Title:
Multimodal Pain Management in Oncology and Palliative Care.

Full Name:
Sakthi Vignesh D

Name of the Institution:
Government Kilpauk Medical College (GKMC), Chennai

State:
Tamil Nadu

Objective of your solution: (Briefly define the primary outcome of your solution to this challenge):
Key objective is to create a holistic pain management ecosystem that ensures a good quality of lie in the end of life. Efforts should be taken to treat pain– not as a single entity, but to treat as a multidimensional entity– factoring in physical, psychological, spiritual and emotional components. Steps should be taken to move from one size fits all, to treat pain according to its own characteristics.

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.):
Steps should be taken to start effective pain palliation at the diagnosis of stage 4 itself.

We should try to know the type of pain and treat it accordingly. Pain management should be proactive, rather than being reactive. Steps should be taken to see that WHO pain protocol is followed effectively. Treating frontline physicians and nurses is important in delivering effective pain management. Steps also should be taken to integrate non-pharmacological measures such as music therapy, yoga, meditation. Establishment of self-help groups to coordinate with survivors and improve compliance to treatment. To prevent prolonged suffering, a clear pathway for refractory pain to be established. Prompt referral systems should be kept in place for referring to regional centers for interventional procedures, nerve blocks and ambulatory pain pumps. We must make sure that no patient suffers due to treatable pain conditions and quality of life is not deteriorated.

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):
Pain management is the backbone of quality oncology care. Every cancer patient deserves a structured and stepwise pain management approach to ensure comfort, dignity, and better quality of life. Regular pain clinic visits are equally important to assess symptoms, monitor response to treatment, and provide adequate analgesia and palliative care.
In modern oncology practice, polypharmacy is very common because patients often receive chemotherapy, targeted therapy, supportive medications, and analgesics together. Therefore, it is necessary to select the safest and most effective pain management strategies while minimizing adverse effects and drug interactions.

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.):

Adequate analgesia and palliative care are pillars of comprehensive cancer treatment. Regular coordination between oncologists and pain specialists is essential to provide patient-tailored pain management strategies. A multidisciplinary discussion helps in selecting the best analgesic approach while balancing ongoing cancer-directed treatment and maintaining patient compliance.

Certain malignancies require highly specialized pain management strategies. For example, pain in carcinoma pancreas can be severe and often requires interventional techniques such as nerve plexus blocks, epidural analgesia, and celiac plexus block for effective relief. Similarly, patients with bone metastasis or spinal cord compression may experience extreme pain, and timely intervention can significantly improve their quality of life.

Pain management should not always be viewed only as a simple stepwise progression from NSAIDs to opioid medications. In many situations, effective cancer-directed treatment itself can reduce pain significantly and decrease the need for strong analgesics. The ultimate goal should always be maximum pain control with minimum medication burden whenever possible.

Many cancer patients also have multiple comorbidities, making pain management more challenging. Clinicians must carefully tailor analgesic treatment according to patient age, organ function, associated illnesses, and anticipated adverse effects.

It is important to understand that adequate pain control directly improves the quality of life of cancer patients. Quality of life includes undisturbed sleep, proper nutrition, emotional well-being, motivation for self-care, and better daily functioning. Effective pain management can improve a patient's performance status and may even make them fit for standard cancer-directed therapies. Therefore, pain management remains a cornerstone of oncology and palliative care.

Palliative care extends beyond pain management alone. It should involve a multidisciplinary team including pain specialists, physiotherapists, dieticians, psychiatrists, counsellors, and patient support staff who work together to provide complete supportive care alongside planned cancer treatment.

In the current era of artificial intelligence, innovation, and digital healthcare, patient care apps can play an important role in improving oncology and palliative care services. These patient care apps should include patient education guides, daily pain score recordings, medication reminders, individualized exercise plans, physical activity guidance, nutritional and calorie assessment, and symptom monitoring.

Such patient care apps can help bridge the communication gap between caregivers, doctors, and patients through simple and accessible support systems. These apps may also include survivor support communities, motivational group interactions, mental health support, and guidance regarding psychosocial concerns such as grooming after treatment-related alopecia and coping with emotional stress.

Regular monitoring through patient care apps can help clinicians identify uncontrolled symptoms early, improve treatment adherence, and provide timely supportive care interventions. Incorporating these digital supportive measures can greatly enhance patient comfort, improve quality of life, and strengthen modern oncology and palliative care management.

Full Name:
Habeeb K A

Name of the Institution:
VPS Lakeshore Hospital, Kochi

State:
Kerala

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

- Deliver personalized, patient-centered cancer pain control based on type, stage, and patient goals
- Implement multimodal analgesia (opioids, adjuvants, NSAIDs, and steroids) for optimal pain relief
- Address total pain (physical, psychological, social, spiritual) through holistic care
- Ensure safe opioid stewardship with appropriate titration and breakthrough pain management
- Expand early palliative care, home-based services, and multidisciplinary support to improve quality of life

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 pain is not just a symptom, it is a deeply personal experience shaped by disease, emotions, and social context. Effective management in oncology and palliative care therefore requires a multimodal, patient-centered approach that goes beyond simply prescribing drugs.

At the core is personalized pain management. Treatment must be tailored to cancer type, stage, organ function, prior response to analgesics, and the patient's goals. Pain should be assessed using tools like VAS/NRS and the concept of "total pain" (physical, psychological, social, spiritual). A one-size-fits-all approach rarely works.

Multimodal analgesia, guided by the WHO analgesic ladder, is essential. Paracetamol/NSAIDs help nociceptive pain; opioids are used for moderate–severe pain; and adjuvants like gabapentin, pregabalin, or antidepressants treat neuropathic pain. Corticosteroids help in inflammatory or nerve compression pain. Breakthrough pain should be managed with rescue doses (10–15% of total daily opioid dose). Alongside this, rational opioid stewardship—lowest effective dose, careful titration, and proactive side-effect management—ensures safety**.**

For refractory cases, interventional procedures such as nerve blocks, epidural/intrathecal analgesia, vertebroplasty, and palliative radiotherapy provide significant relief. Yet pain is not purely physical. Anxiety, depression, and fear amplify suffering, making psychological support, family reassurance, and spiritual care essential.

Non-pharmacological therapies—physiotherapy, relaxation, meditation, and music therapy—restore comfort and control. A multidisciplinary team ensures holistic care.

In India, access remains a challenge. Home-based palliative care, telemedicine, and improved morphine availability (despite NDPS barriers) are vital. Early palliative integration—not just at end stage improves outcomes.

Ultimately, the goal is simple: relieve pain, preserve dignity, and improve quality of life because in cancer care, comfort is as important as cure.

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):

Revolutionize relief: Palliative-interventional training, hub-and-spoke pain clinics, indigenous solutions, AI-personalized analgesia, VR, and multidisciplinary 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.):

Palliative Care Specialist and Interventional Anaesthesiologists - Create new broad and super speciality and academic courses for training and posts in all tertiary care centres to ensure access and making them a mandatory part of any tumor board.

Designing and strict implementation of pain control protocols to ensure appropriate use of analgesics with maximum pain relief whilst avoiding toxicities.

Indigenous manufacturing of Pain relief solutions including medications and devices so as to ensure economic feasibility

Pain clinics in all primary health centres with drug delivery kiosks which enable telemedicine consultation with specialists in tertiary care centres through hub and spoke model while avoiding medicolegal issues

Basic training of all grassroot level health workers like ASHA and ANM in palliative oncology including assessing pain, storage and dispensing relevant pain medications and follow-up regarding adherence and toxicities of the pain management medications

Specialized Pain palliation Multidisciplinary Teams that could integrate the inputs from various relevant specialities eg- In a patient with pain from bone metastases nuclear medicine specialist, radiation oncologist and orthopaedician could contribute

Incorporation of alternative treatment modalities like AYUSH, naturopathy, acupuncture and acupressure

Addressing all aspects of pain including psychosocial and spiritual through psychooncologists, social workers and so on

No 2 pains are similar hence AI-driven precision medicine for pain tailored to each patient's disease, type, duration and severity of pain.

Wearable biosensors to continuously monitor hormone levels (like cortisol), sleep quality, heart rate, neuronal activity etc., to allow prediction of pain spikes before they occur so as to avoid them altogether and thereby prevent suffering.

Virtual reality as a form of distraction therapy eg- use of calming digital environments forests, oceans, or memory-based simulations to alter pain perception and anxiety.

Brain-computer interfaces that could modify neural signals to alter pain perception and selectively block pain pathways.

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 move cancer pain management beyond the WHO analgesic ladder one-dimensional step approach toward a diagnosis driven, pain phenotype matched multimodal framework that systematically addresses nociceptive, neuropathic, and mixed pain through pharmacological, interventional, and non-pharmacological modalities selected on mechanistic grounds rather than sequential escalation alone.

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 WHO analgesic ladder was published in 1980s and was designed primarily to improve opioid access in countries where morphine was unavailable. It was never intended to be a complete pain management strategy. Nearly forty years later, it remains the dominant framework in most Indian oncology units, and the consequence is that a large proportion of cancer pain particularly neuropathic pain, bone pain with inflammatory and neuropathic components, and visceral pain from solid tumours is systematically undertreated because the ladder does not prompt clinicians to think about pain mechanisms before prescribing.

The framework I propose begins with pain phenotyping at first assessment. Somatic nociceptive pain, visceral nociceptive pain, neuropathic pain, and mixed pain each have different optimal treatment combinations. Neuropathic cancer pain, which accounts for roughly 40 percent of cancer pain presentations and is driven by direct neural invasion or chemotherapy-induced peripheral neuropathy, does not respond adequately to opioids alone. Duloxetine at 60 mg daily is the only agent with Level I evidence for chemotherapy induced peripheral neuropathy from ASCO guidelines. Gabapentin and pregabalin have mechanistic rationale but weaker evidence specifically in the cancer context. Methadone deserves special mention because its dual pharmacology both a mu-opioid agonist and an NMDA receptor antagonist make it uniquely effective for neuropathic and opioid refractory pain, yet it remains widely underused because of unfamiliarity with its nonlinear dose conversion and prolonged half-life.

For bone metastasis pain, a single fraction of 8 Gy external beam radiotherapy achieves pain response equivalent to 20 Gy in five fractions, as established in RTOG 97-14 and multiple subsequent meta-analyses. This is dramatically underutilised in Indian palliative practice. Interventional approaches including coeliac plexus block for pancreatic and upper abdominal visceral pain, which provides superior analgesia with significantly reduced opioid requirements compared to medical management alone represent a fourth step above the WHO ladder that most oncology centres never reach.

Nonpharmacological modalities including Transcutaneous Electric Nerve Stimulation (TENS), mindfulness-based stress reduction, and cognitive behavioural therapy have Level II evidence from ASCO's integrative oncology guidelines and reduce opioid requirements when delivered in structured programmes alongside pharmacotherapy. In the Indian context, where opioid availability remains restricted by Schedule X regulations that limit morphine dispensing to licensed facilities, these modalities are not adjuncts they are sometimes the only accessible option in community settings, and they deserve formal integration into institutional pain protocols rather than informal individual recommendation.

Full Name:
Dr Narendhar Gokulanathan

Name of the Institution:
Apollo Hospitals, Bannerghatta Road, Bangalore

State:
Karnataka

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

A multimodal pain passport and response-phenotyping model to improve cancer pain identification & discordance, timely analgesia, and palliative care delivery to improve analgesic underuse, pain control & quality of life with telehealth follow up.

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 pain management in India is frequently affected by under/mis-reporting of symptoms, opioid/analgesic stigma, caregiver distress, poor follow-up, and delayed escalation of care. Conventional pain scoring systems often fail to capture the dynamic and multidimensional nature of pain, particularly in elderly, cognitively impaired, non-verbal, rural, and palliative-care patients.

Stage 1: This proposal aims to develop and implement a structured multimodal pain-management model centered around a bilingual, low-literacy "Pain Passport" that can bridge appropriate analgesic administration for a patient across various hospitals, with sustained continuity of palliative care.

The tool will integrate patient-reported pain (with non-verbal cues, sleep assessment, function, mobility and QOL), caregiver observations, and clinician assessments to generate a novel "Pain Discordance Index," quantifying mismatches in pain perception and communication. The study will also classify patients into analgesic response phenotypes such as (not limited to) rapid responders, breakthrough-pain phenotypes, opioid-intolerant patients, and neuropathic non-responders, enabling personalized analgesic strategies while also documenting individualized adverse effect profile and response to various supportive interventions like psychotherapy, physiotherapy, laxatives, antiemetics and neuropathic agents.

Stage 2: The intervention pathway will combine caregiver education with pharmacological management with structured non-pharmacological interventions including music, spiritual support, tailored hobbies, distraction therapy, counseling, and caregiver education. Telemedicine/whatsapp follow-up, home visits for high-risk or non-compliant patients, and predefined escalation triggers will be incorporated to ensure continuity of care. Multilingual implementation planned after pilot validation of the pain passport.

Primary outcomes will include improvement in pain control and reduction in pain discordance (better understanding of patient pain phenotypes).

Secondary outcomes will include quality of life, functional status, opioid utilization, adverse effects, caregiver burden (emotional and physical), hospitalizations, and treatment satisfaction.

The study would create a scalable, culturally sensitive, and cross-country implementation-friendly framework for improving cancer pain management and palliative care delivery in resource-diverse Indian settings.

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 every cancer patient receives timely, compassionate and scientifically balanced pain relief as a basic human right, not as a last resort.

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 pain management must move beyond "opioids alone." Multimodal care should combine opioids, non-opioid analgesics, adjuvant drugs for neuropathic pain, radiation for painful metastases, nerve blocks, bisphosphonates, physiotherapy, nutrition, counselling and spiritual support. Pain should be treated early, not only in terminal stages.

Personalized pain plans are essential. Bone pain, visceral pain, neuropathic pain and procedure-related pain behave differently and require different strategies. Regular pain scoring, breakthrough-pain assessment, bowel care, sleep evaluation and psychological screening should become routine in oncology clinics.

Non-pharmacological measures are often neglected in India despite major benefit. Physiotherapy, relaxation techniques, music therapy, caregiver counselling, social support and dignity-focused communication can significantly reduce suffering. Palliative care should begin alongside active cancer treatment, not after treatment stops.

Barriers include opioid fear, regulatory confusion, lack of training, late referrals and the misconception that palliative care means "giving up." In Tamil Nadu, district palliative-care networks, home-care services, tele-support and opioid availability through authorized centers can greatly improve access.

Standardized protocols should guide pain assessment, opioid initiation, toxicity monitoring and referral to interventional pain or hospice teams. Nurses and caregivers must also be trained because they often identify uncontrolled pain first.

Roche can contribute through palliative-care education, caregiver-support initiatives and quality-of-life research.

The future of oncology will not be judged only by how long patients live, but by how gently and respectfully we help them live through illness.

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 pain is still far too often inadequately managed, especially in settings with limited resources. Many patients continue to suffer because the pain is identified late, support services are disconnected, fears around opioid use persist and lack of Caregiver guidance and burnout.

Problem case: Mr. C, 54-year-old man diagnosed with metastatic pancreatic cancer, severe abdominal pain and back pain. During consultation in OPD, he said: "Doctor, I cannot bear this pain anymore. I just want to die." It is so disheartening, and immediately I want to propose and activate the CARE EMBRACE model that aims to treat it as a total pain crisis, including physical, emotional, and psychological emergency, not a routine single-entity pain management.

Objective: To create a patient-centered multimodal oncology pain management ecosystem that delivers early, feasible, personalized, holistic pain response within 24–48 hours, immediate reduction in severe episodes, while improving emotional well-being, reducing financial and travel burden, caregiver burnout, and improving confidence and quality of life.

*CARE EMBRACE recognizes that a wish to die in advanced cancer may signal uncontrolled suffering requiring urgent multidisciplinary 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.):

SOLUTION: CARE EMBRACE Model – COMPASSIONATE, ANALGESIA, RESILIENCE, EMOTIONAL support through Empathetic Multidisciplinary Bridging for Restorative Cancer Experience.

This model helps in Relieving pain, Restoring dignity, Embracing Hope.

1. PAIN PASSPORT (Universal pain screening) – pain becomes the 5th Vital sign at every oncology visit. Use standardized protocols: Numeric Rating Scale (NRS), Visual Analog Scale (VAS), Brief Pain Inventory, ESAS symptoms score.

   Color coding: GREEN: Mild, AMBER: Moderate, RED: Severe – rapid escalation pathway.

- E.g., In our Problem case statement – Metastatic pancreatic cancer, RED FLAG ACTIVATION (Crisis pathway): Pain score: 10/10, sleep deprivation, emotional breakdown, suicidal expression. IMMEDIATE ESCALATION to oncology team, Palliative care specialist, psychosocial mental health support, family/caregiver involvement.

2. MULTIMODAL RELIEF PATHWAY – Personalized analgesia bundles. WHO Analgesic pain ladder optimisation, opioid stewardship with side effects prevention, NSAIDs/acetaminophen, neuropathic medicines, bone pain protocols, breakthrough pain rescue kits, interventional pain procedures, palliative radiotherapy integration.

- In our Problem case – RAPID PAIN RESCUE – Assess root cause of pain, immediate interventions – urgent opioid titration/parenteral analgesia, rescue medication, anxiety relief if clinically appropriate, nerve block/pain intervention, urgent palliative RT if needed.

3. HEAL BEYOND PILLS – Non-pharmacologic interventions: Physiotherapy, guided relaxation, music therapy, Cognitive Behavioural Therapy, breathing techniques, massage, spiritual counselling, sleep optimization.

- In our Problem case – EMOTIONAL CRISIS SUPPORT – A counsellor sits with the patient privately. Instead of hearing "he wants to die", the team recognizes: "He wants the pain to stop". Assessment for suicide risk, depression, panic, hopelessness, existential distress.

4. VOICE CIRCLE (patient and caregiver support groups) – Weekly facilitated support circles: Living with Cancer Pain peer groups, caregiver coping workshops, emotional resilience sessions, grief and fear counselling. Patients realize "I am not alone".

- In our problem case: Family often feel panic or feel guilt – CARE EMBRACE provides: Crisis counselling, caregiver coaching, clear emergency contact plan.

5. PAIN NAVIGATOR:

In our problem case: 24–48 HOUR CLOSE FOLLOW-UP should be done, instead of saying "Come back next week/next month". Dedicated Palliative Nurse/Coordinator for medication education, opioid myth busting (addiction fears), dose titration follow-up, home symptom check-ins, referral coordination.

6. COMFORT AT HOME – Hybrid palliative outreach: Tele-pain reviews, home care nurse visits, emergency pain management, digital pain diary tracking.

Problem case solution: within 24 hours pain reduced from 10/10 → 4/10, patient sleeps, suicidal thoughts reassessed urgently by clinicians, family feels supported, comprehensive palliative plan initiated.

- Pharma industry partners like Roche can improve evidence-based supportive care therapy use, generating real-world outcome data and strengthening trust with oncologists, caregivers, and patients. By supporting digital pain monitoring, education, navigation, and tele-palliative care, they can improve patient-centric leadership and help with treatment continuity with better symptom control.

Full Name:
Livin T

Name of the Institution:
Madurai Medical College, Kanyakumari

State:
Tamil Nadu

Objective of your solution: (Briefly define the primary outcome of your solution to this challenge):
Doing a regional block for an unresectable cancer completely changes the game.
It radically drops the patient's systemic narcotic requirement.

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.):
Managing severe cancer pain is exhausting if you only rely on pushing heavy opioids. We constantly see patients with advanced disease or recovering from massive GI resections who are just totally managed by morphine. They end up horribly constipated. Or they just sleep through whatever time they actually have left with their families.

But leaning purely on NSAIDs isn't going to work either, especially with the fragile renal profiles we typically encounter in the clinic. We absolutely have to force the adoption of strict multimodal analgesia protocols. And that means attacking the pain pathways from entirely different physiological angles simultaneously. You layer a very conservative opioid dose alongside neuropathic agents like pregabalin. We also desperately need to pull our regional anaesthesia teams into the loop way earlier. Doing a quick celiac plexus block for an unresectable pancreatic mass completely changes the game. It radically drops the patient's systemic narcotic requirement almost overnight.
Just getting a dedicated physiotherapist to mobilize a patient safely prevents brutal musculoskeletal spasms that we often mistakenly treat as worsening bone mets. We tend to just slap on another fentanyl patch instead of figuring out the mechanical source of the discomfort.
And honestly, to fix this mess, palliative care cannot remain an afterthought that we consult only when the tumor board finally gives up. These specialists need to be in the room the second we diagnose locally advanced disease. If we control their pain with a solid multimodal approach upfront, their baseline performance status stays robust enough for us to actually attempt a curative resection in the OR.

Full Name:
Rishika Goyal

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

State:
Karnataka

Objective of your solution: (Briefly define the primary outcome of your solution to this challenge):
Objective
The main aim is to minimize preventable pain crises, reduce visits to the emergency department, and hospital admissions due to pain by converting cancer pain management from a reactive approach to a proactive, patient-focused care pathway.

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.):

Current Challenges

There are many effective pain relief medications and palliative care services available, still many cancer patients suffer from unmanaged pain. The primary issue is delayed recognition and escalation of worsening pain.

Patients and their caregivers often find difficulty in determining when pain is becoming unmanageable, leading to emergency hospital visits, unnecessary admissions, psychological distress, and a diminished quality of life.

Pain management is predominantly reactive, with interventions typically occurring only after a crisis has developed

Proposed Solution:

I propose a Cancer Pain Crisis Prevention Pathway that emphasizes upon identifying and supporting high-risk patients before a pain emergency arises.

Patients who are at greater risk of pain crises, like those with high pain scores or frequent episodes of breakthrough pain or increases in usage of opioid, or terminal metastatic disease are enrolled in this monitoring pathway.

These patients are regularly followed up by a trained palliative care nurse for evaluation of pain control, medication adherence, breakthrough pain episodes, sleep disturbances, and treatment-related concerns.

In addition to this, patients and caregivers frequently receive a straightforward pain action plan as well which vividly explains when to adjust rescue medication and when to seek medical attention

Any drop in pain control prompts an early review by the oncology or palliative care team, hence allowing for intervention before emergency care is needed.

This model incorporates not only pharmacological treatment but also focus on caregiver education, psychological support, physiotherapy, and specialist palliative care, all tailored to individual patient needs.

This program also gauge success by reductions in pain-related emergency visits, hospital admissions, and uncontrolled pain episodes, while enhancing quality of life and caregiver confidence.

This model offers truly patient-centered multimodal pain management by preventing pain crises rather than reacting to them.

Full Name:
Ananda NS

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 improve quality of life in oncology and palliative care patients through a multimodal pain management approach that integrates personalized pharmacological treatment, non-pharmacological interventions, digital health innovations, and proactive symptom monitoring for timely and effective pain control.

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 pain is multidimensional, encompassing physical, psychological, social, and spiritual suffering, often referred to as Total Pain. Therefore, effective management requires a holistic and patient-centred approach.

1.Personalized Multimodal Analgesia:

Pain management should follow the WHO analgesic ladder, combining non-opioids, opioids, and adjuvant medications such as antidepressants, anticonvulsants, and corticosteroids. Opioid-sparing approaches including nerve blocks and ketamine infusions can improve pain control while minimizing adverse effects.

2. Integration of Non-Pharmacological Therapies:

Physiotherapy, exercise programs, acupuncture, and psychological interventions such as cognitive behavioural therapy (CBT), mindfulness, and relaxation techniques can reduce pain perception, improve function, and enhance emotional well-being.

3.Individualized Pain Management Plans:

Regular assessment of pain intensity, functional status, psychosocial distress, and patient preferences should guide personalized treatment strategies aligned with quality-of-life goals.

4.Expanding Access to Palliative Care:

Early integration of palliative care alongside cancer treatment improves symptom control and patient satisfaction. Telemedicine, home-based care, nurse-led tele-palliative clinics, and community health worker support can improve access for rural and underserved populations**.**

5.AI-Enabled Total Pain Management Platform:

Patients can report daily pain scores, opioid use, sleep quality, emotional distress, and breakthrough pain episodes through a mobile application or WhatsApp chatbot. An AI-driven Total Pain Score combines physical, psychological, social, and caregiver-related factors to identify patients at risk of worsening symptoms. Automated alerts can trigger teleconsultation, medication adjustments, home-care referrals, or multidisciplinary interventions before pain crises occur. The platform can also provide medication reminders, opioid toxicity monitoring, and caregiver education, improve adherence and reducing avoidable hospital visits.

Expected Impact:

This integrated model combines evidence-based analgesia, supportive care, community outreach, and digital innovation to improve pain control, reduce opioid-related toxicity, enable early intervention, enhance quality of life, and expand equitable access to palliative care, particularly in resource-limited settings.

Full Name:
Jagga Sankalp Harish

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 promote a multimodal and patient-centered approach to cancer pain management through pharmacological and non-pharmacological interventions.
- To strengthen the integration of palliative care into routine oncology practice through multidisciplinary collaboration and early referral pathways.
- To enhance palliative care competencies among oncology trainees by incorporating structured programs such as the IAPC PRC course into residency training.

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-related pain is a major cause of suffering and significantly affects quality of life. Effective pain management requires a multimodal approach that combines pharmacological, interventional, psychosocial, rehabilitative, and supportive care strategies tailored to individual patient needs.

Factors That Can Improve Palliative Care and Pain Management

1. Implementing Multimodal Analgesia Protocols

- Follow the WHO analgesic ladder while individualizing treatment.
- Combine opioids, non-opioid analgesics, adjuvant medications, and interventional pain procedures when appropriate.
- Regularly assess pain using validated pain assessment scales.
- Early referral to palliative care services rather than limiting involvement to end-of-life care.

2. Integrating Non-Pharmacological Interventions

- Psychological counseling and cognitive behavioral therapy.
- Physiotherapy and rehabilitation programs.
- Relaxation techniques, meditation, yoga, and mindfulness.
- Nutritional support and symptom management.
- Spiritual care and psychosocial support for patients and caregivers.

3. Personalized Pain Management Plans

- Assess pain type (nociceptive, neuropathic, visceral, or mixed).
- Consider patient age, comorbidities, organ function, and performance status.
- Account for patient preferences, cultural beliefs, and treatment goals.
- Regularly review treatment effectiveness and adverse effects.

4. Strengthening Palliative Care Services

- Integrate palliative care into routine oncology practice from diagnosis of advanced cancer.
- Establish dedicated palliative care teams comprising physicians, nurses, psychologists, social workers, physiotherapists, and spiritual care providers.
- Improve access to essential pain medications, including opioids.
- Utilize tele-palliative care services for patients in remote areas.

5. Education and Training

- Conduct regular training programs in cancer pain management for healthcare professionals.
- Incorporate structured palliative care education into oncology training programs.
- Inclusion of the Indian Association of Palliative Care (IAPC) Pain Relief and Palliative Care (PRC) Course as a mandatory component of Medical Oncology, Radiation Oncology, and Surgical Oncology residency programs can improve knowledge, communication skills, symptom management, and early palliative care integration.
- Encourage interdisciplinary learning and case-based discussions.

6. Quality Improvement Measures

- Routine pain audits and patient-reported outcome monitoring.
- Standardized pain management protocols.
- Multidisciplinary review of complex pain cases.

Palliative care should not be viewed as end-of-life care but as an essential component of comprehensive cancer care. Early integration of palliative care, combined with multimodal pain management and formal training such as the IAPC PRC course during oncology residency, can significantly improve symptom control, patient satisfaction, quality of life, and caregiver support.

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):
To improve early cancer detection in India by increasing public awareness, expanding access to evidence-based screening, strengthening healthcare infrastructure, and establishing sustainable strategies for early diagnosis and timely treatment initiation.

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.):
Effective oncology pain management requires an integrated approach combining pharmacological, non-pharmacological, and psychosocial interventions. Factors that improve palliative care delivery include early referral to palliative care teams, regular pain assessment, multidisciplinary collaboration, patient education, and individualized treatment planning.
Implementation of multimodal analgesia protocols should include appropriate use of non-opioid analgesics, opioids according to pain severity, adjuvant medications for neuropathic pain, and management of treatment-related symptoms. Opioid stewardship through appropriate prescribing, monitoring, and education can improve pain control while minimizing misuse and adverse effects.
Personalized pain management plans should consider cancer type, pain mechanism, disease stage, comorbidities, psychological status, functional goals, and patient preferences. Regular reassessment and adjustment of therapy are essential. Non-pharmacological interventions such as physiotherapy, psychological support, relaxation techniques, counseling, spiritual care, nutrition support, and caregiver education should be integrated into routine practice. Strengthening palliative care requires trained healthcare professionals, improved availability of essential medications, community-based support systems, tele-palliative care services, and clear referral pathways. Multidisciplinary teams involving oncologists, palliative care specialists, nurses, pharmacists, psychologists, and social workers can provide coordinated care. A holistic and accessible pain management model ensures effective symptom relief, reduces suffering, and improves overall quality of life for patients with cancer.

Full Name:
Pavitra Hegde

Name of the Institution:
Regional Cancer Centre, Trivandrum

State:
Kerala

Objective of your solution: (Briefly define the primary outcome of your solution to this challenge):
To improve cancer pain control and quality of life through amalgamation of cannabinoid-based therapies and emerging non-opioid analgesic innovations into multimodal oncology and palliative care, thereby reducing opioid dependence and related adverse effects.

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 Patient-Centered Approach to Cancer Pain Management

Pain is more than a physical symptom, it affects a patient's ability to sleep, eat, work, interact with loved ones, and maintain dignity. Effective pain management therefore requires a holistic, personalized, and compassionate approach.

1. Multimodal Pain Relief: Treating Pain from Multiple Angles

Cancer pain is rarely controlled by a single medication. A stepwise approach following the WHO analgesic ladder should be adopted, using non-steroidal anti-inflammatory drugs (NSAIDs), opioids, and adjuvant medications according to pain severity.

To reduce opioid-related side effects, opioid-sparing strategies should be encouraged by combining opioids with other effective agents. Medications such as pregabalin or gabapentin for nerve pain, duloxetine for neuropathic symptoms, and dexamethasone for inflammation-related pain can significantly improve comfort. For patients with severe or treatment-resistant pain, advanced interventions such as nerve blocks, epidural analgesia, intrathecal pumps, neurolysis, or radiofrequency ablation should be considered.

2. Embracing Emerging Cannabinoid Therapies for Better Quality of Life

Medical cannabinoids offer a promising adjunct for patients experiencing neuropathic pain, opioid-refractory cancer pain, anxiety, insomnia, nausea, or loss of appetite. By reducing opioid requirements, cannabinoid-based therapies may improve symptom control while minimizing adverse effects.

At the same time, research into next-generation pain therapies including selective sodium-channel inhibitors, targeted analgesics, transdermal cannabinoid patches, rapid-acting nasal sprays, wearable pain devices, and neuromodulation technologies holds promise for safer and more effective pain control in the future.

3. Looking Beyond Medicines

Pain management should extend beyond prescriptions. Physiotherapy, rehabilitation, TENS therapy, acupuncture, and exercise programs can help restore function and mobility. Psychological support through counseling, cognitive behavioral therapy, mindfulness, and relaxation techniques can address the emotional burden of chronic pain.

Complementary approaches such as music therapy, guided imagery, yoga, aromatherapy, and spiritual care can further enhance well-being. For pain caused directly by cancer, interventions such as palliative radiotherapy, vertebroplasty, and kyphoplasty can provide meaningful relief.

4. Personalized Care for Every Patient

Every patient's pain experience is unique. Comprehensive assessment using validated tools such as the Edmonton Symptom Assessment System (ESAS) can help identify nociceptive, neuropathic, visceral, and breakthrough pain components.

Treatment plans should be individualized according to the patient's symptoms, treatment goals, functional status, cultural values, and psychosocial circumstances. Where available, pharmacogenomic testing may help optimize analgesic selection and improve treatment response.

5. Continuous Monitoring Through Education and Technology

Patients and caregivers should be empowered through education about symptom recognition, medication safety, and when to seek medical help. Healthcare professionals should receive ongoing training in opioid stewardship, cannabinoid prescribing, and interventional pain techniques.

Digital health solutions including telemedicine platforms, mobile applications, wearable monitoring devices, and patient-reported outcome systems can enable continuous pain assessment and facilitate timely interventions, even for patients in remote locations.

6. Building a Supportive Healthcare System

Access to effective pain relief should be a fundamental component of cancer care. Essential analgesics, interventional pain services, and regulated cannabinoid-based therapies should be made available to all patients who may benefit.

Early integration of palliative care into oncology pathways can improve symptom control, quality of life, and patient satisfaction. Partnerships among governments, healthcare institutions, NGOs, researchers, and international organizations are essential to expand access to modern pain management strategies, particularly in rural and underserved communities. Continued investment in clinical research and real-world evidence generation will ensure that emerging therapies are evaluated rigorously and translated into meaningful benefits for patients living with cancer pain.

Ultimately, the goal is not merely to reduce pain scores but to restore comfort, function, dignity, and quality of life for patients and their families throughout the cancer journey.

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):

Multimodal management of TOTAL pain. Pain management mobile app.

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.):

In palliative oncology, pain should not be assessed based only on physical aspects. There is this concept of total pain which was described by Dame Cicely Saunders. It has 4 aspects namely physical pain, psychological pain, social pain and spiritual pain. All these aspects should be assessed while assessing pain in a cancer patient.

Palliative aspects should be incorporated into cancer care from the start of treatment itself and not after exhausting curative treatment options.

Physical pain - Pain medications should be given according to who pain ladder. Opioid pain medications should be made available in every district hospitals so that patients need not travel far for them. Doctors trained in palliative care procedures should be made available in all oncology centres.

Psychological counsellors should be available in every hospitals treating cancer patients.

Financial support should be given to the cancer patients by the government. Patient assistance programs should be extended to all drugs as much as possible by the pharma companies.

Spiritual sessions based on patient's religious beliefs should be encouraged.

Roche can sponsor development of a mobile pain tracking app for Indian patients. The app should be made available in every regional language of India. The app should have the features like recording pain intensity (0-10 scale), pain location by body maps, pain characteristics, Aggravating and relieving factors. Pain medications should be able to be entered, and an option should be given to track medication timing with inbuilt alarms. The app should give an overall report for the duration selected about the pain during that period, so that doctors can make more informed decisions.

Only with all these measures, a holistic management of cancer pain can be achieved.
