much as price: Ayushman Bharat PM-JAY and state funds like Kerala's Karunya must clearly pay for molecular diagnostics, biosimilars and targeted drugs, because a therapy gated behind an unfunded test is no therapy at all.

For delivery, a hub-and-spoke network of tertiary centres such as RCC Thiruvananthapuram or Tata Memorial supervising district units and mobile clinics, linked by tele-oncology, can bring treatment and toxicity monitoring closer to home, with AI-assisted pathology and low-cost imaging filling the diagnostic gaps. None of these holds without people, so we must expand DM and DNB training, shift low-risk drug administration to trained nurses, and give specialists real reasons to serve in district hospitals.

We also have to generate our own evidence: pragmatic, low-cost trials in Indian patients, of the kind Tata Memorial has built a reputation for, and stronger registries to guide policy. Awareness closes the loop: ASHA workers, Kudumbashree and faith networks, and survivor volunteers can carry screening and basic cancer literacy into places no formal campaign reaches.

An innovation is worth only as much as the system that delivers it, and building that system is the real task.

Full Name:
Shashanka K S

Name of the Institution:
Manipal Hospital, Bengaluru

State:
Karnataka

Objective of your solution: (Briefly define the primary outcome of your solution to this challenge):

Oncology is a rapidly evolving branch of medicine. Newer agents like targeted therapy, immunotherapy, bispecifics, CAR T cell therapies, and newer interventions have changed the outcomes. Many cancers in recent times have become chronic diseases from high-mortality diseases; however, the realistic challenge remains in making these innovations accessible to the majority of the population.

Describe your solution/proposal: Provide a detailed account of your solution/ proposal to this challenge. You could type your solution/ proposal here. (Disclaimer: Solution/proposal should not exceed more than 300 words):

Solution:

Innovation and accessibility gaps need to be bridged through addressing 3 main issues: affordability and availability, awareness, and caretaker support.

1) Affordability and availability:

- The richest patients in India get treated at corporate hospitals, and the poorest in regional cancer centers and Govt hospitals; both are two different worlds. Hospitals and doctors' bodies of the hospital should set up a committee to approach the affluent patients with the help of the treating doctor to be part for donations /fund raiser events. Raised funds should be utilized for treatment of a set of suitable unaffordable patients through the hospital. If one corporate hospital starts the initiative, other hospitals are likely to initiate similar programs to gain goodwill and credibility from the general public and society.

- Advocacy for the need for an increase in the health budget: Ultimate factor, which often takes a back seat. Doctor bodies should independently do a critical analysis of the health care spending and budget in public platforms like news and social media. Pressurizing the Govt and spreading awareness to the general public, in the long run, may have effects on an increase in health care spending by the Govt.
- Regulations on health insurance providers to prevent dark patterns of rejections and include newer therapies in schemes.
- Encouraging local manufacturing: India today is a global hub of pharmaceutical manufacturing and innovation, as well as a huge market. Subsidies for local manufacturers of medicine and health care equipment should be provided. Negotiations of prices with pharma companies at the administrative level need to be done for better PAPs for the accessibility of a huge market like India.
- Encouragement of biosimilars and patent waiver: need acceptable patent waiver laws, coordination with international organizations regarding the same.
- Improving facilities at Govt hospitals will force corporate and private hospitals to compete for lower pricing, which in turn makes healthcare more accessible.

2) Awareness:

- Updating and training doctors in newer innovations through fellowships, certificate programs, and CME so newer innovations are offered to the patients.
- Increasing awareness in the general public regarding advances in oncology through social media and print media helps to seek and access these innovations.

3) Caregiver issues:

- Lack of family/ caretaker support is already a major crisis in many places and likely to increase in the coming years. Through service startup initiatives to provide a caretaker to accompany when family members are not available, the treatment of individuals is not affected.

Full Name:
Sathyaraj P

Name of the Institution:
Madurai Medical College, Madurai

State:
Tamil Nadu

Objective of your solution: (Briefly define the primary outcome of your solution to this challenge):
Early integration of companion diagnostics into reimbursement pathways, reducing the lag between drug approval and patient access.

Describe your solution/proposal: Provide a detailed account of your solution/ proposal to this challenge. You could type your solution/ proposal here. (Disclaimer: Solution/proposal should not exceed more than 300 words):
Cancer treatment has never been more sophisticated. Immunotherapy, targeted agents, CAR-T- the pipeline is genuinely extraordinary. But here's the uncomfortable truth: most patients globally will never see these treatments. Not because they don't exist, but because the systems meant to deliver them simply weren't built for equitable reach.
The gaps are structural, not incidental. High-income countries absorb the bulk of novel approvals: pembrolizumab, olaparib, trastuzumab deruxtecan, while LMICs struggle to reliably stock basic platinum-based regimens. ESMO's MCBS and NCCN's tiered Evidence Block framework both attempt to contextualize value, yet neither resolves the downstream problem of affordability or infrastructure.

And the infrastructure deficit is often underestimated. Precision oncology requires molecular diagnostics, cold-chain logistics, and trained pathologists. Even where drugs exist, these prerequisites frequently don't.

Japan's universal health coverage model offers something instructive. Early integration of companion diagnostics into reimbursement pathways reduces the lag between drug approval and patient access. That model doesn't transplant cleanly elsewhere, but the principle does.
Novel approaches worth serious consideration include tiered licensing agreements that compel manufacturers to price-differentiate by national income level. The Medicines Patent Pool has demonstrated this is feasible in HIV oncology lags without strong justification. Biosimilar acceleration, particularly for trastuzumab and bevacizumab, has meaningfully reduced costs in several middle-income markets. But regulatory harmonization across regions remains sluggish.
Clinician-researchers also carry responsibility here. Trial design that excludes low-resource settings produces data that doesn't generalize. Embedding pragmatic arms into cooperative group trials with endpoints relevant to limited-resource practice is overdue.
Ultimately, the gap isn't primarily scientific. It's political, economic, and structural. Innovation without access is, in oncology, a half-finished sentence.

Full Name:
Devarakonda Srujana

Name of the Institution:
Kidwai Memorial Institute of Oncology, Jayanagar

State:
Karnataka

Objective of your solution: (Briefly define the primary outcome of your solution to this challenge):
As a medical oncology resident in a tertiary cancer center, I see patients with lung, breast, and gastrointestinal cancers who are eligible for targeted therapies or immunotherapy. However, many never take these because the required companion diagnostic tests (NGS, PCR, IHC, PD-L1, HER2, ALK, EGFR) are either unavailable, unaffordable, or delayed.

Many patients are unable to benefit from modern treatments such as ICIs, ADCs, and targeted therapies because of high costs and limited insurance coverage. Currently, only 2.83% of eligible patients with lung, head-and-neck, and other common cancers receive immunotherapy. Although diagnostics account for only a proportion of overall cancer costs, limited access to testing delays treatment and affects outcomes.
While innovative therapies are increasingly available in India, access remains restricted. Patients often spend weeks navigating referrals and arranging tests, leading to delayed treatment initiation, disease progression, and missed opportunities for precision therapy. Thus, the true barrier is not merely the cost of drugs but the absence of a coordinated diagnostics-to-treatment pathway.
The aim is to create a Diagnostics-to-Therapeutics Access Pathway (DTAP), integrating companion diagnostics with treatment access through public-private partnerships, reducing treatment delays to less than 30 days, and improving access to innovative therapies for patients with advanced cancers.

Describe your solution/proposal: Provide a detailed account of your solution/ proposal to this challenge. You could type your solution/ proposal here. (Disclaimer: Solution/proposal should not exceed more than 300 words):

KEY GAPS:

1. The Financial Toxicity: Public insurance schemes mainly cover hospitalization expenses and often do not adequately reimburse costly drugs, which contribute substantially to out-of-pocket spending. Pembrolizumab and Nivolumab can cost 2–6 lakh per treatment cycle, while Enhertu (trastuzumab deruxtecan) costs approximately 1.5–1.6 lakh per 100 mg vial, limiting access to these potentially life-saving treatments.

2. AB-PMJAY currently allocates only Rs. 7,700 crore per year for cancer care, creating a funding gap. The scheme's Rs. 5 lakh annual family coverage limit is often not sufficient for patients with advanced cancer (1)

3. Precision oncology depends on companion diagnostics (CDx) (2) to identify biomarkers. But they are not covered under public insurance schemes. In addition, many public and tier-2/3 hospitals lack advanced molecular testing and face challenges related to equipment costs, reagent expenses, and limited financial support for laboratory upgrades.

TO BRIDGE THE GAPS:

1. Transitioning to a "Revolving Ceiling": As highlighted by the AIIMS Delhi FinCan study (3), transitioning from the Rs. 5 lakh annual cap to a five-year of Rs. 25 lakh per family would allow treatment costs to be absorbed during critical first-year therapies. Additionally, introducing a Rs. 10 lakh top-up specifically earmarked for the 30% to 37% of patients diagnosed with advanced high-stage cancers would enable sustainable access to targeted biologics.

2. Expanding Diagnostic Public-Private Partnerships (PPPs) (4): Public centres can partner with private diagnostics through reagent-rental or pay-per-test models, allowing advanced molecular testing platforms to be installed without upfront investment by the hospital. The hospital pays only for each test performed, making companion diagnostics more affordable and accessible. Similar models have been successfully implemented at Homi Bhabha Cancer Hospital and AIIMS Mangalagiri.

3. The National Health Authority can improve access to innovative therapies by negotiating pricing, volume-based discounts, and state-level pricing agreements with pharma companies.

4. By linking these to HTA. In cost-effectiveness assessments, the prices of high-cost patented drugs can be reduced to levels that are more affordable for the public. This would help make innovative treatments accessible to more patients while ensuring the long-term sustainability of government-funded healthcare schemes.

5. Hub-and-Spoke Precision Oncology Network: Create District Cancer Centers (sample collection), Regional Molecular Hubs (testing), National Reference Centers (quality assurance). Samples from smaller hospitals are transported to accredited hubs with a guaranteed turnaround time of less than 10 days

6. Digital Oncology profile: Every patient receives a digital molecular profile linked to ABDM. The report follows the patient across hospitals, prevents repeat testing, and automatically flags eligible targeted therapies.

7. One-Day Cancer Access Clinic (ODAC): Create a dedicated weekly clinic which includes: Pathology/molecular testing review, financial counselling and PM-JAY verification, Pharmacy assessment, Treatment scheduling - where all steps required for starting innovative therapy are completed in a single visit, thereby reducing treatment delays, decreasing travel costs, improving compliance, reducing loss to follow-up.

8. The Rs. 10,000 crore BIOPHARMA SHAKTHI INITIATIVE (5) aims to strengthen India's capacity to develop biologics, biosimilars, and research infrastructure, reducing dependence on costly imported cancer therapies.

9. Weekly virtual tumor boards linking experts from apex centers to district oncologists.

References:

1. Ayushman Bharat Boosts Cancer Care Access But Needs Major Budget Increase, Finds Study [Internet]. [cited 2026 May 31]. Available from: https://www.ndtv.com/health/ayushman-bharat-boosts-cancer-care-access-but-needs-major-budget-increase-finds-study-11218527.

2. Noah AI [Internet]. [cited 2026 May 31]. Precision Medicine in High-Burden Cancers: Molecular Innovation Amid Persistent Access and Outcome Disparities. Available from: https://www.noah.bio/insight/2b55463e-b999-4c90-a05c-d4262a105965.

3. Omnicuris [Internet]. [cited 2026 May 31]. Ayushman Bharat Cancer Coverage: Future Reform Needs. Available from: https://www.omnicuris.com/medshots/daily_updates/ayushman-bharat-cancer-coverage-fincan-study

4. Oncology Companion Diagnostics Market | Global Market Analysis Report - 2036 https://www.factmr.com/report/oncology-companion-diagnostics-market

5. Drishti IAS [Internet]. [cited 2026 May 31]. Biopharma SHAKTI Scheme. Available from: https://www.drishtiias.com/daily-updates/daily-news-analysis/biopharma-shakti-scheme

---

Full Name:
Jagga Sankakp Harish

Name of the Institution:
Kidwai Memorial Institute of Oncology

State:
Tamil Nadu

Objective of your solution: (Briefly define the primary outcome of your solution to this challenge):

- To identify key barriers that limit patient access to innovative cancer diagnostics, therapies, and technologies, particularly in resource-constrained settings.
- To evaluate practical and scalable strategies for improving affordability, accessibility, and equitable delivery of cancer innovations.
- To develop a framework that integrates technology, policy, collaboration, and local evidence generation to ensure that advances in cancer care benefit a larger patient population

Describe your solution/proposal: Provide a detailed account of your solution/ proposal to this challenge. You could type your solution/ proposal here. (Disclaimer: Solution/proposal should not exceed more than 300 words):

Cancer care has witnessed remarkable innovations over the past two decades, including targeted therapies, immunotherapy, precision oncology, molecular diagnostics, liquid biopsies, robotic surgery, AI-driven decision support, and advanced radiation techniques. However, the benefits of these innovations are not equally available to all patients, particularly in low- and middle-income countries (LMICs) such as India. Bridging the gap between innovation and access is essential to ensure equitable cancer care and improved outcomes.

Key Gaps in Access to Cancer Innovations

1. Financial Barriers: Many innovative therapies, including immunotherapy, CAR-T cell therapy, and next-generation sequencing (NGS), remain prohibitively expensive. High out-of-pocket healthcare expenditure limits access for many patients.

2. Diagnostic Inequity: Precision oncology depends on molecular testing, but advanced diagnostics are concentrated in urban tertiary centers. Many patients never receive biomarker testing required for targeted therapies.

3. Geographic Disparities: Specialized oncology services are often unavailable in rural and remote areas, leading to delayed diagnosis and treatment.

4. Workforce and Expertise Gaps: There is a shortage of trained oncologists, molecular pathologists, genetic counselors, and oncology nurses, limiting the adoption of advanced therapies.

5. Clinical Trial Accessibility: Most global clinical trials are conducted in high-income countries, resulting in limited participation of Indian and other LMIC populations. This creates gaps in evidence

generation and delays access to novel therapies.

6. Regulatory and Reimbursement Challenges:

- Slow approval processes, lack of reimbursement mechanisms, and inconsistent insurance coverage delay patient access to innovative treatments.
- Novel Ways to Bridge the Gap
- Resource-Stratified Innovation: Develop treatment guidelines adapted to different resource settings rather than adopting a single universal standard. This allows evidence-based care even when resources are limited.
- Expansion of Generics and Biosimilars: Encouraging local manufacturing of biosimilars and generic oncology drugs can significantly reduce treatment costs while maintaining efficacy.
- Hub-and-Spoke Cancer Networks: Establish regional cancer centers linked to peripheral hospitals through tele-oncology platforms, enabling expert consultation without requiring patient travel.
- AI and Digital Health: AI-based tools can assist in diagnosis, treatment planning, toxicity prediction, patient monitoring, and identification of clinical trial candidates, helping extend specialist expertise to underserved areas.
- Molecular Tumor Board Networks: Virtual molecular tumor boards can connect community oncologists with experts in genomics, pathology, and precision medicine, improving access to personalized treatment recommendations.
- Decentralized Clinical Trials: Conducting community-based and decentralized clinical trials can increase patient participation, generate local evidence, and improve access to emerging therapies.
- Public-Private Partnerships: Collaboration among governments, industry, academic institutions, and non-governmental organizations can improve infrastructure, diagnostic availability, and funding for innovative treatments.
- Value-Based Cancer Care: Adopt reimbursement models that reward meaningful clinical outcomes rather than treatment volume, ensuring sustainable use of expensive therapies.
- Strengthening Screening and Early Detection: The most cost-effective innovation remains early diagnosis. Investment in screening programs, awareness campaigns, and risk-based surveillance can significantly improve survival while reducing treatment costs.

  The biggest challenge is not the lack of innovation but the unequal distribution of innovation. Future cancer care should focus on democratizing innovation, ensuring that advances in diagnostics, drugs, and technology reach patients regardless of geography or socioeconomic status. Innovation should be judged not only by scientific breakthroughs but also by how many patients can realistically benefit from them. A combination of affordable diagnostics, AI-enabled care, tele-oncology, biosimilars, and locally generated evidence can help transform cancer care from being innovation-rich but access-poor to truly equitable and patient-centered.

Full Name:
Thapashwi B G

Name of the Institution:
Sri Shankara Cancer Hospital & Research Centre

State:
Karnataka

Objective of your solution: (Briefly define the primary outcome of your solution to this challenge):
Dr. M practices alone in a district hospital in central India. A 46-year-old woman arrives with a rare salivary-gland carcinoma carrying an unusual molecular profile. The NCCN guideline offers no clear path; the nearest

tumour board is 400 km away, and the few published cases are in patients nothing like hers. She will be treated as a best guess. Meanwhile, an oncologist in Mumbai treated an almost identical patient last year, but Dr. M has no way to know that. India treats over 1.4 million new cancer patients a year across centres that never share what they learn, and for the roughly 1,500 oncologists, this collective experience is invisible at the moment of decision. We have cases. We have no shared memory.

Describe your solution/proposal: Provide a detailed account of your solution/ proposal to this challenge. You could type your solution/ proposal here. (Disclaimer: Solution/proposal should not exceed more than 300 words):
I propose OncoPool, a national practitioner-contributed evidence AI platform (an 'OpenEvidence for India') that bridges the gap between apex centre experience and the periphery.

1. Contribute and categorize: Participating oncologists submit de-identified case records; the system structures them and clusters patients by site, stage, molecular profile, regimen and outcome, building a searchable map of real Indian practice.
2. Ask at the point of care: A clinician describes a patient in plain language and OncoPool LLM returns similar prior cases, what was done, by whom, how the patient fared, and with the relevant NCCN/ESMO guidance and published evidence, so global literature and real Indian experience appear together.
3. Bridge expertise, not just drugs: A district oncologist gains, in seconds, access to how the country's collective practice handled a near-identical patient, narrowing the urban-rural quality gap that no drug access scheme touches.
4. Governance and trust: De-identification, consent, and tiered access protect patients. Contributions are academically credited to build incentives, and specialty panels curate content to prevent misinformation.
5. Phased build: Pilot within one existing network (e.g. the National Cancer Grid's member centres) before national scale-up, funded through NCG/government/CSR rather than new infrastructure.

Unlike data warehouse proposals, OncoPool's LLM is built for the bedside decision, not the analyst, turning 1.4 million annual cases from forgotten records into a shared, queryable national memory.

Full Name:
Joshua John Uzagare

Name of the Institution:
Christian Medical College, Vellore

State:
Tamil Nadu

Objective of your solution: (Briefly define the primary outcome of your solution to this challenge):
To ensure every patient receiving fluoropyrimidine chemotherapy in India has access to biologically guided dosing, irrespective of geography/treatment setting. PRAGATI (Precision Risk Assessment Guided Approach for Therapy Individualization) aims to establish a nationally scalable precision-dosing framework using dried blood spot-based DPD phenotyping to identify patients at high risk of severe toxicity, enable risk-stratified treatment initiation, and improve treatment efficacy. By reducing severe toxicity, financial and time toxicity, and barriers to specialized testing, PRAGATI seeks to increase access to personalized cancer care across India, with the opportunity for future expansion to other anticancer therapies.

Describe your solution/proposal: Provide a detailed account of your solution/ proposal to this challenge. You could type your solution/ proposal here. (Disclaimer: Solution/proposal should not exceed more than 300 words):
PRAGATI (Precision Risk Assessment Guided Approach for Therapy Individualization) is a decentralized precision-dosing framework developed to make safer fluoropyrimidine (FP) therapy accessible across India.

Up to 35% of patients experience severe FP toxicity (1). Pretreatment DPYD genotyping is recommended, but applicability is limited by cost, availability, and the ability to predict only a minority (~5%) of Actionable toxicity events (2). DPD phenotyping using Uracil and Uracil/Dihydrouracil (U/UH2) provides a direct functional assessment of FP metabolism, is cheaper (5×) and faster (7× shorter TAT) than genotyping, but is limited by complex sample-handling requirements (3,4). PRAGATI leverages dried blood spot (DBS) to overcome these barriers and improve access to biologically guided dosing.

A simple (50 µl) venous DBS sample can be collected at any oncology center and transported via existing postal/courier networks to regional LC-MS/MS laboratories without necessitating rapid plasma processing or cold-chain infrastructure. This will provide access to biologically guided fluoropyrimidine dosing without traveling to specialized centers for patients treated in resource-limited settings. Evidence supporting DBS stability and feasibility was presented at the IATDMCT 2025 conference (5).

Using validated uracil thresholds, patients can be stratified before treatment initiation according to toxicity risk. Data from our center have shown a strong association between elevated pretreatment uracil levels and severe toxicity, while many toxicity events were not identified by DPYD genotyping alone (6). High-risk individuals may receive individualized starting doses, followed by fluoropyrimidine therapeutic drug monitoring (TDM) by the same DBS platform to reduce severe fluoropyrimidine-related toxicity, prevent avoidable hospitalizations, and enable exposure-guided dose optimization during subsequent treatment cycles to improve efficacy while reducing toxicity (7).

By reducing financial and time toxicity, treatment-related morbidity, and dependence on centralized testing infrastructure, PRAGATI offers an affordable, scalable, and patient-centered solution that can bring precision fluoropyrimidine therapy to every patient/cancer center in India. The same framework could subsequently be expanded to other anticancer therapies, creating a foundation for accessible precision oncology nationwide.

References:

1. Nalder M, et al. Routine, prospective DPYD genotyping guided dose-individualisation for patients receiving fluoropyrimidines. J Clin Oncol. 2024;42(16 Suppl):12121. DOI: 10.1200/JCO.2024.42.16_suppl.12121

2. Amstutz U, et al. CPIC Guideline for DPD genotype and fluoropyrimidine dosing. Clin Pharmacol Ther. 2018;103:210-216. DOI: 10.1002/cpt.911

3. Laures N, et al. Impact of uracil-based DPD phenotyping on reducing severe fluoropyrimidine toxicity. Pharmaceutics. 2022;14:2119. DOI: 10.3390/pharmaceutics14102119

4. Maillard M, et al. Impact of pre-analytical processes on plasma uracil testing for DPD deficiency. Br J Clin Pharmacol. 2023;89:762-772. DOI: 10.1111/bcp.15536

5. Vandenbroucke K, Stepman H, Stove C. Capillary dried blood microsampling is not suited for DPD phenotyping. Clin Chem Lab Med. 2026. DOI: 10.1515/cclm-2026-0146

6. Uzagare JJ, John AO, Singh A, et al. A two-step pre-treatment screening strategy combining enzyme phenotyping and targeted DPYD genotyping. J Clin Oncol. 2026;44(Suppl 19):306. DOI: 10.1200/JCO.2026.44.19_suppl.306

7. Launay M, Schmitt A, Ciccolini J. Bringing 5-FU monitoring home: microsampling as the next step beyond DPD deficiency screening. Expert Opin Drug Metab Toxicol. 2026;22:1-3. DOI: 10.1080/17425255.2026.2615387

Full Name:
Pavitra Hegde

Name of the Institution:
Regional Cancer Centre, Thiruvananthapuram

State:
Kerala

Objective of your solution: (Briefly define the primary outcome of your solution to this challenge):
"MATCH India-Matched Access Through Coordinated Hematopoietic Transplantation in India". To bridge the gap between innovation and access in cancer care by ensuring that every transplant-eligible patient in India has timely access to allogeneic stem cell transplantation through early donor identification, expansion of matched unrelated donor (MUD) registries, public awareness initiatives, and financial support systems.

Describe your solution/proposal: Provide a detailed account of your solution/ proposal to this challenge. You could type your solution/ proposal here. (Disclaimer: Solution/proposal should not exceed more than 300 words):
Allogeneic stem cell transplantation is among the most transformative innovations in modern oncology, offering a potential cure for innumerable hematological disorders. Despite advances, many Indian patients fail to receive transplantation due to the following existing gaps:

1. Donor Availability Barriers

A) Limited Matched Donor Availability- Only 25–30% of patients have a matched sibling donor. The majority require matched unrelated donor (MUD) transplantation, yet many fail to find suitable donors despite advances in transplant technology.

B) Underrepresentation of Indian Donors- India possesses enormous genetic and HLA diversity, but Indian donors remain significantly underrepresented in global donor registries. As a result, many patients with rare HLA haplotypes are unable to identify optimal matches.

C) Delayed Donor Search Initiation- In many centers, HLA typing and donor searches are initiated only after induction therapy or disease progression, resulting in avoidable delays and loss of transplant opportunities.

---

2. Economic Barriers

A) High Cost of MUD Transplantation: Although transplantation can be curative, the costs of HLA typing, confirmatory donor testing, donor procurement, stem cell transport, hospitalization, and post-transplant care place treatment beyond the reach of many families.

B) Limited Insurance Coverage: Many insurance schemes inadequately cover donor search expenses, unrelated donor procurement costs, and long-term post-transplant supportive care.

C) Financial Toxicity: Patients frequently exhaust savings, incur debt, or abandon potentially curative treatment due to the financial burden associated with transplantation.

---

3. Geographical and Infrastructure Disparities

A) Urban–Rural Divide: Most transplant centers are concentrated in metropolitan cities, requiring patients from rural regions to travel long distances for evaluation, transplantation, and follow-up.

B) Limited Transplant Infrastructure: Many regional hospitals lack transplant facilities, HLA laboratories, donor-search coordinators, and specialized transplant teams.

C) Inequitable Access to Expertise: Patients treated in smaller centers may experience delayed referral to transplant specialists, reducing the likelihood of receiving timely curative therapy.

---

4. Awareness and Education Gaps

A) Lack of Public Awareness

Many individuals are unaware that stem cell donation can cure life-threatening diseases such as leukemia, lymphoma, aplastic anemia, and inherited blood disorders.

B) Misconceptions Regarding Donation

Fear of pain, disability, surgical complications, and misinformation discourage many potential donors from registering.

C) Limited Awareness Among Healthcare Providers
Delayed recognition of transplant eligibility and late referrals may occur due to inadequate exposure to evolving transplant indications and donor options.

_____
5. Registry and System-Level Challenges
A) Fragmented Donor Search Pathways
The absence of a unified national platform connecting transplant centers, donor registries, funding agencies, and laboratories creates inefficiencies and delays.
B) Complex Administrative Processes
Multiple approvals, paperwork requirements, and coordination challenges often prolong donor identification and graft procurement.
C) Lack of Centralized Data
India currently lacks comprehensive national databases tracking donor search outcomes, transplant access, and barriers to transplantation.

_____
6. Community Engagement Gaps
A) Low Volunteer Donor Recruitment
Despite India's large population, stem cell donor registration rates remain low compared with Western countries.
B) Lack of Sustained Awareness Programs
Most awareness campaigns are conducted sporadically and fail to create long-term community engagement.
C) Limited Participation of Educational and Corporate Institutions
Schools, colleges, residential communities, clubs, and corporate organizations remain an underutilized resource for donor recruitment and awareness generation.

PROPOSED SOLUTION:
---
1. Early HLA Typing and Digital Donor Search
All patients diagnosed with high-risk hematological malignancies should undergo HLA typing at diagnosis. A centralized digital platform will automatically connect transplant centers with donor registries such as DKMS and DATRI, enabling real-time donor searches and reducing delays in identifying suitable donors.
---
2. National Donor Expansion Initiative
The long-term success of transplantation depends on increasing the number of Indian donors within global registries.
MATCH India will organize donor-registration drives in:
- Medical and nursing colleges/ Universities
- Corporate workplaces
- Residential communities
- Armed forces institutions
- Public events and festivals

Special emphasis will be placed on recruiting donors from underrepresented ethnic communities to improve donor diversity.
---
3. Empowering Communities, Saving Lives:
A major barrier to stem cell donation is lack of awareness.
MATCH India will launch year-round educational campaigns through:
- "Run for a Match" marathons and walkathons
- Public lectures by oncologists and transplant physicians

- Testimonial sessions by transplant survivors and donors
- School and college outreach programs
- Social media campaigns and donor challenges
- Community awareness exhibitions

----------Three flagship annual events will be observed:----------
World Cancer Day (February 4):

Cancer awareness 5K marathon and donor recruitment campaign.
World Blood Cancer Day (May 28):
Educational Programs, Survivor Stories, and Community Street Theatre on Curable Blood Cancers, followed by on-site buccal swab collection
World Marrow Donor Day (September):
Roadshows, followed by a talk from an existing donor-recipient pair to create an impact with on-site buccal swab collection from audience

MATCH India program shall promote the agenda of "BE A MATCH BEYOND THE MATCH" – Harness the reach of the ICC Men's T20 World Cup 2026 through donor registration kiosks, awareness exhibits, and on-site buccal swab collection drives.

---

4. Donor Recognition and Incentivization Program
To foster sustained community participation, registered donors will become members of the "100 Lifesavers Club."
Participants will receive:

- Lifesaver certificates that have QR codes, which will give them access to availing lifelong diabetes screening and BP monitoring at nearby PHCs free of cost
- Community recognition awards
- Awareness wristbands and MATCH India badges
- Invitations to annual donor appreciation events

This approach creates a culture of altruism and civic responsibility rather than financial incentivization.

---

5. Financial Accessibility: Addressing Access Barriers Beyond Donor Availability

A. Financial Navigation Platform: Develop a centralized digital dashboard that maps patients to available funding sources based on diagnosis, transplant cost, income category, state, and eligibility criteria.
B. Integration of Funding Ecosystem
    - Automatically identify and connect patients to:
        - Government schemes (Ayushman Bharat, Rashtriya Arogya Nidhi, PMNRF)
        - NGOs (Indian Cancer Society, CPAA)
        - Donor registries (DATRI, DKMS)
        - CSR initiatives
        - Religious and community charitable trusts (Sikh, Jain, Muslim, Hindu organizations)
C. Streamlined Application Process: Reduce fragmentation by providing a single portal with standardized documentation, application tracking, and funding-status updates.
D. Transplant Financial Navigator: Dedicated coordinators assist families in securing multiple funding sources simultaneously, reducing delays in transplant decision-making.
E. Improved Equity in Access: Ensures that transplant opportunities are not lost due to financial constraints, particularly for patients from rural, low-income, and underserved backgrounds.
F. Artificial Intelligence Data-Driven Resource Allocation: MATCH India can leverage AI to create a "Transplant Access Intelligence Platform" that simultaneously matches patients to donors, funding sources, and support services, ensuring that no patient loses a curative transplant opportunity due to financial or logistical barriers.
G. Dedicated Transplant Navigation

Each participating center will appoint trained transplant navigators who guide patients through donor searches, funding applications, logistics, and post-transplant follow-up, minimizing treatment abandonment.
Expected Impact
MATCH India aims to:

- Reduce time from diagnosis to transplant
- Increase MUD transplant rates
- Expand Indian representation in global donor registries
- Improve access for rural and underserved populations
- Reduce financial barriers
- Improve survival outcomes for patients with hematological malignancies

---

Conclusion

The challenge in India is no longer the absence of transplant technology—it is ensuring access to the right donor at the right time. MATCH India seeks to transform transplantation from a specialized treatment available to a few into an accessible cure available to every eligible patient, regardless of geography, socioeconomic status, or donor availability.

"A patient's chance of cure should be determined by biology, not by geography, finances, or the size of their family."

Full Name:
Dr. Chirag Gajera

Name of the Institution:
JNMC, Belagavi

State:
Karnataka

Objective of your solution: (Briefly define the primary outcome of your solution to this challenge):

1. Improve equitable access to advanced cancer diagnostics and treatments.
2. Reduce financial toxicity associated with modern cancer therapies.
3. Promote affordable innovation through indigenous research and manufacturing.
4. Strengthen healthcare infrastructure across urban and rural regions.
5. Increase adoption of precision oncology in resource-limited settings.
6. Improve survival outcomes and quality of life for cancer patients.
7. Create sustainable cancer care models suitable for LMIC healthcare systems.

Describe your solution/proposal: Provide a detailed account of your solution/ proposal to this challenge. You could type your solution/ proposal here. (Disclaimer: Solution/proposal should not exceed more than 300 words):

The proposed solution is the development of an Integrated Affordable Precision Oncology Network combining technology, decentralised healthcare delivery, and innovative financing models. The network will connect tertiary cancer centres with peripheral hospitals through tele-oncology platforms, enabling multidisciplinary decision-making and equitable access to expertise.

Affordable molecular testing hubs will provide genomic profiling and biomarker assessment, supported by national molecular tumour boards to guide treatment selection. Indigenous development of biosimilars, diagnostic technologies, and digital health tools will reduce treatment costs.

A value-based reimbursement system will link payment to clinical outcomes, while public-private partnerships will support patient assistance programs and infrastructure expansion. Artificial intelligence will improve diagnostic accuracy, optimise treatment planning, and enable remote monitoring.

This model aims to transform cancer care from a centre-based, high-cost system into an accessible, sustainable, and patient-centred ecosystem. By aligning innovation with affordability and availability, it can ensure that scientific breakthroughs translate into meaningful survival benefits for all patients, irrespective of socioeconomic status or geographic location.