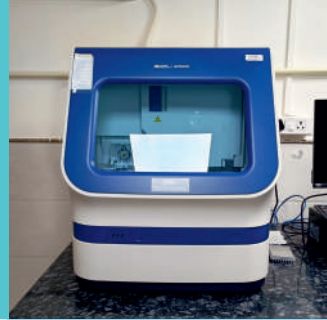




THE CLEARING CORPORATION OF INDIA LTD



CSR IMPACT ASSESSMENT REPORT

FY 2021-22

Submitted by NuSocia





CCIL initiated several impactful projects to enhance cancer and eye care services across India showcasing its dedication to advancing societal welfare and addressing the healthcare needs of vulnerable populations within communities.



Table of Contents

Executive Summary

Abbreviations

01 Introduction

02 Research Methodology

03 Findings & Analysis

3.1 Impact of Emergency Funding for Initial Diagnosis/Initiating treatment of cancer & complete adoption of children / young adults for cancer treatment

3.2 Impact of procurement of the Sanger Sequencer equipment used for the sequencing of genes which are affected or modified in various types of cancers

3.3 Impact of Cancer Cure Fund (CCF) and Dr. Arun Kurkure Initiation and Treatment Fund (AKITF)

3.4 Impact of support for ophthalmic care for poor and needy Patients at Sankara Nethralaya

04 Recommendations

05 Conclusion

Executive Summary

Cancer care and eye care in India face significant challenges due to the vast population, limited resources, and disparities in healthcare access. India reported 14.13 lakh new cancer cases and 9.16 lakh deaths due to cancer in 2022, with cancer cases projected to increase by 12.8% by 2025. Additionally, India is home to one-fourth of the world's blind population, with cataract being the leading cause of blindness, accounting for about 62.6% of cases.

To address these challenges, The Clearing Corporation of India Limited (CCIL) initiated projects to provide cancer and eye care treatment and facilities across eight states in India. By collaborating with non-profit organizations, CCIL aimed to enhance access to healthcare services, especially in underserved areas, focusing on cancer patients and improving eye care services.

CCIL partnered with organizations like Tata Memorial Centre, Indian Cancer Society, and Medical Research Foundation to provide financial aid for cancer treatment, procure advanced equipment like Sanger Sequencers for gene sequencing in Varanasi, and support ophthalmic care by procuring essential equipment for diagnosing and treating eye diseases in Chennai and Kolkata.

The projects supported over 1251 cancer patients through financial aid and treatment and thousands with eye checkups and diagnosis, benefiting from advanced equipment for cancer detection and eye care treatment. The initiatives provided crucial financial support, accommodation facilities, advanced equipment, and training for healthcare professionals, ultimately improving patient outcomes and addressing the growing burden of cancer and eye diseases in India.

By focusing on financial assistance, advanced equipment procurement, and capacity building in cancer and eye care services, CCIL's initiatives have made significant strides in mitigating the burden of these diseases in India, and contributed to long term addressing of these issues through quality equipment.

List of Abbreviations

CCIL	The Clearing Corporation of India Limited
WHO	World Health Organization
NPCBVI	National Programme for Control of Blindness and Visual Impairment
CSR	Corporate Social Responsibility
FY	Financial Year
ICS	Indian Cancer Society
AKITF	Dr. Arun Kurkure Initiation and Treatment Fund
CCF	Cancer Cure Fund
REECIS	Relevance Effectiveness Efficiency Coherence Impact Sustainability
TMC	Tata Memorial Center
MH	Maharashtra
UP	Uttar Pradesh
ImpaCCT	Impactful Cancer Care and Treatment
HBCH	Homi Bhabha Cancer Hospital
MPMMCC	Mahamana Pandit Madan Mohan Malviya Cancer Centre
RNA	Ribonucleic Acid
dNTPs/ ddNTPs	Deoxynucleotide Triphosphates
AKITF	Dr. Arun Kurkure Initiation and Treatment Fund
TMH	Tata Memorial Hospital
SSCHRC	Shri Sankara Cancer Hospital and Research Centre
KCH	Kailash Cancer Hospital
BKL	BKL Walawalker Hospital
CI	Cancer Institute
TN	Tamil Nadu
AP	Andhra Pradesh
GJ	Gujarat
TG	Telangana
MRF	Medical Research Foundation
HFA	Humphrey Field Analyzer
ASOCT	Anterior Segment Optical Coherence Tomography

01 INTRODUCTION

1.1. Background :

Cancer care and eye care in India face significant challenges, primarily due to the country's vast population, limited resources, and disparities in healthcare access. While there have been advancements in medical technology and treatment options, many Indians still lack access to quality care, especially those belonging to low-income families.

Cancer Care in India :

According to the World Health Organization (WHO), India reported 14.13 lakh new cancer cases and 9.16 lakh deaths due to cancer in 2022, and cancer cases in India are projected to increase by 12.8% by 2025¹. The burden of cancer in India is compounded by factors such as late diagnosis, limited access to advanced treatments, and the high cost of cancer care. A study published in The Lancet Oncology highlighted that only about 12.5% of cancer patients in India have access to appropriate treatment².

The need for financial support for organizations working in cancer care is critical. Dr. C.S. Pramesh, Director of Tata Memorial Hospital, Mumbai, emphasized the importance of financial aid, stating, "Financial assistance is crucial to ensure that cancer patients, especially those from economically disadvantaged backgrounds, can access timely and effective treatment."

Eye Care in India :

Similarly, eye care in India faces significant challenges, being home to one-fourth of the world's blind population. According to a report by the National Programme for Control of Blindness and Visual Impairment (NPCBVI), cataract remains the leading cause of blindness in India, accounting for about 62.6% of cases.

Financial and capital expenditure support is essential for organizations working in eye care to expand their reach and improve infrastructure. Dr. Gullapalli N. Rao, Founder-Chair of LV Prasad Eye Institute, highlighted the need for investment, stating, "Investments in infrastructure, human resources, and technology are vital to address the growing burden of blindness in India."

Cancer and eye care organizations require financial support to enhance their diagnosis, treatment, and prevention capabilities. This support can facilitate establishing new facilities, procuring advanced equipment, and training healthcare professionals. Additionally, investments in research and development are crucial to drive innovation and improve patient outcomes.

India's cancer and eye care systems require significant financial support and capital expenditure to

¹<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10231735/>

²<https://indianexpress.com/article/health-wellness/who-breast-oral-cervical-cancer-cases-india-9139486/>

address the growing disease burden and improve healthcare outcomes. Collaboration between government, non-profit organizations, and the private sector is essential to ensure that all individuals, regardless of socio-economic status, have access to timely and effective treatment.

1.2. Project Introduction :

To alleviate the increasing burden of cancer and eye diseases in India, The Clearing Corporation of India Limited (CCIL), as part of their Corporate Social Responsibility (CSR) initiatives, aimed to provide cancer and eye care treatment and facilities across eight states in India, and towards implementing this cause, they've collaborated with three non-profit organizations in FY 2021-22.

The CCIL is a prominent financial institution in India, specializing in providing clearing and settlement services for various financial markets. Committed to positively impacting society, CCIL actively engages in CSR initiatives nationwide. In line with its commitment to promoting public welfare, CCIL allocates resources towards supporting initiatives to improve access to healthcare services, particularly in areas such as cancer and eye care.

In FY 2021-22, the CCIL initiated several impactful projects to enhance cancer and eye care services across India. One such endeavor involved partnering with the Tata Memorial Centre through the implementing agency ImpaCCT Foundation Society, where CCIL contributed to an emergency fund and financial adoption, facilitating the initiation of cancer treatment for 210 beneficiaries (Children and Youth) in Mumbai.

Another significant project undertaken by CCIL in Varanasi, Uttar Pradesh, involved collaborating with the Tata Memorial Centre Society. Here, CCIL allocated funds to procure a Sanger Sequencer, a vital tool for sequencing genes affected by various cancers. This investment aimed to enhance the region's cancer diagnosis and treatment capabilities, ultimately benefiting the local population.

In its commitment to combating cancer on a broader scale, CCIL partnered with the Indian Cancer Society (ICS) to contribute towards cancer treatment initiatives. Combining two significant projects, the Dr. Arun Kurkure Initiation and Treatment Fund (AKITF) and the Cancer Cure Fund (CCF) under the name of the Cancer Cure Project, CCIL's support extended to 1042 beneficiaries across the ICS Empanelled Hospitals in Maharashtra, Tamil Nadu, Telangana, Gujarat, Karnataka, and Assam.

Furthermore, CCIL extended its efforts to improve eye care services by collaborating with the Medical Research Foundation. CCIL facilitated the procurement of four pieces of equipment essential for diagnosing and treating eye diseases in Sankara Nethralaya eye care hospital branches in Chennai, Tamil Nadu, and Kolkata, West Bengal. This initiative aimed to provide ophthalmic care to poor and needy patients, ensuring accessibility to quality eye care services in underserved communities.

Through these varied projects, CCIL showcased its dedication to advancing societal welfare and addressing the healthcare needs of vulnerable populations within communities.

02 RESEARCH METHODOLOGY

To evaluate the program's effectiveness and understand the objectives below, CCIL has entrusted NuSocia, an impact advisory firm, to undertake the Impact Assessment of the four projects implemented by the various non-profit organizations.

2.1. Research Objectives

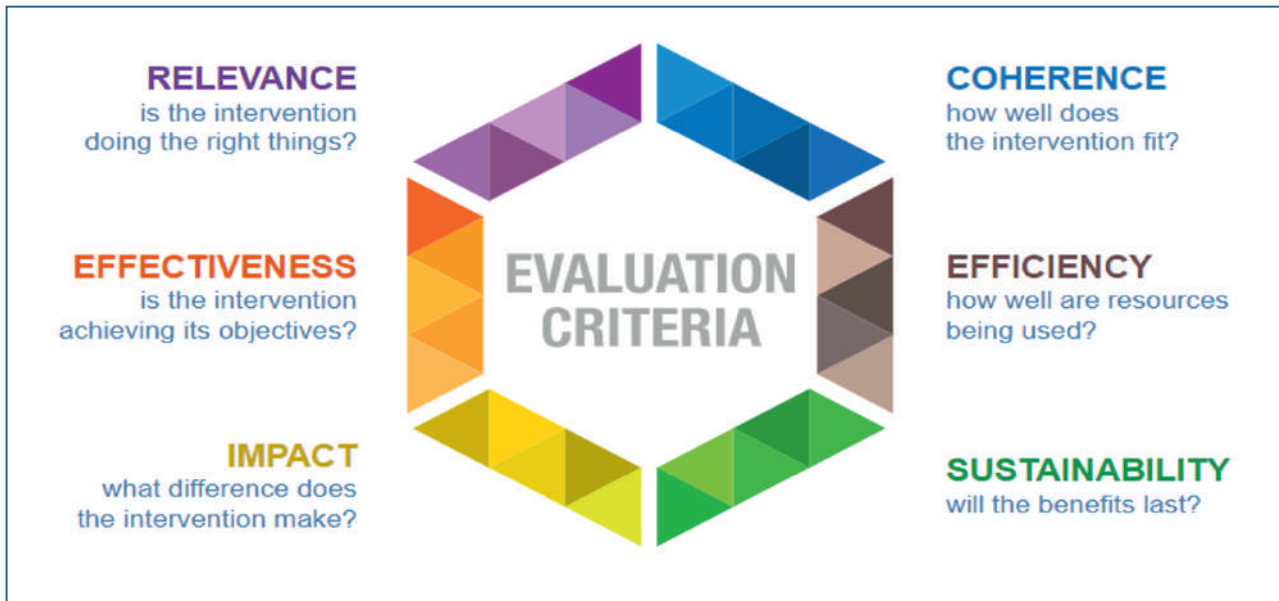
1. To assess the impact of the contribution to emergency fund/seed fund to initiate cancer treatment and complete financial adoption of children/young adults for cancer treatment
2. To assess the impact of procuring the Sanger sequencing used for sequencing genes that are affected or modified in various types of cancers.
3. To assess the impact of Cancer treatment through Dr Arun Kurkure's Initiation and Treatment Fund (AKITF) and Cancer Cure Fund (CCF)
4. To assess the impact of the Support for ophthalmic care by procuring four capital equipment for diagnosing and treating eye diseases.

2.2. Research Framework

The impact assessment evaluation will analyze the REECIS Framework of the OECD DAC (The Organisation for Economic Co-operation and Development's Development Assistance Committee). This framework employs a thorough and inclusive approach to impact assessment consisting of the following components:

1. Relevance : This component assesses the project's necessity within context.
2. Effectiveness : This component scrutinizes the attainment of intervention objectives.
3. Efficiency : This element examines the prudent utilization of cost, time, and resources.
4. Coherence : This ensures that interventions align with and complement similar efforts, fostering consistency.
5. Sustainability : This component primarily evaluates the enduring success of interventions over the long term.

The REECIS Framework provides a comprehensive lens for systematically addressing relevance, effectiveness, efficiency, coherence, and sustainability in the impact assessment process.



[OECD-DAC REECIS Framework]

2.3. Sampling

The project supported over 1251 cancer patients through financial aid and treatment. It contributed to the purchase of multiple high-value capital assets to help thousands of patients in the future with advanced equipment for cancer detection and eye care treatment. Of these beneficiaries and administration, the study has identified the respondents through convenience sampling, and the list of respondents is as follows:

S.No	Project	Stakeholder interviewed	Remarks	Mode of Interaction
1	Emergency Funding for Initial Diagnosis/Initiating treatment of cancer and complete adoption of children / young adults for cancer treatment at Mumbai	Parents/guardians - 8 Doctors - 1 Medical Social Worker/Counselor - 1 Impact Foundation - 1 Tata Memorial Hospital - 1 Total- 12	For beneficiaries are children, as per the data protection Law and due to the sensitivity associated with cancer care, the beneficiary children were not interviewed.	In-person interactions with parents and other stakeholders were conducted during the hospital visit.
2	Procurement of the Sanger Sequencer equipment used	Head of Hematopathology - 1	As the donation was advanced equipment and the beneficiaries	In-person

	for the sequencing of genes which are affected or modified in various types of cancers at Varanasi, Uttar Pradesh	Hospital Staff operating the machine - 1 Tata Memorial Centre - 1 Total- 3	may not possess the technical know-how, the hospital staff was interviewed to understand the impact	
3	Cancer Cure Fund (CCF) and Dr. Arun Kurkure Initiation and Treatment Fund (AKITF) across 8 hospitals across six states, viz. Maharashtra, Tamil Nadu, Telangana, Gujarat, Karnataka, and Assam	Beneficiary patients - 40 (5 in each hospital) Head of Oncology - 6 Indian Cancer Society - 1 Total- 50		Telephonic conversations and In-person visits
4	Support for ophthalmic care for poor and needy Patients at Sanskara Nethralaya in Chennai (Tamil Nadu) and Kolkata (West Bengal)	Beneficiary patients - 10 (5 from Kolkata & 5 from Chennai) Hospital staff - 2 (1 in each hospital) Medical Research Foundation - 1 Sankara Netralaya - 1 Total- 15		In-person and Telephonic conversations

2.4. Data Collection

2.4.1. Desk research : Desk research was conducted with the help of annual project reports, assessment reports, and other documents provided by implementation partners and the donor, along with open resources available on the Internet.

2.4.2. Key Informant Interviews : In-depth interviews with the help of an interview guide consisting of open-ended questions were conducted in person and over the phone with the beneficiaries, Parents/Caretakers, Hospital Staff, Administration, and the implementation team to understand the project's effectiveness.

03 FINDING & ANALYSIS

3.1. Impact of Emergency Funding for Initial Diagnosis/Initiating treatment of cancer and complete adoption of children / young adults for cancer treatment

Emergency Fund :

The primary challenge encountered by families seeking cancer treatment at the Tata Memorial Center (TMC) was the scarcity of funds. With over 80% of patients coming from low-income households, many struggle to afford treatment costs, leading to treatment discontinuation. Additionally, inadequate accommodation facilities exacerbated the situation.

In response to this pressing need, the ImpaCCT Foundation Society was established in 2010 under the auspices of the Tata Memorial Center (TMC). The foundation assists families affected by childhood cancer/pediatric cancer by providing crucial financial support and counseling services before diagnosis and admission for treatment.

“CCIL provides funds for tests to diagnose cancer levels before the admission. We completely depend on the CCIL funds for emergency funds as the government does not provide those funds. CCIL transfers the entire amount, and utilization is shared quarterly to CCIL and requests for the 2nd tranche after 80% of the utilization. - Senior project coordinator, ImpaCCT Foundation”

Patients were categorized based on whether they had blood-related disorders or tumors to streamline the support. Each category is managed by two social workers who assess the background and eligibility of patient families for the program. Accessing the emergency fund at TMC entails multiple steps to ensure that families requiring assistance for their child's treatment receive prompt support.

1. Initial Assessment and Consultation : When families arrive at the Tata Memorial Hospital, they undergo an initial assessment, and medical professionals review their case to determine the appropriate course of treatment.

2. Referral to Social Worker Department : Upon consultation with the Outpatient Department (OPD) doctors, families are directed to the social worker department. They are greeted by social workers who specialize in supporting families facing financial challenges.

3. Comprehensive Evaluation : The social workers conduct a thorough psycho-social-economic assessment of the family's situation. This assessment helps them understand the family's financial constraints and any other challenges they may be facing.

4. Application Process : Based on the evaluation, the social workers assist the family in completing

the necessary paperwork to avail of financial assistance and create a bank account. This includes filling out the patient assessment form and providing any required documentation.

5. Enrollment in the CCIL Emergency Fund Support Program : After reviewing the documents provided by the family, the social workers determine the family's eligibility for financial assistance. If eligible, the family is enrolled in the CCIL Emergency Fund Support Program, which provides crucial financial aid to cover treatment expenses.

6. Additional Support Services : Besides financial assistance, families enrolled in the program receive holistic support from the hospital, including nutritional guidance, educational assistance, counseling services, and accommodation.

Through the Emergency Fund, the ImpaCCT Foundation offered ₹50,000 per patient to cover standard diagnostic tests needed for cancer diagnosis and staging, such as Blood tests, X-ray scans, PET/CT/MRI scans, ECG, etc. A total of 107 patients benefitted from this fund.

As part of the primary research, the study conducted interviews with parents or caretakers of cancer patients with both blood-related and tumor-related conditions. They also interviewed social workers, implementation partners, and doctors to assess the effectiveness of the intervention.

The respondents were from Maharashtra, Odisha, Bihar, and Uttar Pradesh. They primarily came from low-income backgrounds, with family members working as daily wage earners, laborers, and factory supervisors, with family incomes ranging from 5,000 rupees to 40,000 monthly.

From the interactions with the beneficiary families, it was observed that the doctors at the TMH played a crucial role in creating awareness and initial communication about the financial assistance available for low-income families through the emergency fund and directed them to the social workers.

When families recognize the severity of their children's illnesses and are unaware of the treatment costs, they often resort to admitting the patients to private hospitals and borrowing money from lenders in times of desperation. In such situations, social workers guide these families, educating them about the expenses involved in private hospitals and informing them about the facilities available at government hospitals.

“ By the time we got to know about the medical social worker department, I had already taken multiple loans as I was not aware, and I got my daughter admitted to the private hospital. Later on, the medical social worker guided us and asked us first to move the admission from private to government, and they supported us with the treatment and funds. -The Parent of a beneficiary from Odisha.

I initially had 1 lakh rupees, which was depleted during the process. The doctor requested certain documents, and once provided, the treatment commenced. The doctor also informed me about the social workers, who later assisted in processing the required amount into my account based on our file.

- A Parent from UP.”

The guidance and counseling provided by the social workers, financially and mentally, saved these families from getting into the debt trap, poverty, and depression.

When inquired about how the emergency fund from CCIL helped them with expenses, the respondents admitted they were unaware of the fund's source and were too overwhelmed to inquire during those distressing moments. Nonetheless, they expressed complete satisfaction with the funds received and appreciated the communication and counseling provided by the social workers.

“ We are delighted with the treatment process, orientation process of the treatment, and communication is 100% - A parent from Mumbai, Maharashtra

Yes, we are delighted; they first provided the funds, they maintained transparency, they did not stop the treatment, and asked us to provide documents as we get that, said a parent from Panvel, Maharashtra ”

Complete Financial Assistance to children / young adults for cancer treatment :

The actual cost of treatment varied depending on the diagnosis supported by the Emergency Fund. However, for most pediatric cancer treatments, the expenses exceeded the funds available through the emergency fund. Therefore, the ImpaCCT Foundation initiated the complete financial adoption of a child for the treatment, which costs between 2 and 4 lakh Indian rupees.

Under this complete financial assistance, cancer treatment and therapy of children and youth was supported for six months to two years, benefitting 103 over the project year.

When asked how the financial help has assisted the families in managing the treatment cost, parents expressed gratitude and expressed that their kid's health has improved.

*“ Financial support and Tata service facilities have been beneficial, and we can see progress in the child
- Parent, MH.*

Initially, they deposited around 1 lakh rupees, and since then, they have continued to add amounts totaling around 5 to 6 lakhs to the account. This financial assistance has enabled us to focus on caring for our child without worrying about expenses. - Parent, Panvel, MH. ”

The parents expressed satisfaction with communication, support, and fund delivery. They mentioned they had no issues accessing the total financial assistance for their children's treatment.

“ No challenges are faced, and the process runs quickly and smoothly. Social workers are very supportive at every step - Parent from Panvel, MH. ”

Regarding the challenges encountered, the respondent's parents mentioned they had no issues accessing the project. However, they did offer suggestions to enhance awareness and the overall experience for patients undergoing treatment.

“As we have to take medicines from pharma on an emergency basis, that often takes time as we have to stay in long lines if that process can be made quick for child patients. - Parent, Mumbai, MH

*Prepare a small module to spread awareness for early cancer care and treatment at the rural level.
- Beneficiary Parent from Odisha*

There are 40 to 50 pediatric patients in the hospital, with accommodation challenges. All the accommodation centers have their terms and conditions. Also, some centers get blocked due to the treatment span of each patient. During the pre-diagnosis, patients face challenges (starting 20 - 25 days) in accommodation. This starting period has a high chance of discontinuation of the treatment. The patients get funding from the next few days but face challenges in accommodation. - Social worker.”

A total of 210 children benefited from both the Emergency Fund and Complete Financial Adoption programs. The children's ages ranged from 2 months to 15 years for the Emergency Fund and 1 to 15 years for the Complete Financial Adoption. The primary goal of assisting with initial diagnosis and supporting families in need with treatments and therapy has been successfully achieved. Patient families expressed satisfaction and gratitude towards the project.

Analysis

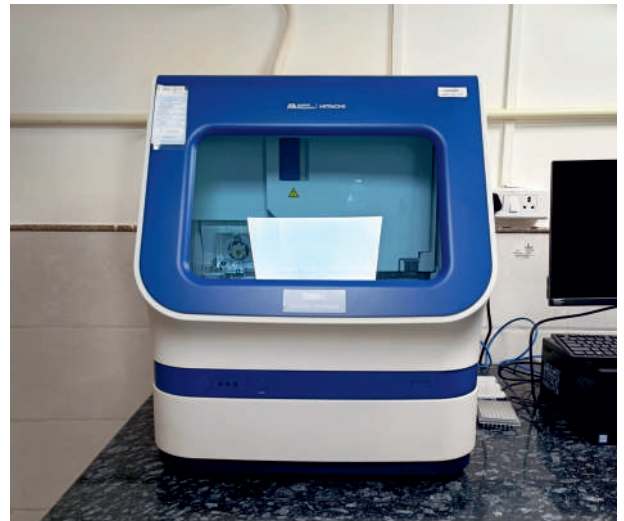
Parameters	Description
Relevance	<ul style="list-style-type: none"> ● Given the increasing cancer rates among children aged 0-14 years and the alarming annual rise in cases nationwide, early diagnosis is crucial for effective treatment. However, families from low-income backgrounds face challenges in affording the high costs associated with cancer diagnosis and treatment. This highlights the urgent need for emergency and comprehensive financial assistance. While government policies are supportive, they often take at least two weeks to one month to provide aid, even under favorable circumstances. ● The project's goals and intervention structure align with the needs, policies, and priorities of beneficiaries in the country and the impaneled hospitals. It is adaptable to various family needs, providing counseling, assistance with accommodation, and support for all types of pediatric cancers.
Effectiveness	<ul style="list-style-type: none"> ● The project has successfully met its goals of aiding distressed families in accessing cancer diagnosis, treatment, and therapy. Additionally, the counseling support offered by medical social workers has played a crucial role in addressing the emotional trauma associated with cancer among the family members.

Efficiency	<ul style="list-style-type: none"> Out of the 200 lakh rupees allocated to the ImpaCCT Foundation by CCIL, 50 lakhs were earmarked for the emergency fund, benefiting 107 children at approximately 46,728 rupees per beneficiary. The remaining 150 lakhs were designated for the complete adoption of 103 patients, with an average price of 1,45,631 rupees per beneficiary. All disbursed funds were fully utilized within the project duration to support the patients, with no funds allocated for administrative purposes.
Impact	<ul style="list-style-type: none"> The project has successfully benefitted 210 children affected with pediatric cancers and extended support to their caretakers and family members by providing counseling, guidance, and accommodation support. Thus, it helped 210 families directly and stopped them from distress and mental agony.
Coherence	<ul style="list-style-type: none"> The Emergency Fund and Complete Financial Adoption play a crucial role in addressing gaps in existing healthcare schemes offered by the Central and State Governments. These schemes often involve lengthy processing times and may have limitations on the types of treatments and diagnostics covered. By providing immediate financial support, they act as a safety net for families in need until they can access other assistance available to low-income households, whether from governmental sources or private donors.
Sustainability	<ul style="list-style-type: none"> In economic terms, the project relies on donors to fund diagnosis and treatment services until patients can access government health services or secure additional donor support, which makes the project reliant on continuous external funding. However, the project intervention yielded positive long-term outcomes by improving patient health and alleviating family financial burdens. Thus creating a sustainable, long-term impact.

3.2. Impact of procurement of the Sanger Sequencer equipment used for the sequencing of genes which are affected or modified in various types of cancers

The Tata Memorial Center in Varanasi faced delays in diagnosing and treating cancer patients due to the lengthy process of collecting and sending patient samples to Mumbai for genome sequencing. The hospital requested Sanger Sequencer equipment to expedite gene sequencing to address this, enabling faster diagnoses and interventions.

Recognizing the need, CCIL funded the procurement and installation of the Sanger Sequencer at the Homi Bhabha Cancer Hospital in Varanasi through the Tata Memorial Center (TMC).



The Sanger Sequencer, developed by Frederick Sanger in the late 1970s, is a crucial tool in molecular biology and genetics. It operates by DNA synthesis using chain-terminating dideoxynucleotides (ddNTPs), enabling precise DNA sequence determination.

In a typical Sanger sequencing reaction, DNA is denatured, a primer is annealed, and DNA polymerase extends the primer using a mixture of regular deoxynucleotides (dNTPs) and fluorescently labeled ddNTPs. The resulting DNA fragments are separated by size using gel electrophoresis, and their sequences are determined based on the order of ddNTP incorporation.

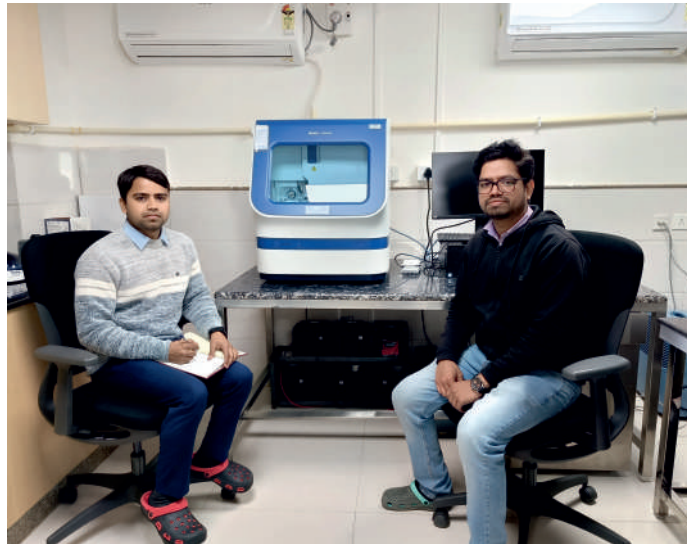
The Sanger Sequencer has diverse applications in cancer research and diagnostics. It identifies genetic mutations, confirms variants detected by other methods, monitors minimal residual disease, and detects hereditary cancer syndromes. These capabilities aid in personalized treatment decisions and early cancer detection.

According to the Head of Hematopathology at Homi Bhabha Cancer Hospital (HBCH) and Mahamana Pandit Madan Mohan Malviya Cancer Centre (MPMMCC), which are units under the Tata Memorial Centre, “The Sanger Sequencer is crucial for our hospital. It enables us to conduct targeted gene sequencing for different types of cancers, essential for providing precise and targeted treatment to our patients. Before acquiring the Sanger Sequencer, we had to rely on external labs for RNA sequencing. This process was costly, time-consuming, and hindered our ability to deliver timely and personalized patient care, despite being a routine practice.”

Installing the Sanger Sequencer has notably enhanced the Hematopathology department's efficiency by reducing turnaround times and dependency on external labs for sequencing. Previously facing delays and increased costs, the department now conducts sequencing in-house, significantly benefiting patient care. With the Sanger Sequencer, they have streamlined the diagnostic process, overcoming previous delays in receiving results from external labs and enabling prompt initiation of treatments.

“Sanger Sequencer results have guided us toward selecting targeted therapies based on specific genetic mutations in numerous cases. This personalized approach has led to more effective treatment plans, ultimately improving patient outcomes. - Technical operator of Sanger Sequencer.”

The hospital staff underwent comprehensive training in operating the Sanger Sequencer, facilitated through workshops organized by the equipment supplier and hands-on training sessions within the hospital. This training equipped them with the necessary skills and confidence to operate the machine proficiently. Over the past two years, continuous learning and hands-on experience have further enhanced their proficiency during the assessment.



Integrating the Sanger Sequencer into the hospital's workflow involved several adjustments to optimize its utilization. These adjustments included establishing designated space for the sequencer and associated equipment, implementing new protocols for sample handling and data management, and scheduling sequencing runs efficiently. These changes were made collaboratively with the entire team to ensure a smooth transition and seamless integration of the instrument into the daily workflow.

The hospital's biomedical department consistently maintained the device every six months, promptly addressing any issues to prevent process disruptions and treatment delays. The head of the department also expressed intentions to expand the applications of the Sanger Sequencer to detect a broader range of abnormalities and maximize its utility.

“ Our plans include expanding the applications of the Sanger Sequencer to cover a broader range of genetic abnormalities. We aim to sustain the positive impact by investing in continuous staff training, keeping the equipment up-to-date, and exploring collaborations for ongoing research and development. - Head of Hematopathology ”

All respondents expressed satisfaction when asked about challenges the operator and hospital staff encountered in using and maintaining the equipment and the quality and reliability of results. They unanimously stated that the Sanger Sequencer delivers excellent quality and accurate results. No significant challenges have been encountered, with the technology consistently providing reliable genetic information crucial for precise cancer diagnosis and treatment.

From the patients' perspective, while they may not be expected to be familiar with the technical or medical procedures of the equipment, they undoubtedly benefited from reduced treatment costs at subsidized rates for eligible patients. Additionally, the hospital's operation on a no-profit, no-loss model ensured services were provided to all the patients at low costs. This approach, coupled with the expedited process

facilitated by the Sanger Sequencer, saved valuable time, particularly critical in cancer treatment, where early diagnosis can significantly impact outcomes and potentially save lives.

The introduction of the Sanger Sequencer equipment in Varanasi successfully achieved its primary objectives, including enhancing in-house diagnostic capabilities, reducing turnaround time for test results, improving the precision and effectiveness of cancer treatment for patients, and ultimately lowering cost and time requirements.

“The Sanger Sequencer has indeed proven to be cost-effective and time-saving over the past two years, contributing significantly to our success in cancer diagnostics and treatment. - Chief Administrative Officer, HBCH/MPMMCC, Varanasi”

Analysis

Parameters	Description
Relevance	<ul style="list-style-type: none"> Timely and effective cancer diagnosis relies on identifying abnormalities at the cellular level, often facilitated by devices like the Sanger Sequencer. The absence of such equipment leads to delays in cancer detection and diagnosis. Therefore, the hospital in Varanasi sought the Sanger Sequencer to ensure efficient and prompt diagnosis for patients at HBCH and MPMMCC.
Effectiveness	<ul style="list-style-type: none"> Previously, samples were gathered weekly and sent to Mumbai, taking an extra week to receive the reports. With the introduction of the Sanger Sequencer, staff now collect samples twice a week and provide results within a week. This change has cut the diagnosis time in half, improved the turnaround time, strengthened in-house diagnostic capabilities, and enhanced the precision and effectiveness of patient treatment at HBCH and MPMMCC through staff training and adopting a new workflow.
Efficiency	<ul style="list-style-type: none"> The equipment's initial cost, including installation, amounted to 99.49 lakh Indian rupees. However, the hospital offers services to patients at no profit, charging a nominal fee ranging from 150 rupees for those under the non-creamy layer (with an annual family income below eight lakhs) to 1300 rupees for patients in different income strata. The equipment has been seamlessly integrated into the workflow and used for two years at the time of assessment, consistently delivering timely and cost-effective results.
Impact	<ul style="list-style-type: none"> The installation of the Sanger Sequencer has had several

	<p>visible impacts. Firstly, it has reduced the waiting time for test results from over a week to just a few days. Secondly, it has enhanced the staff's ability to operate and maintain the equipment, improving their understanding of cancer diagnosis. Additionally, it has decreased the costs and time previously spent on external lab tests for patients and the time wasted waiting for results. All these positive outcomes have benefitted the patients with accurate and timely diagnosis to get the correct treatment.</p>
Coherence	<ul style="list-style-type: none"> Installing the Sanger Sequencer at HBCH filled a crucial gap. Previously, reliance on external labs incurred costs for patients and caused delays. The introduction of the Sanger Sequencer significantly enhanced the efficiency of the diagnostic capabilities in the hematopathology department. Moreover, it seamlessly aligned with Varanasi's local cancer detection and treatment needs.
Sustainability	<ul style="list-style-type: none"> The equipment has a lifespan of 8-10 years and undergoes preventive maintenance every six months by the biomedical department to ensure continuous functionality. This regular maintenance provides sustained performance, making it beneficial for the future and enabling affordable and efficient diagnosis. Thus, the objective of reducing turnaround time and improving in-house diagnosis capabilities will continue to benefit the patients visiting the two hospitals in Varanasi.

3.3. Impact of Cancer Cure Fund (CCF) and Dr. Arun Kurkure Initiation and Treatment Fund (AKITF)

The Indian Cancer Society (ICS) is a renowned non-profit organization combating cancer through prevention, early detection, treatment, and support services. Established in 1951, ICS has been at the forefront of cancer control efforts in India, advocating for public health policies, promoting cancer awareness and education, providing financial assistance to patients, and supporting cancer research initiatives.

Under its Cancer Cure initiative, the Indian Cancer Society (ICS) manages two key projects: the Cancer Cure Fund (CCF) and the Dr. Arun Kurkure Initiation and Treatment Fund (AKITF). These projects address the financial challenges faced by patients seeking cancer treatment. These endeavors are consolidated within the Cancer Cure project, supported by the Clearing Corporation of India Limited (CCIL), which extended funding for diagnosis and treatment to nine hospitals across six states.

3.3.1. Cancer Cure Fund (CCF) :

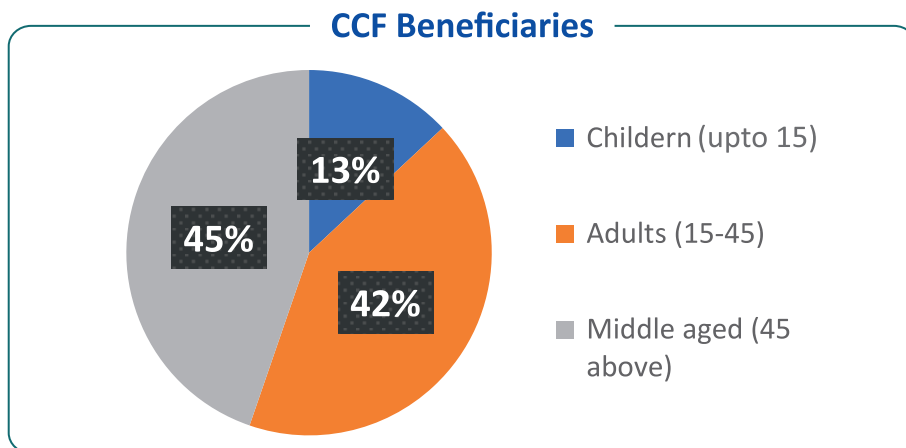
The Cancer Cure Fund (CCF) provided financial assistance of up to 5 lakh Indian rupees to underprivileged

and low-income patients diagnosed with curable or early-detected cancers through affiliated hospitals. Eligibility was restricted to patients whose family income was below Rs.4 lakh per annum. Treatment had to be received at the affiliated hospital processing the application, and patients had to be registered as general patients (not private or semi-private). To qualify, pediatric patients under 15 needed a projected five-year survival rate of 60% or more. In comparison, adult patients (15 years or older) required a projected survival rate of 50% or more.

The financial support covered the following services :

- a. Surgery
- b. Chemotherapy
- c. Radiation Therapy
- d. Supportive Care
- e. Rehabilitation, including prosthesis
- f. Investigation charges of all the tests

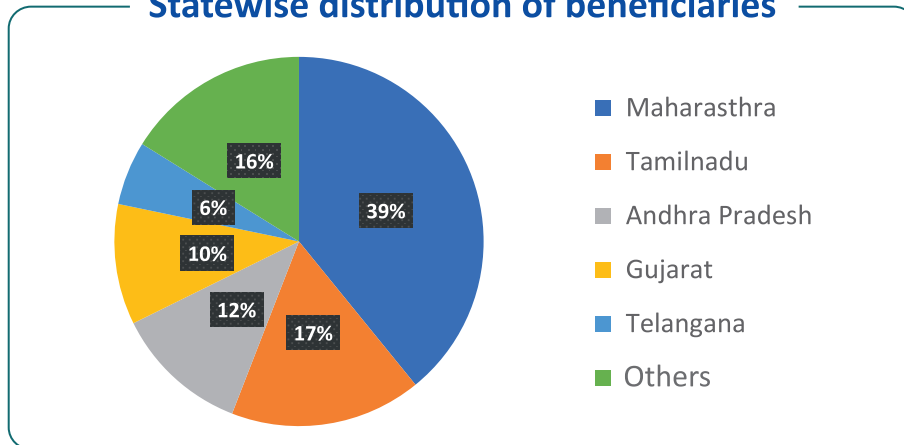
Six affiliated hospitals provided cancer care to over 161 patients through the initiative. Among them, 21 were children aged upto 15, 68 were between 15 and 45, and 72 were above 45 years of age.



S. No	Hospital	Beneficiaries
1	Tata Memorial Hospital (TMH), Mumbai, Maharashtra	25
2	Shri Sankara Cancer Hospital (SSCHRC), Bangalore, Karnataka	3
3	Kailash Cancer Hospital (KCH), Goraj, Gujarat	19
4	BKL Walawalker Hospital (BKL), Chiplun, Maharashtra	59
5	Basavatarakam Indo-American Cancer Hospital (Indo), Hyderabad, Telangana	26
6	Cancer Institute (CI), Adyar, Tamilnadu	29

Upon further breakdown of the beneficiaries by state, the majority were from Maharashtra (63), followed by Tamil Nadu (27), Andhra Pradesh (19), Gujarat (17), and Telangana (9). The remaining 26 beneficiaries were from Assam, Bihar, Jharkhand, Karnataka, Madhya Pradesh, Manipur, Odisha, Rajasthan, Telangana, Uttar Pradesh and West Bengal. Researchers interviewed 26 beneficiaries from Maharashtra, Tamil Nadu, Andhra Pradesh, Karnataka, Gujarat, and Assam, uncovering the following insights.

Statewise distribution of beneficiaries



The interactions revealed that doctors and hospital staff have informed patients about the Cancer Cure Fund, implemented by ICS and supported by various funders, including CCIL, upon learning of the patient's inability to access the treatment due to costs.

*"We are illiterate and know nothing about the schemes or other supports. We spoke with the hospital management and expressed concern about our economic status. The doctors referred to this support."
- Beneficiary from Karnataka.*

*"I didn't have any idea on this. When we were looking for funds for my father's surgery at TMCH, we met some NGO members willing to help us. Accordingly, we did some required paperwork, and then, finally, we got the funds. That's how we learned about it."
- Beneficiary's Son from Assam.*

In hospitals, once patients or their caretakers were introduced to the social workers representing the ICS, the documentation process began based on eligibility criteria. The hospital created an account with the patient's details, and funds were directly transferred to this account. Patients did not have access to the account but received a card containing admission information, while the social workers regularly tracked the funds and the treatment progress.

The financial assistance provided by CCIL was swiftly approved, covering the entire cost of the extensive treatment. Families expressed gratitude for the exceptional care, guidance, and professionalism the doctors and hospital staff demonstrated throughout the process. Additionally, the financial aid served as a lifeline, enabling families to focus on the patient's treatment without the burden of unexpected expenses. This support saved lives, instilled renewed hope, and offered a fresh start to the families involved.

*"I would not have been alive if this help was not there; my family was not able to bear the cost at any cost - they were thinking of selling the house for this treatment, but they did not have to because of these funds"
- Beneficiary from Maharashtra*

The treatment itself was so huge that we could not even assume or understand arranging such a huge amount. Everything was possible only through this support.” - Beneficiary from Karnataka

“Free treatment helped us not to borrow more or not to take bank loans.” - Beneficiary 1 from Tamilnadu

“The fund covered all expenses after the initial medical reports, alleviating financial burden for the family.” - Beneficiary from Gujarat

*The hospital staff were accommodating. They helped in each movement and attended to all their needs.
- Beneficiary 2 from Tamilnadu*

When asked about the medical care and treatment provided by the hospitals under their support, patients and their family members expressed satisfaction and commended the support provided by the medical staff.

“*The treatment was excellent, and there was no compromise in the hospitality provided to the patient and the attendees. Precise information was always given. - Beneficiary from Karnataka*

The quality and support was excellent in all ways and means. Treatment and cooperation with staff and doctors were excellent.” - Beneficiary from Tamil Nadu

*Treatment is good. The pediatric wards are separate from other wards and neatly maintained.
- Beneficiary from Andhra Pradesh*”

In addition to the financial support that took care of overall treatment, the CCF maintained regular communication, demonstrating genuine concern for the patient's well-being. Continuous follow-ups provided emotional support, going beyond the financial assistance and contributing positively to the patient's mental resilience.

“*Even after treatment, every six months, follow-up treatment is being provided by ICS and all the medicines as well, which is good.- Beneficiary from MH*

We got continuous calls from a lady representing the funders asking about the patient's status and condition. A lot of care and follow-up was done not just giving support. Concern was shown regarding any further help or shortage.- Beneficiary from TN”

Further inquiries on the overall support under the initiative elicited great praise from the beneficiaries and their family members, commending the scheme as a godsend and the doctors and the donors as gods.

“*You are like God in disguise for us. There are no words to describe your support's impact on our lives. The reason the patient and beneficiary are smiling today is only because of you and your generous support. - Beneficiary from Karnataka*”

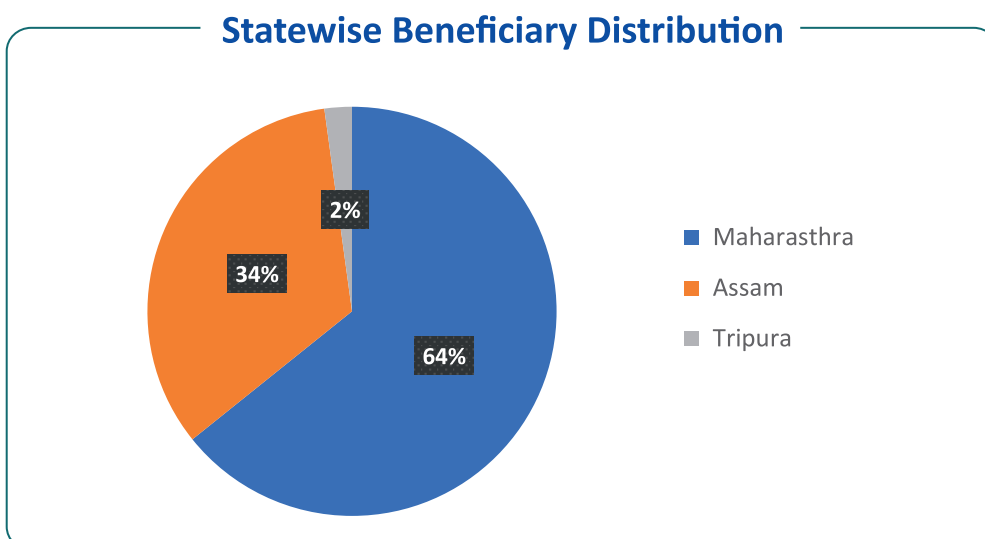
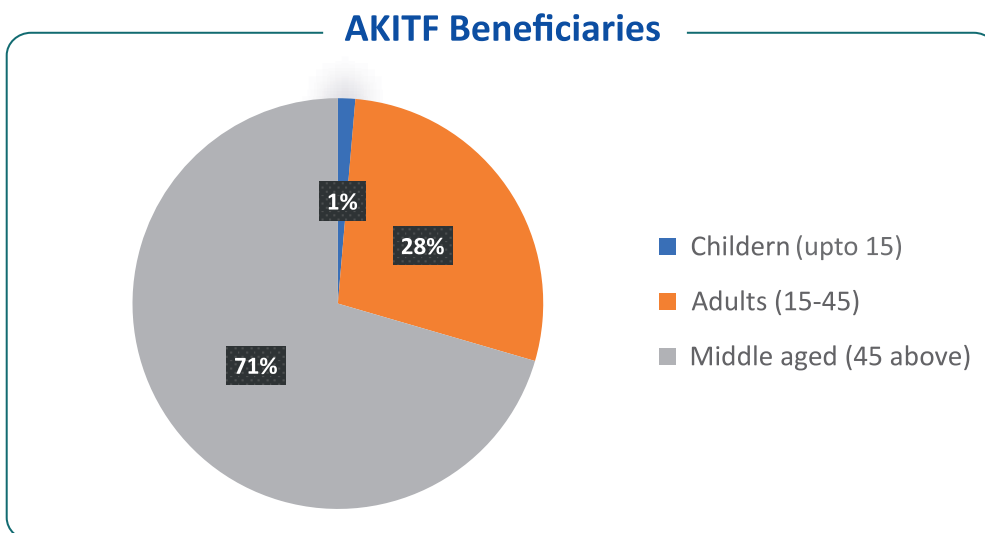
The beneficiaries were highly satisfied with the treatment, care, communication, and after-support, meeting the project's objective of supporting distressed families with complete cancer treatment and support.

When asked about potential improvements in the project, most respondents emphasized the need for increased awareness of various cancers, particularly in rural India. They also expressed the desire for more families like theirs to receive financial assistance, as cancer treatment is costly. Furthermore, they expressed a wish for free cancer treatment to be advertised to prevent poor families from relying on loans and falling into debt traps.

3.3.2. Dr. Arun Kurkure Initiation and Treatment Fund (AKITF) :

The fund offered financial aid to underprivileged patients who lacked the means to cover the initial costs of cancer diagnostics and/or treatment, ensuring they could start the process until they received complete financial aid. Eligibility criteria required that the patient's annual family income not exceed four lakhs.

Across BKL and CCHRC hospitals (The two hospitals supported under the fund), 881 patients benefited, with 566 from BKL and 315 from CCHRC. Among the beneficiaries, 481 (55%) were male, and 400 (45%) were female. The majority hailed from Maharashtra (564), Assam (295), and Tripura (19), with two individuals from Andhra Pradesh and one from Manipur. Among them, 621 were above 45, 248 were between 15 and 45, and 12 were in the upto 15 age group.



In the primary research, 14 respondents from Maharashtra and Assam were interviewed to gauge the project's impact. Surprisingly, most were unaware that the funds for their initial treatment came from the ICS under the AKITF initiative or that the CCIL donated them. They mentioned receiving the funds directly from the hospital under their relevant central and state health schemes, such as Ayushman Bharat, Atal Amrit, and Mahatma Phule schemes.

When asked about the support through ICS, the respondents answered,

“*No, I have no idea about it. But I was getting some sort of financial support from AYUSHMAN BHARAT Card for the treatment of my mother. - Patient 1's son, Assam*

No, I don't have any idea about it. I was doing my mother's treatment with the help of the "ATAL AMRIT " Card. My mother was provided free treatment due to the card. But for medicines and such extra expenses, we had to pay. - Patient 2's son, Assam,”

Upon inquiry, it was noted that hospitals did cover the treatment costs under the AKITF and relevant state schemes. However, as state schemes require processing time and urgent diagnosis is essential, they initiated treatment through the support provided by CCIL till they could process the relevant state schemes.

However, the lack of clear communication regarding the source of funds made it difficult to assess the impact on patients, as the majority had never heard of the ICS and the AKITF fund. The 3 Patients who were aware of the Kurkure fund (as it is colloquially called) expressed their gratitude for the support.

“*It was great from the hospital side to help our family out of this crisis, - said the patient's son from MH.*”

Nonetheless, the respondents were happy with the treatments the BKL and CCHRC hospitals provided. They highlighted the care and support they received from the hospital staff and the communication for the follow-up treatments.

The study independently evaluated the beneficiary details and the amounts disbursed under the AKITF. However, due to the lack of clear communication from the Hospital administration about ICS, establishing the direct linkage of the funds to the positive impact on the beneficiaries could not be concluded.

Analysis

Parameters	Description
Relevance	<ul style="list-style-type: none"> As previously established with the ImpaCCT Foundation, the necessity for emergency funds and comprehensive financial aid for cancer treatment remains highly relevant in the Indian context. This is due to the increasing number of cancer cases and existing gaps in government health schemes, which often require considerable time to access. Therefore, initiatives such as the Cancer Cure Fund and the Dr. Arun Kurkure Initiation and Treatment Fund by the ICS are essential to ensure quality healthcare for families from low-income communities.
Effectiveness	<ul style="list-style-type: none"> In assessing the program's effectiveness in achieving its objectives, the Cancer Cure Fund (CCF) has successfully addressed the financial needs of 161 patients and their families, ensuring complete treatment and care. The same level of success couldn't be ascertained for the Dr. Arun Kurkure Initiation and Treatment Fund (AKITF), which provided financial assistance to 881 patients for initial diagnosis and treatment. Consequently, the assessment partially confirms CCF's success in meeting its objectives, while the effectiveness of AKITF remains uncertain due to a lack of communication and project recall among the beneficiaries.
Efficiency	<ul style="list-style-type: none"> Out of the two projects, the Cancer Cure Fund received a sum of 1,35,06,090 INR and supported 161 patients with complete treatment with an effective per-beneficiary cost of 84,398 rupees. The financial support helped the patients get quality treatment and promptly reduce the financial burden on their family members within the financial year. Meanwhile, AKITF received a sum of 1,65,11,732 INR and reached 881 beneficiaries through support for initial diagnosis with an effective per-beneficiary cost of 18,927 rupees. However, the effectiveness of the support couldn't be validated through the primary interactions. Overall, 1041 patients received support with the CCIL grant of 3,00,17,822 INR across the six hospitals.

Impact	<ul style="list-style-type: none"> ● Most respondents expressed receiving timely support from the hospitals and the social workers in accessing quality healthcare, and the beneficiaries were observed to be in better health at the time of assessment. ● Along with the impact on health, the project was observed to positively impact the family's mental health due to the timely support and communication provided by the social workers and the regular follow-up treatment.
Coherence	<ul style="list-style-type: none"> ● The AKITF and CCF address gaps in existing healthcare schemes offered by the Central and State Governments. The Govt. schemes often involve lengthy processing times and may have limitations on the types of treatments and diagnostics covered. By providing immediate financial support, ICS acts as a safety net for families in need until they can access other assistance available to low-income households, whether from governmental or private donors.
Sustainability	<ul style="list-style-type: none"> ● The hospitals have been noted for their robust follow-up and aftercare support, ensuring patients receive necessary treatment and medications beyond the primary intervention. This ongoing assistance demonstrates long-term sustainability, as evidenced by patients receiving guidance and support two years after the project's conclusion, indicating a lasting positive impact.

3.4. Impact of support for ophthalmic care for poor and needy Patients at Sankara Nethralaya :

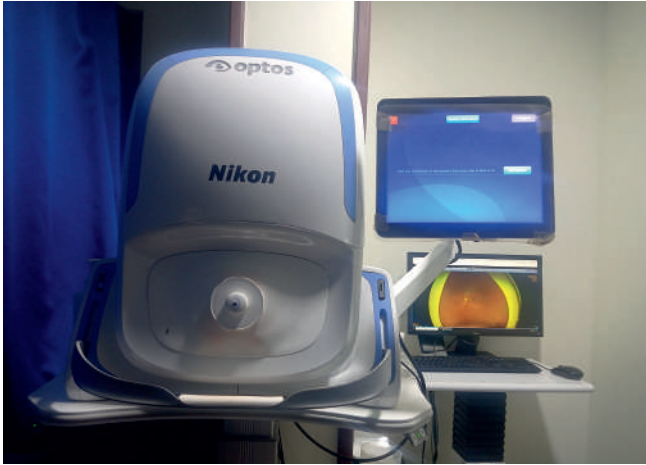
To enhance eye care facilities in India, CCIL has provided support to the Medical Research Foundation (MRF) for acquiring and setting up four essential pieces of equipment at both Sankara Nethralaya Main Hospital in Chennai and Aditya Birla Sankara Nethralaya in Kolkata.

The MRF, affiliated with Sankara Nethralaya, is a renowned institution dedicated to advancing medical knowledge and healthcare practices, particularly in ophthalmology. Established with a mission to provide comprehensive eye care services, MRF combines cutting-edge research with clinical expertise to tackle vision-related challenges effectively.

As part of the project, CCIL has provided Sankara Nethralaya in Chennai with an ultra-wide field imaging system. Sankara Nethralaya in Kolkata has received a Zeiss HF A3850 Humphrey field analyzer, a Zeiss IOL Master optical biometer, and a Pentacam HR; the usage of each equipment is as below:

- 1. Ultra-Wide Field Imaging System :** This advanced imaging system enables ophthalmologists to capture high-resolution images of the retina, extending beyond the central field of view. By providing a wider perspective of the retina, including its periphery, it aids in the diagnosis, monitoring, and management of

various retinal diseases such as diabetic retinopathy, age-related macular degeneration, and retinal detachments. The system allows for detailed visualization of retinal pathology, facilitating early detection of abnormalities and guiding treatment decisions.



- 2. Zeiss HF A3850 Humphrey Field Analyzer :** The Humphrey Field Analyzer is vital for assessing visual field function, particularly in patients with glaucoma and other optic nerve disorders. It utilizes sophisticated perimetry techniques to measure the sensitivity of different areas within the visual field. This information helps clinicians detect and monitor defects in the patient's visual field, enabling early detection of glaucomatous damage and guiding treatment strategies to preserve vision.
- 3. Zeiss IOL Master Optical Biometer :** IOL Master is an essential device used in cataract surgery planning. It utilizes optical coherence biometry to measure the eye's axial length precisely, as well as other ocular parameters such as corneal curvature and anterior chamber depth. These measurements are crucial for accurately calculating the power of the intraocular lens (IOL) needed to replace the natural lens during cataract surgery. Obtaining accurate biometric data, the IOL Master enhances the predictability and outcomes of cataract surgery, resulting in improved visual acuity and patient satisfaction.
- 4. Pentacam HR :** The Pentacam HR is a sophisticated imaging system used for comprehensive assessment of the anterior segment of the eye, particularly the cornea. It utilizes Scheimpflug imaging technology to generate detailed three-dimensional images of the cornea, including its thickness, curvature, and topography. This information is invaluable for diagnosing and monitoring corneal conditions such as keratoconus, ectasia, and corneal dystrophies. Additionally, the Pentacam HR aids in preoperative evaluation for refractive surgery, such as LASIK, by providing precise measurements of corneal parameters essential for treatment planning.

The study engaged with the project's end beneficiaries, equipment operators, hospital department deans, and an MRF representative. These interactions helped in assessing the equipment's real-world usage and impact.

At Sankara Nethralaya, the operational model included paid and free patient services. Free patients were identified and referred from community visit camps in rural areas conducted within a 200 km radius of the hospital. These patients often sought premature babies' eye check-ups, wide eye photographs, dilated

fundus examinations, cornea checks, retina assessments, various vision check-ups, angiography, and treatment for stress-related diseases like central serous retinopathy (CSR), eye problems in diabetic patients, eye pressure, and BP-related eye diseases such as ocular hypertension. There was no significant differentiation between the eye diseases treated at the Chennai and Kolkata branches.

The end beneficiaries interviewed at Chennai and Kolkata came from low-income households earning below 2 lakh rupees annually and were aged between 40 and 72. After recognizing their financial constraints in accessing local treatment, all respondents were referred to Sankara Nethralaya from the local camps. Cataract treatment was the most common among the respondents, followed by treatment for glaucoma.

The beneficiaries have expressed satisfaction and happiness with the free medical care and treatment services. However, some respondents have voiced concerns about not receiving free medicines post-treatment, as purchasing them from the market posed financial difficulties.

*“I'm totally satisfied with the treatment, and the hospital staff guided us well at the time of diagnosis.
- Patient treated for Glaucoma, Kolkata*

The quality of the care provided was excellent. Very much satisfied by the support provided by healthcare providers at the hospital. - Cataract surgery patient, Chennai

”

In Chennai, operators previously used three pieces of equipment to photograph the retina, which was time-consuming and yielded less desirable results. Introducing the Ultra-Wide Field Imaging System eliminated the need for the three pieces of equipment, and better results were achieved. This system offers a 200-degree ultra-wide imaging capability of the retina. It helps in early diagnosis through accurate imaging, saving skilled manual hours and patient waiting time.

“Before procuring the equipment, three different devices (ZEISS FF450 CAMERA, CLARUS 700, SPECTRALIS) were used to photograph the retina, resulting in a time-consuming process. However, after upgrading to this new equipment, the time has been saved, facilitating quicker emergency treatments and reducing patient waiting times. This upgraded equipment captures the entire eye area, aiding in early diagnosis with its 200-degree ultra-widefield retina imaging. Additionally, it benefits premature baby eye checkups, angiography, periphery-related examinations, and fundus fluorescein angiography (FFA). - Retina Consultant and President at Sankara Nethralay, Chennai.

”

The three new equipment supported by CCIL at Kolkata significantly improved efficiency and accuracy at Sankara Netralaya. Previously, patient checkups took 30-40 minutes, but with the latest equipment, this time was reduced to 15-20 minutes per patient. These devices provided highly accurate diagnostic results and were user-friendly, requiring only basic technical skills like smartphone operating. All CCIL-supported equipment could diagnose eye diseases with 99.99% accuracy, and Sankara Netralaya delivered better treatment to patients with these advanced devices.

The deans from both the hospital branches expressed their satisfaction and gratitude. They highlighted that the motive for installing this new equipment was to improve the diagnosis, provide better treatment, and upgrade the hospital's capabilities through new equipment.

“The main objective was to diagnose the retina, upgrade old equipment, and use advanced wide imaging system to give better ophthalmic facilities and medical treatments to patients.

- Retina Consultant and President at Sankara Nethralaya, Chennai.

The primary goal was to offer advanced treatment to patients, particularly those from disadvantaged backgrounds. Doctors can now tailor treatments based on precise diagnosis reports generated by this state-of-the-art equipment. Their advanced capabilities ensure accurate diagnosis and successful treatment outcomes. - Dean, Sankara Nethralaya, Kolkata.”

Furthermore, the hospital administration underwent training provided by the equipment provider and conducted regular maintenance activities every six months with the assistance of the biomedical department at the respective branches.

Overall, the objective of upgrading the existing equipment to provide accurate results, reduce the diagnosis time, and improve the test results and patient service was observed at both hospitals. Upon further interaction to seek improvements in support from all the respondents, they expressed the need for additional advanced equipment at the hospital to reduce patient wait times further and improve overall eyecare facilities at the hospitals.

“Sankara Netralaya Kolkata needs one more HFA 3 and ASOCT to diagnose more patients, and the patients don't need to wait for a long. - Senior Optometrist, Kolkata

Need upgraded equipment to reduce patient's waiting time and for early diagnosis.

- Retina Consultant and President at Sankara Nethralaya, Chennai.”

Analysis

Parameters	Description
Relevance	<ul style="list-style-type: none"> India, accounting for one-fourth of the blind population globally, faces a significant challenge in addressing eye health issues. Early detection is crucial, as 66.2% of cataract cases can be cured with timely intervention. Therefore, it is essential to leverage all available advanced equipment to enable early detection, and the equipment donated by CCIL to two Sankara Nethralaya hospitals plays a vital role in this effort, facilitating early detection and ensuring correct treatment for patients. This aligns with the needs of the beneficiaries, hospitals, and the eyecare treatment in India.
Effectiveness	<ul style="list-style-type: none"> The installation of the ultrawide field imaging system at Chennai eliminated the need for using three pieces of equipment to attain the ultra-wide imaging of the retina, in the process reducing the time taken to 20 minutes for testing and diagnosis, thus achieving the intended results of improving diagnostic capabilities and saving time. Similarly, the three pieces of equipment installed at Kolkata reduced the test time per patient by 10 minutes, enabling the diagnosis of more patients in a day, improving the quality of results for better diagnostics, and successfully achieving the intended objectives. Overall, the capital support resulted in positive outcomes for the hospital staff and the patients.
Efficiency	<ul style="list-style-type: none"> The ultra-wide imaging system, which was procured and installed at a cost of 180 lakh Indian rupees, has a lifespan ranging from 5 to 10 years. It tests an average of 30 patients daily, benefiting over 10,800 patients annually. With an average usage of 5 years, the equipment is projected to serve over 54,000 patients in total. This results in an effective per beneficiary cost of 333 rupees. Additionally, three pieces of equipment installed in Kolkata totaled 160 lakh rupees, with a similar lifespan, and also benefitting similar numbers of patients annually, with an effective per beneficiary cost of 296 rupees. The equipment proved efficient in managing the hospital test load and reducing the waiting time contributing to improving the overall efficiency of the hospitals.

<p>Impact</p>	<ul style="list-style-type: none"> • The introduction of newer equipment at both hospitals resulted in a reduction in manual hours invested as the latest equipment made it easy to capture the required data with a better interface, and required less time per patient. The improved capabilities of the devices led to better diagnostics and improved overall patient care and treatment as more patients availed services.
<p>Coherence</p>	<ul style="list-style-type: none"> • The MRF team focuses on updating the medical equipment as per the requirements and collaborates with the hospitals to integrate the new equipment with the existing equipment to deliver affordable and quality eye care services. This helps take care of the local needs of the hospitals in line with medical requirements. At the national level, Sankara Nethralaya contributes to free and affordable healthcare for all and conducts 150,000 free eye surgeries yearly, which contributes greatly to the well-being and economic development of the beneficiaries, in line with the national aspirations of reducing unwanted blindness caused by cataracts.
<p>Sustainability</p>	<ul style="list-style-type: none"> • With a lifespan of 5-10 years and regular biannual maintenance, all four pieces of equipment donated have incorporated longevity and are expected to continue to deliver positive results for the beneficiaries till the end of the life cycle. The hospital administration also expressed to improve the daily tests to increase usage and derive maximum economic benefit from the devices to benefit more underserved patients.

03 RECOMMENDATIONS

CCIL, through its focused initiatives to bolster cancer and eye care treatments in India, has backed crucial projects addressing pressing emergencies, such as those targeted by the emergency fund and cancer cure fund. Moreover, their commitment to investing in capital expenditure with enduring impact sets them apart, given the challenges of attribution, ownership, and maintenance. Therefore, their dedication is commendable, and the study encourages them to invest in advanced equipment to improve treatment facilities for the poor.

Through the interactions and critical observations made by the study, below are a few recommendations that can be implemented in the future scale-up of the projects.

- 1. Cancer Awareness in Rural India :** The necessity for cancer awareness has never been pressing in rural India. With the cancer burden steadily rising at alarming annual growth rates, coupled with the stark scarcity of awareness and treatment facilities in rural areas, urgent action is imperative. It is crucial to launch comprehensive awareness campaigns that highlight the symptoms and treatment options and emphasize access to healthcare facilities within the state. Additionally, these campaigns should educate individuals on the financial support systems available to the underprivileged, alleviating the need to resort to loans during emergencies. By empowering rural communities with knowledge about available resources and support networks, we can significantly mitigate the burden of cancer and improve the overall health outcomes for individuals in these underserved areas.
- 2. Providing Accommodation for Pediatric Cancer Patients :** It was noted that pediatric cancer patients and their families encountered significant difficulties finding suitable accommodation during the diagnosis stage. Therefore, establishing a facility for resting and short-term stays until patients are admitted would prove advantageous, alleviating the economic and physical burdens on families awaiting diagnosis.
- 3. Communication on Availed Schemes for Treatment :** In the case of AKITF, a significant portion of the beneficiaries were unaware of the support they had received, believing instead that they had utilized existing government schemes for their healthcare needs. This lack of awareness poses challenges in attributing and evaluating the project's impact on the end beneficiaries. Effective communication from the social worker to the patient's family about the funding source and the specific schemes accessed is crucial. This communication ensures accurate knowledge dissemination, enabling families to guide others in need and allowing researchers to assess the project's true impact independently. It's important to note that conveying the source of funds is not about marketing or brand-building; instead, it serves the purpose of transparency and accountability.

4. Invest in Advanced Equipment : The importance of newer and advanced equipment cannot be overstated in addressing the increasing burden of cancer and eye care treatment in India. These technologies save time, reduce manual labor, and enhance diagnosis and treatment outcomes. Therefore, CCIL can develop a long-term plan to upgrade outdated equipment gradually across existing hospitals. This phased approach aims to modernize facilities and provide superior treatment options for those in need, effectively meeting the evolving healthcare demands.

04 CONCLUSION

The Clearing Corporation of India Limited (CCIL) launched significant initiatives to enhance cancer and eye treatment in India through partnerships with various non-profit organizations. These collaborations established crucial aid through initiatives like the Emergency Fund, Complete Financial Adoption, Cancer Cure Fund, and the Dr. Arun Kurkure Initiation and Treatment Fund (AKITF). These programs provided financial assistance to underprivileged cancer patients for their treatment needs. For instance, the Cancer Cure Fund offered financial aid of up to 5 lakh Indian rupees to eligible patients, covering services such as surgery, chemotherapy, and supportive care at affiliated hospitals. Complete Financial Adoption supported pediatric cancer patients with up to 4 lakhs, while AKITF and the Emergency Fund provided support for cancer diagnosis, offering up to 25,000 and 50,000 rupees respectively.

Across the various initiatives, the project provided support to 1251 cancer patients, offering diagnosis and/or treatment assistance. This effort contributed to improving cancer treatment accessibility in multiple states, including Maharashtra, Tamil Nadu, Telangana, Gujarat, Karnataka, and Assam. In addition to financial aid, the project also invested in procuring and installing a Sanger Sequencer at HBCH, Varanasi. This equipment enhancement bolstered the hospital's diagnostic capabilities, particularly in targeted gene sequencing, resulting in halving of diagnosis time compared to previous procedures.

Additionally, CCIL extended its efforts to improve eye care services by procuring essential equipment for diagnosing and treating eye diseases in Chennai and Kolkata. With the introduction of these equipment with a lifespan of 5-10 years, an estimated 1 lakh patients will benefit with accurate diagnosis of their eye diseases, and reduced waiting time over the next 5 years.

To further amplify the impact of these initiatives, the study suggests focusing on raising awareness about available schemes for cancer treatment to effectively reach more beneficiaries, especially in rural India. Additionally, enhancing accommodation facilities for patients undergoing treatment could improve their overall experience and ensure continuous care. By addressing these areas, CCIL could bolster its influence on cancer treatment in India and make substantial contributions to enhancing healthcare outcomes for vulnerable populations.

By focusing on **financial assistance, advanced equipment procurement,** and capacity building in **cancer and eye care services,** CCIL's initiatives have made significant strides in mitigating the burden of these diseases in India, and contributed to **long term addressing** of these issues through **quality equipment.**





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