

**SECOND**  
**OPINION****FUTURE OF SECOND OPINION  
IN CANCER CARE  
DIGITALLY COORDINATED PATIENT  
AND PHYSICIAN INITIATED MODEL*****KARKINOS TEAM***

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# EXECUTIVE SUMMARY

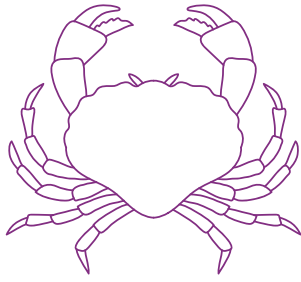


A patient's experience with cancer diagnosis and care can be complicated and traumatic. It is important for a patient to remain alert and be aware about his condition, available treatment options and prognosis.

Seeking a second opinion in complex conditions will be helpful for reconfirmation and choosing the most appropriate treatment option. It enables the patients to seek evidence-based, high-quality care from a multi-specialist team of oncologists, radiologists and other competent health care professionals who can tailor cancer care for a patient's specific needs.

As healthcare delivery shifts from a physician-centred care to a patient-centred care model , second opinion assures this transition by preventing possible errors in diagnosis and treatments that can have irreversible consequences on cancer patients.

Technology has made it possible for us to now avail a second opinion service from an oncologist sitting far away via a digital medium. Even studies suggest that the initial opinion on the diagnostics report , radiology image report and the treatment plan had changed after a second opinion was taken and the patient was able to make the right decision at the right time(1-4).



A Multidimensional Problem

# CANCER DISEASE BURDEN

2020 globally witnessed an estimated

**19.3 million** new cases    **10 million** deaths

**1 in 5** males

**1 in 6** females

Develop cancer during their lifetime...

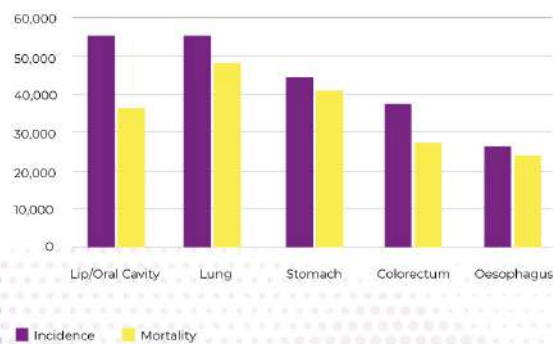
**India**

**2.25 million** people are living with cancer today

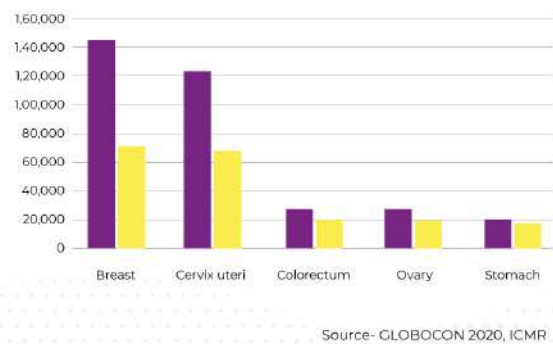
**1.15 million** new cases are registered every year

**0.78 million** people died due to the disease in 2018

Top 5 Cancer among Indian men

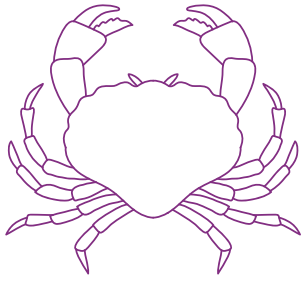


Top 5 Cancer among Indian women



Source- GLOBOCON 2020, ICMR

The term 'Cancer' deriving from the Greek word "Karkinos" refers to a generic Non-Communicable Disease (NCD) characterized by an abnormal growth of cells in any part of the human body and in some cases gets metastasized (spread) to other parts. Being the **leading cause of death globally (5)**, cancer exerts tremendous physical, emotional, mental, and financial stress on patients, their families, healthcare providers, and the health systems.



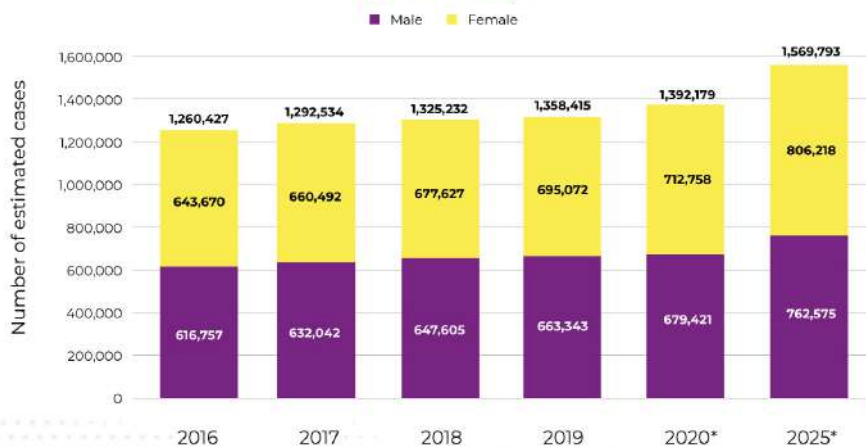
## Statistics

# THE BIG NUMBERS

A high cancer incidence rate with a low early detection rate is a grave issue. Many health systems in the developing world are least prepared to manage this burden. While in India, the cancer burden is increasing exponentially every year, there lie many difficulties in accessing comprehensive cancer management from early diagnosis to appropriate treatment, as per the staging, for both patient and healthcare providers. Poor geographical distribution of comprehensive cancer centers is limiting the access to advanced and multimodal treatment options for patients.

A study (6) conducted on cancer statistics in India found that at the time of diagnosis majority of the patients with cancer were diagnosed as locally advanced/locoregional for breast (57.0%), cervix uteri (60.0%), head and neck (66.6%), and stomach (50.8%) cancer. Also, lung cancer was diagnosed with distant metastasis in males (44.0%) and females (47.6%). Given the fact that much of cancer survival is associated with early diagnosis, access to medical technology is a prominent policy concern for low and middle income countries (7-9).

**Estimated incidence of Cancer cases in India (2016-2025)**



Source: NCRP Report, 2020

The incidences of cases for 2016 to 2018 has been arrived at using 2012-2016 data. Projections have been made for 2020 and 2025.



# CURRENT SCENARIO

In the USA, the oncologist to patient ratio is 1:100, the UK scores 1:200, but India, on the other hand, scores 1:2000. On top of that, the majority of oncologists (cancer specialists) are available only in big cities, rendering the rural population helpless. **Quality of cancer care** is another critical issue that leads to poor outcomes among cancer patients. Workforce shortages in oncology, combined with an exponentially increasing number of cancer cases, reduce the sustainability of a specialist-based model of care. Delayed cancer diagnosis adds to this burden. With no treatment in sight for advanced cancer cases, the best approach would be to ensure early diagnosis and proper treatment of patients. This would require a multidimensional approach involving the patient and his family in decision-making. In this context, seeking Second Opinion is a common norm amongst the patients and their relatives to make a decision on the treatment plan. This article analyzed the variations in the need, reason, delivery models, and shortcomings of two different types of Second Opinion currently practiced globally.



# Second opinion for Cancer Care Management

Advancements in cancer care are progressing at an unprecedented rate, and patients going for a second opinion on the available diagnosis before proceeding with the treatment could make a huge difference. A second opinion (also known as expert opinion) is defined as obtaining a second treatment proposal after a suggested treatment has already been presented by another physician(10). It has become an integral part of many healthcare systems and is common in cancer care. In recent years, second opinions have evolved as a patient's right and many patients are obtaining a second opinion for a serious diagnosis. The real-life study conducted on patients with Barrett's esophagus (a high-risk factor for esophageal adenocarcinoma) showed the importance of the second opinion given by the experienced pathologist in detecting Barrett's esophagus, which is rarely diagnosed by a general pathologist(11).

## Why is Second opinion in cancer an acceptable practice?

Diagnosing cancer is complex and frightening, and so is managing it. For a patient, it then becomes important to remain informed and educated about his condition and available treatment options. With the availability of wide treatment choices and advanced procedures, cancer, today, is far more treatable than ever before.. Like advances in Genomics, Genetics, Immunotherapy, Stem Cells, and Precision Medicine.

Getting a second opinion helps to recognize available choices and make an educated decision on what is right for the patient. Given this veracity, variety, and ever-evolving treatment options, patients have the right to ask for a second opinion from experts. Besides therapeutic advantages, it also reassures the patient and his family and, eventually, enables them to access the most suitable treatment plan. The use of the second opinion improves patient-physician relationships, enhances treatment compliance, and prevents errors or negligence (8).

# Modes of Second Opinion Delivery

Telehealth mode of delivery facilitates cancer care from prevention to end-of-life care. Growing usage of electronic medical records or electronic health records ensures continuity and quality of care. Also, it facilitates patient-provider communication at various levels, and assists in seamless remote patient care.

01

LIVE CHAT

04

ONE DAY SECOND OPINION

02

MOBILE TEXTING

05

FACE TO FACE CONSULTATION

03

ONLINE RECORDS REVIEW

06

VIDEO CONSULTATION

## SERVICES OFFERED

- Symptom management
- Remote chemotherapy supervision
- Radiation planning
- Palliative care
- Survivorship care
- Cancer clinical trials

# Needs, expectations for an expert opinion from patient and provider's perspective

In cases like cancer, whenever a surgery, complicated procedure or a certain treatment regime is recommended, it is always a smart decision to get a second opinion from another expert. Such expert opinions could be 'physician initiated' or 'patient initiated'. The common reasons why a patient or a physician usually opts for an expert opinion are listed below

## Patient initiated second opinion

- The perceived need for clarity and reassurance regarding the first physician's assessment (8)
- The hope that the diagnosis or proposed treatment options in the first opinion will differ from the second opinion
- Particularly to avoid over or undertreatment (11)
- Lack of empathy, discomfort, and dissatisfaction with communications between patients and their initial physicians (2,8,12–17)
- High levels of fear of progression and psychosocial distress, acts as possible motivators for the search for a second opinion (18)
- In females, preference for breast conservation surgery is associated with higher rates of second-opinion seeking
- Overall, another study found that younger patients and those with stage IV disease were more likely to seek second opinions (19)

## Physician initiated second opinion

- Reconfirm and validate their diagnosis and treatment plan (8).
- Not specialized in cancer care
- Not having relevant diagnostic or treatment facilities at his/her clinic/hospital.





*Second opinion*

# BARRIERS

## For the patient to seek second opinion

- Financial constraints
- State of shock
- The pressure of time to make decisions
- Trigger due to information overload resulting in the apprehension of cancer patients to consult another oncologist
- Fear of jeopardizing the Patient-Physician Relationship (14,16,19,20) and obligation to the first physician are the most common reasons why some patients refrain from taking a second opinion
- Sometimes patients themselves tend to conceal a physician's intentions to seek a second opinion (8,17,21)

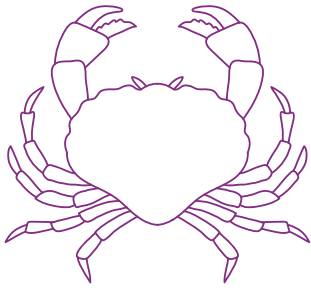


*Second opinion*

# BARRIERS

## For a physician to refer for second opinion

- Fear of losing patient (22)
- Reputation among physician network
- Lack of awareness on the second opinion, the appropriate & type of specialist to be referred (8,23–25)
- Restricted provider networks
- Preauthorization requirements
- Patient inability to pay
- Excessive patient travel time
- Lack of surgical subspecialists
- Not wanting to burden patients with appointments
- Concern that referral may not be well received
- Long wait times



SHORTCOMINGS

# IN THE MODELS FOR SECOND OPINION

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## Patient initiated second opinion

- 1.No form/questionnaire to give the reason behind the second opinion
- 2.No feedback on the expected outcome from initiated second opinion
- 3.Non-adherence and doctor shopping behavior
- 4.Sense of improper communication
- 5.Barrier-
  - Loyalty to the first physician
  - Unaware of which physician to consult
- 6.No standardization on the second opinion

## Physician initiated second opinion

- 1.No form/questionnaire to know the reason behind the second opinion
- 2.No, follow up on what was the outcome by referring the patient to another physician
- 3.Difficulty in maintaining patient and oncologist contact
- 4.Hesitancy in communicating the discrepancies in the opinion (23,27,28)
- 5.Barrier-
  - Insecurity of losing a patient
  - Unawareness of the second opinion
- 6.No standardization on the second opinion
  - No structured referral form



# LEGAL ASPECTS

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A doctor who is asked to give a second opinion owes the patient a duty of care in the same way as the doctor who provided the first opinion. In medicolegal cases, a second opinion should be issued in accordance with the laws of the respective country.

Aside from medicolegal cases, the physician should express his opinion with a clear statement that this second opinion is not for medicolegal purposes but as an approach to the question and based on the clinical judgment (29).

Seeking a second opinion is the legitimate right of the patient (30,31). Patients can use the name of the first opinion and second opinion provided physician name for future litigation if any negligence (29).



*A New Decade*

# NEW OPPORTUNITIES

The arrival of a new decade presents us with an opportunity to reflect upon the progress by far in oncology and to anticipate what lies ahead. So, what are the future opportunities for global cancer control in the 2020s?

## Promoting Primary care physician(PCP) for initiating second care model

Owing to the level of expertise and experience, oncologist-led follow-up is naturally superior yet more expensive than primary care-based management (32). But people usually have a higher level of trust in Primary Care Physician (PCP) than referred physicians. Hence, the shared model of care between PCP and oncologists in treating cancer survivors (33) provides a model of cost-effective care. Even studies suggest that adherence to the diagnosis or the treatment being offered depends on effective communication and trust in the physician.

Utilizing the digital platform/communication tools are effective ways to enable communication and coordination among healthcare providers. Patients get to adhere to the decisions made if PCP is involved since there is already a trust established, there will be continuity in care. Trained PCP can improve the barriers of screening, diagnosis, and seeking a second opinion by referring the suspected patients to the right oncologist.

- **Improving access in remote areas-** Primary health services cover general medicine, mild disease management, immunization, child healthcare, and natal and postnatal care. With little to no private clinics in rural areas, a substantial portion of the rural population is virtually denied access to a doctor. In such cases, training PCP to fill gaps in healthcare delivery at the primary level is necessary. This will improve the doctor-patient ratio and provide the poorest masses in remote areas with some medical assistance.
- **Patient trust is high-** Most of the people from both urban and rural parts of the country prefer to visit PCP to avail of regular care. The trend is higher for chronic disease management and hence there is a pre-established sense of trust and belief that could be utilized.
- **Screening and follow-up made accessible close to home-** PCPs are commonly found in private practices of rural and urban areas, thus easily accessible to all in a community. Training them to identify the risk factors, early signs, and symptoms and encouraging them to conduct cancer screening camps in their area will positively be the right step in the right direction.

Another untapped resource in Indian Healthcare Scenario is the Dental & AYUSH practitioners. These practitioners can become an integral part of screening and diagnostics activities thus reducing the burden on oncologists and cancer facilities. Primary and secondary prevention, pain and palliative care, as well as supportive care during chemotherapy and radiation, are some areas where AYUSH practitioners can effectively participate.



# Digital Health

Digital health systems have the ability to address existing disparities in service delivery. This new era is the ideal time for oncology-focused digital technologies to address various needs of cancer patients and the community. The ideal digital health technologies will eventually aim to bridge the existing gaps in doctor-patient interaction. This reduces unnecessary clinical visits, especially to the emergency department and hospitals and promotes patient involvement in his care, generates awareness, and reassures the patient and his caregivers (34).

- **Teleoncology-** Teleoncology has been demonstrated to improve access to care and decrease health care costs. Cancer telegenetics, remote chemotherapy supervision, symptom management, survivorship care and counseling, palliative care supervision, supervised radiation planning, and approaches to increase access to cancer clinical trials are some areas suggesting successful Tele oncology. It provides a platform for rural patients to access high-quality oncologist consultation from the comfort of their homes thereby avoiding unnecessary travel and overhead expenses. This may also benefit a cancer patient from India to get his reports checked and verified by a specialist sitting in some other part of the world (35).
- **Smart wearables-** Commercially available smart wearable technologies have started to play a crucial role in helping patients manage their cancer. The American Society of Clinical Oncology (ASCO) concluded that integrating general fitness data using a Microsoft Band is a very realistic way to minimize unplanned hospitalizations in many US cancer centers. Iphones are surprisingly becoming another effective tool for oncology (36).
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## TO ENHANCE THE SECOND OPINION EXPERIENCE

### **Encouraging Primary care physician (PCP) participation in cancer care management**

PCP can participate in screening, diagnosing cancer, and even post-cancer treatment care by periodic assessment, follow-up, remote monitoring, long-term care, interpreting the laboratory test results like blood counts, liver & kidney function, etc. With the help of the digitally enabled framework, PCP can seek help from radiologists, pathologists to interpret the results of the laboratory tests, and radiology images, via Teleradiology, telepathology. Also, it promotes an instant connection to the Oncologists for any cross-reference and opinions in cancer care, via virtual consultation. Digital platforms enable the PCP to repeat prescriptions for those patients who stay in remote/inaccessible areas. Skilled & trained PCP can be a powerful partner in handling the mental wellbeing of cancer patients and their caregivers by providing counseling and lifestyle modifications. Training on cancer risk assessment, early detection, and appropriate management/referral, and palliative care to the primary care physician may increase the physician initiated second opinions. So incorporating the PCP in cancer care would really help by directing the patients to the right oncologists.

## Network coordinated model will enhance Patient initiated Second opinion

The “Second Opinion Medical Network” is an effective decision-support method, not only to accomplish re-evaluation of the patient's condition and subsequent enhancement of medication and prognosis, but also to prevent needless surgery and costs. Coordination of care requires being able to take information from a variety of sources. As studies say lack of communication is the main reason for doctor shopping behaviour of the patient, there is a need for clear communication between the patient and physician . Physicians must explain the diagnosis and treatment options thoroughly to the patient. For every diagnostic report oral explanations must be followed by the written report. It creates trust and promotes an interactive doctor patient relationship.

Coordinated care may include-

- 24/7 access to clinical staff to see the medical record, and answer questions about treatment, including cancer treatment side effects and other issues.
- Patient navigators to coordinate care within and outside the oncology clinic with primary care physicians & other clinical teams for any other chronic or acute health conditions that the patient has.
- Incorporating multidisciplinary tumor boards with care coordinators will improve the efficiency of the process and ensure optimization of the cancer care.
- A standardised treatment protocol among the coordinated cancer network may reduce the errors and improve efficiency
- A platform that provides the service of a second opinion, and regular follow up for the patient even after the services rendered for the outcome like an example **National registry or database** to enter/register the patient initiated and physician initiated second opinion request.



In

# CONCLUSION

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*Second opinion in a complex disease like Cancer is here to stay! Ultimately, the goal for a patient and his family is not just to survive but to thrive. There are a number of moving parts in the gamut of cancer management and to improve evidence based care a well-coordinated and highly informed system is crucial. Hence understanding the merits and demerits of Physician-led and Patient-led Second Opinion seeking behaviour, there is a huge need to assist these models to make it a mainstream care process for Oncology. Physician-led Second Opinion is very important for democratizing cancer care while it presents an opportunity for better adoption to evidence-based care and skill improvement. Patient-led Second Opinion in an assisted environment helps realize the value for money, improved communication and make the care more patient-centric.*



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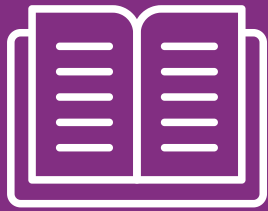
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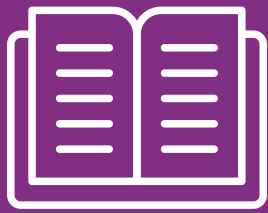
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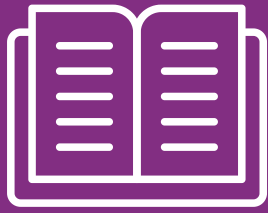
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# KARKINOS

## COMPANY PROFILE



“KARKINOS HEALTHCARE (KH) is desirous to build an end-to-end technology-driven oncology-focused managed healthcare platform where almost no person is deprived of care either by lack of access or affordability”

### Our Vision Powered By 4D's

**Detection & Diagnosis –**  
Establishment of participatory systems and near home care,  
Research on genomics as a foundation approach for prevention,  
Innovation, and game-based outreach approach for early diagnosis and wellness.

**Data & Research –** Contribute towards Atmanirbhar Bharat through drug discovery research and treatment innovation, Large scale screening and longitudinal data to build robust AI/ML analytics, predictive models and clinical decision support system for real world evidence.

**Deliver managed health care –** 2 million+ patients served annually, 10 million+ patient hours saved annually.

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