Impact Assessment Report

Bone Marrow Transplant

Prepared By: NuSocia | December 2025

Prepared For: Kotak Securities Limited

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Ethical Consideration

Informed consent: The interviews were done after the respondents gave their consent. Even after the interviews were completed, their permission was sought to proceed with their responses.

Confidentiality: The information provided by participants has been kept private. At no point were their data or identities disclosed. The research findings have been quoted in a way that does not expose the respondents' identities.

Comfort: The interviews were performed following the respondents' preferences. In addition, the interview time was chosen in consultation with them. At each level, respondents' convenience and comfort were considered.

Right to reject or withdraw: Respondents were guaranteed safety and allowed to refuse to answer questions or withdraw during the study.

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Executive Summary

CSR Project "Bone Marrow Transplant"

Kotak Securities Limited (KSL), through its CSR initiative, supported the "Bone Marrow Transplant (BMT)" project implemented by Manipal Academy of Higher Education (MAHE) at Kasturba Medical College (KMC), Mangaluru, during FY 2022–23. The project aimed to provide life-saving treatment to underprivileged children suffering from severe haematological disorders such as thalassemia, aplastic anaemia, leukaemia, and other bone marrow failure conditions. These conditions require advanced, timely, and high-cost interventions, with BMT being the only curative option for many children.

The project addressed a critical healthcare gap, where childhood serious blood related disorders contribute significantly to mortality due to delayed diagnosis, treatment abandonment, and unaffordable medical costs. Project offered comprehensive medical, financial, and psychosocial support, ensuring equitable access to specialised treatment for children from economically vulnerable families. It covered pre-BMT evaluation, donor testing, stem cell harvest, conditioning therapy, transplant procedure, supportive care, and long-term follow-up. Families received assistance for accommodation, nutrition, counselling, and documentation, enabling holistic support throughout the treatment journey.

Key Achievements of The Project

a) **Inclusiveness:** Project ensured that children from BPL and low-income households (having annual income below Rs 1 lac) accessed free, high quality BMT care. Around 92% of families belonged to lower income categories and ~38% of beneficiaries were girls, addressing gender disparities in paediatric cancer care.

b) **Relevance**: BMT project eliminated financial barriers by covering BMT treatment costs. It reduced treatment abandonment from ~50% to ~5% at KMC. It offered holistic medical and emotional support to families otherwise unable to afford life-saving treatment.

c) **Effectiveness**: The project successfully completed BMTs of 13 children, surpassing targets, and demonstrated strong clinical outcomes.

d) **Impact**: The survival rate achieved was ~67%, with around 60% of children were transfusion free and 23% fully cancer-free. The project significantly reduced financial distress, prevented catastrophic debt, and strengthened the emotional and psychological wellbeing of families. Counselling and empathetic support from medical teams created substantial social value.

e) **Sustainability**: The project established a sustainable model for paediatric BMT care by building strong systems for screening, documentation, donor matching, fund disbursement, and monitoring. Collaborations between KMC, MAHE, KSL, NGOs etc created a multi-stakeholder ecosystem for long term continuity and potential expansion.

f) **Social Return on Investment (SROI):** The project generated a financial SROI of 3.56 :1. It indicates that every Rs 1 invested in the BMT, a social value of Rs 3.56 was generated. True SROI of the project goes far beyond numbers, because a child's life cannot be monetised, its value is immeasurable. Financial calculations can never capture the worth of a life saved, a family healed, or a future restored. The ten children who survived today may one day become doctors, engineers, teachers, innovators, or leaders who contribute far more to society than it can ever quantify. Their potential is limitless, and their future impact on the nation cannot be captured in rupees or percentages.

Introduction

Background

Kotak Securities Limited (KSL) is one of the oldest and trusted equity brokerage firms in India. It was established in 1994 as a subsidiary of Kotak Mahindra Bank Ltd. It offers comprehensive investment services across various asset classes such as equity, debt, mutual funds, commodities, and currencies. KSL serves more than 5 million customer accounts across India with its robust network spanning over ~310 cities, ~155 branches, and ~1000 franchises. KSL stands out for its diverse investment opportunities, accredited research, user-friendly investment platforms, and unique value-added services.

KSL has earned a reputation as a reliable partner for investors through its unwavering commitment to quality, innovation, and excellence. KSL contributes to the betterment of society, mirroring the same excellence it brings to its business endeavours. It has showcased its dedication to societal progress through impactful and meaningful CSR initiatives. The CSR efforts of KSL align with India’s social development objectives and the United Nations' SDGs. KSL is making a meaningful and lasting impact by addressing key areas such as education, livelihoods, healthcare, environmental sustainability, sports etc. It remains committed to driving positive change through collaborative efforts, ensuring long-term societal benefits and sustainable development.

The project **“**Bone Marrow Transplant (BMT)**”** was implemented in FY 2022-23 with the CSR support of KSL. It was implemented by the Manipal Academy of Higher Education (MAHE) at Kasturba Medical College (KMC) in Mangaluru (Karnataka) to support children battling serious blood related disorders (Haematological Disorders), ensuring timely treatment and improved long term survival. It provides specialized, evidence based childhood cancer treatment including bone marrow transplantation, through personalized care.

Growing Global Burden of Haematological Disorders

Haematological disorders represent a significant burden of disease in paediatric populations worldwide. It affects blood cells, bone marrow function, and haemostasis, ranging from preventable nutritional anaemias to life-threatening malignancies.[1]

Paediatric Haematological Disorders are broadly categorized into two main groups:

a) **Non-Malignant (Benign) Haematological Disorders:** These conditions affect bone marrow function and blood cell production but do not involve uncontrolled cell proliferation or malignant transformation[2]. It includes:

  i. **Inherited Hemoglobinopathy (IH):** It is a genetic blood disorder characterized by defective production of one of the globin chains that comprise haemoglobin molecules**.** Common IH are Thalassemia and Severe Combined Immune Deficiency (SCID). Thalassemia affected child cannot produce normal haemoglobin, leading to severe anaemia. Children need lifelong blood transfusions without treatment. it affects the blood and bone marrow. If untreated,

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[1] https://impactfactor.org/PDF/IJPCR/15/IJPCR,Vol15,Issue12,Article90.pdf

[2] Ibid

complications may damage organs and weaken immunity. SCID is a genetic disorder where a child is born without a functioning immune system ("bubble baby"). Even minor infections become life-threatening.

ii. **Nutritional Anaemias (NA)**: They occur due to inadequate intake of micronutrients such as iron, B12, folate etc. Common NA are Megaloblastic Anaemia, Microcytic Hypochromic Anaemia and Mixed Deficiency Anaemia.

iii. **Bone Marrow Disorders (BMD)**: They occur due to bone marrow failure. It leads to reduction in all three blood cell lines-RBCs, WBCs and platelets. It is life threatening condition requires urgent intervention and, in some cases, bone marrow transplantation. Common BMDs are Aplastic Anaemia, Haemolytic Anaemia etc.

iv. **Platelet and Haemostasis Disorders (PHD)**: It is a immune mediated condition causing abnormally low platelet counts, leading to bleeding and affecting haemostatic function. Common PHD are Idiopathic Thrombocytopenic Purpura (ITP) and thrombocytopenia.

v. **Visceral Leishmaniasis**: A parasitic infection affecting the spleen and bone marrow, leading to pancytopenia and anaemia.

b) **Malignant Haematological Disorders:** These involve uncontrolled proliferation of blood cells[3]. It include:

i. **Leukaemia**: Most common paediatric hematologic malignancies. There are various types of leukaemia, categorized by the type of white blood cell affected, as explained below:
   - **Acute Lymphoblastic Leukaemia (ALL)**: Most common paediatric blood cancer, arising from malignant transformation of lymphoid progenitor cells. Accounts for ~75-80% of paediatric leukaemia.
   - **Acute Myeloid Leukaemia (AML)**: Malignant transformation of myeloid progenitor cells, representing ~15-20% of paediatric leukaemia.
   - **Chronic Myeloid Leukaemia (CML)**: Less common in children but with distinct molecular features (Philadelphia chromosome) requiring targeted therapy.

ii. **Lymphomas:** Hodgkin lymphoma and non-Hodgkin lymphoma affecting lymphoid tissues and organs. It is a cancer of the lymphatic system, part of the immune system. When it returns after treatment (relapse), it becomes harder to treat.

iii. **Neuroblastoma:** It is a solid tumour cancer that arises from nerve tissues, typically in the abdomen or chest. It is not a blood cancer, but high-risk neuroblastoma often damages the marrow.

A study conducted by the Departments of Paediatrics and Pathology of G.S. Medical Hospital, Pilkhuwa, found that haematological disorders in children are predominantly non-malignant, accounting for ~85% of all paediatric cases, while malignant disorders constituted ~15%[4].

Among non-malignant disorders, nutritional anaemias formed the largest group (63.33%), with megaloblastic anaemia emerging as the most common subtype, representing ~50% of the total sample. Other significant non-malignant conditions included iron deficiency anaemia (~13.33%), aplastic anaemia (~11.66%), haemolytic anaemia (~5%), Idiopathic Thrombocytopenic Purpura (ITP) (~3.33%) and visceral leishmaniasis (~1.66%)[5].

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[3] Ibid

[4] Ibid

[5] Ibid

Within malignant haematological disorders, leukaemia were the most prevalent, with Acute Lymphoblastic Leukaemia (ALL) accounting for ~6.66%, making it the most common childhood malignancy. This was followed by Acute Myeloid Leukaemia (AML) (~3.33%), lymphomas (~3.33%), and Chronic Myeloid Leukaemia (CML) (~1.66%)[6].

Growing Global Burden of Childhood Blood Cancer

Childhood cancer is emerging as a critical global concern, profoundly impacting children and their families. There are ~4.1 lakh children and adolescents (0-19 years) develop cancer annually worldwide (in the year 2020). Every 1½ minutes, a child dies from cancer worldwide. A significant increase is observed among infants and children under five years age, making it a leading non-communicable disease causing mortality among children[7].

The most prevalent malignant tumour in children is Leukaemia, accounting for the majority of malignancies in individuals under 20 years old. Globally, leukaemia constitutes approximately one-third of all paediatric cancer cases. Leukaemia is a severe haematologic malignancy, is one of the leading causes of malignant tumour deaths worldwide. It involves the excessive growth of blood cells, resulting in malignant tumours and failure of the bone marrow[8].

There are significant geographical disparities in cancer diagnosis (including Leukaemia), treatment, and care. Most children diagnosed with cancer live in Low and middle-income countries (LMIC), where treatment is often unavailable or unaffordable. As a result, only 20-30% children survive cancer, compared to over 80% in High Income Countries (HICs). This inequity hinders universal health coverage and threatens commitments under the 2030 UN Sustainable Development Agenda. Limited access to care, financial hardship for families, long-term side effects, and social discrimination further exacerbate the challenges faced by children in LMIC[9].

Burden of Childhood Leukaemia in India

Around 8 lac new cancer cases were reported annually in India (in the year 2020). Childhood cancer accounts for ~4% of all reported cancers. However, the actual burden may be higher due to missed diagnoses and underreporting. The most common paediatric cancers in India is leukaemia and lymphoma. Leukaemia (more than 95% of which are acute) constitutes the most common diagnostic group of childhood cancers in India. Non-Hodgkin's lymphoma (a blood cancer that affects the lymphatic system) is also prevalent in India. There is a higher incidence of childhood Leukaemia in boys compared to girls[10].

India faces significant challenges in achieving survival rates of paediatric Leukaemia comparable to HICs, primarily due to limited healthcare access, delayed diagnosis, treatment abandonment etc. Cancer and Leukaemia care is centred around major cities, leading to difficulties in early diagnosis and timely

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[6] Ibid

[7] https://www.acco.org/international-statistics/

[8] https://jogh.org/wp-content/uploads/2024/03/jogh-14-04045.pdf

[9] www.who.int/docs/default-source/documents/health-topics/cancer/who-childhood-cancer-overview-booklet.pdf

[10] www.ncdirindia.org/All_Reports/Childhood_Cancer/resources/Introduction.pdf

treatment in rural areas. Families often abandon treatment due to financial constraints, affecting survival rates. Gender bias further exacerbates cancer care access issues as boys receive more medical attention than girls[11].

Need for the Project

The childhood cancer mortality rate in India is 39 children per million per year (2019). It is higher than the global average (30 children per million per year). Key factors contributing to high mortality include delayed diagnosis, lack of specialized healthcare, and treatment abandonment[12].

The prevalence of paediatric cancers varies across age groups. Among children aged 0-19 years, leukaemia and lymphoma are the most prevalent, accounting for ~50% of cancer cases.[13]

The proper treatment of paediatric Leukaemia is received in small number of cases; it leads to poor outcomes. Children in LMIC including India, face significant barriers to diagnosis and treatment. Failure to diagnose is a major issue, with only ~44% of childhood cases correctly identified due to a lack of medical resources, poor awareness, and reliance on traditional medicine. Treatment refusal and abandonment are also prevalent, affecting 50-60% of children due to financial constraints, painful procedures, and low chances of survival. Addressing these challenges require intervention to improve diagnosis, accessibility, and quality of care[14].

Bone Marrow Transplantation (BMT) plays critical role in treatment of Haematological Disorders especially blood cancers. It plays variable role depending on the underlying disease. The critical distinction lies in urgency and timing.

In Leukaemia, BMT is essential only for relapsed or chemotherapy refractory cases, making it a salvage treatment rather than universally required. In contrast, Thalassemia major presents a uniquely time sensitive scenario where BMT is the only permanent cure, ideally performed before age 12 to prevent irreversible organ complications from chronic transfusion and iron overload. Aplastic anaemia requires BMT as the preferred curative treatment, particularly in children, though medical alternatives exist. SCID represents an absolute medical emergency where BMT is the only cure, as the child cannot survive without a functioning immune system. Relapsed Hodgkin's lymphoma and aplastic large cell lymphoma require BMT for high risk or relapsed cases to provide long term cure. Neuroblastoma uses autologous BMT as a rescue mechanism after high dose chemotherapy[15].

About the Project

The project "Bone Marrow Transplant" provided financial support to children battling Haematological Disorders such as Thalassemia, Anaemia, Leukaemia etc., ensuring uninterrupted treatment. The Manipal Academy of Higher Education (MAHE) trust was established in May 1993. Kasturba Medical

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[11] https://www.sciencedirect.com/science/article/pii/S1877782120300138

[12] https://pmc.ncbi.nlm.nih.gov/articles/PMC5493242/#:~:text=We%20determined%20an%20overall%20age,most%20jurisdictions%20(Table%203).

[13] https://www.indianpediatrics.net/jan2024/39.pdf

[14] https://www.acco.org/international-statistics/

[15] https://bmtinfonet.org/transplant-article/diseases-treated-transplant?utm

College (KMC) is one of the key divisions of MAHE. It is recognized among the top 10 medical colleges in India, having 2,032 beds to serve patients from Karnataka, Kerala, Goa etc.

Manipal Comprehensive Cancer Care Centre (MCCCC) of 280 beds was established by KMC in October 2018. Paediatric Haematology and Oncology Division (PHOD) was established in November 2019 under MCCC. PHOD is a 20-bed Paediatric Haematology and Oncology ward, equipped with HEPA (High Efficiency Particulate Air) filtered induction rooms for infection prevention. The division supports childhood cancer treatment such as bone marrow transplantation, blood transfusions, chemotherapy etc. Bone Marrow Transplant support for children of BMT project was done under the PHOD.

The project specifically targeted underprivileged children. It bridges the financial gap. The project aimed to enhance treatment accessibility, survival rates, and financial security for families battling Haematological Disorders especially, which requires long-term, intensive treatment. The project covered expenses of Bone Marrow Transplant (BMT) which is offered in high-risk Haematological Disorders. It supported to cover for below expenses:

a) Pre BMT evaluation of patient
b) Donor evaluation and stem cell collection
c) Central line insertion
d) Conditioning including chemotherapy and Radiation (TBI)
e) Stem cell infusion
f) Supportive Care and Follow up

Approach and Methodology

Approach

The study aimed at Impact Assessment of the “**Bone Marrow Transplant**” project, which was supported by KSL CSR initiative. The project was implemented in Mangaluru Karnataka, in FY 2022-23. The Impact Assessment study was conducted for the following broad objectives and outputs:

1 **Impact on Beneficiary**

To evaluate the level of awareness and impact on the target beneficiaries

2 **Best Practices**

To document lessons learned, best practices, and challenges faced during the project implementation

3 **Areas for Improvement**

To provide recommendations for further scaling & replication

Methodology

The team adopted a Qualitative Research methodology for impact assessment. The study followed a well-defined methodology, participative and research-based strategy, consisting of a five-stage process for undertaking this study as explained below:

Context Setting

Building common understanding of project

Introduction to key stakeholders

Research Design

Desk review of project documents

Preparation of primary research tools.

Primary Research

Training of field research team and on-field data collection through KIIs, FGDs and Survey

Analysis

Data analysis will be guided by the **OECD-DAC ‘REECIS’ framework**, with findings triangulated against the collected evidence and data sources.

Final Submission

Draft Report submission

Incorporating feedback and submission of final report

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Data Collection Tools

Development of assessment framework: The team developed research objectives, key probe areas, and methodology of interaction with stakeholders. This helped in the effective design of research instruments.

Primary data acquiring tools: The team prepared **an Interview Guide** for collecting qualitative data from the parents of beneficiaries and KIIs (Key Informants Interviews) based on the assessment framework.

Sampling techniques

The study followed the **Convenience Sampling Technique** for the selection of respondents among parents of beneficiaries and Key Informants Interviews(KIIs).

Acquiring Information and Data Collection

Primary and secondary research was conducted to acquire the necessary data for the program. Field-level data were collected through interviews with **parents of beneficiaries and Key Informant Interviews (KIIs)**. The team interviewed 4 parents of beneficiaries, 1 oncologist, 1 medical social worker, 1 member of the implementation partner, 1 team member of KSL CSR Team.

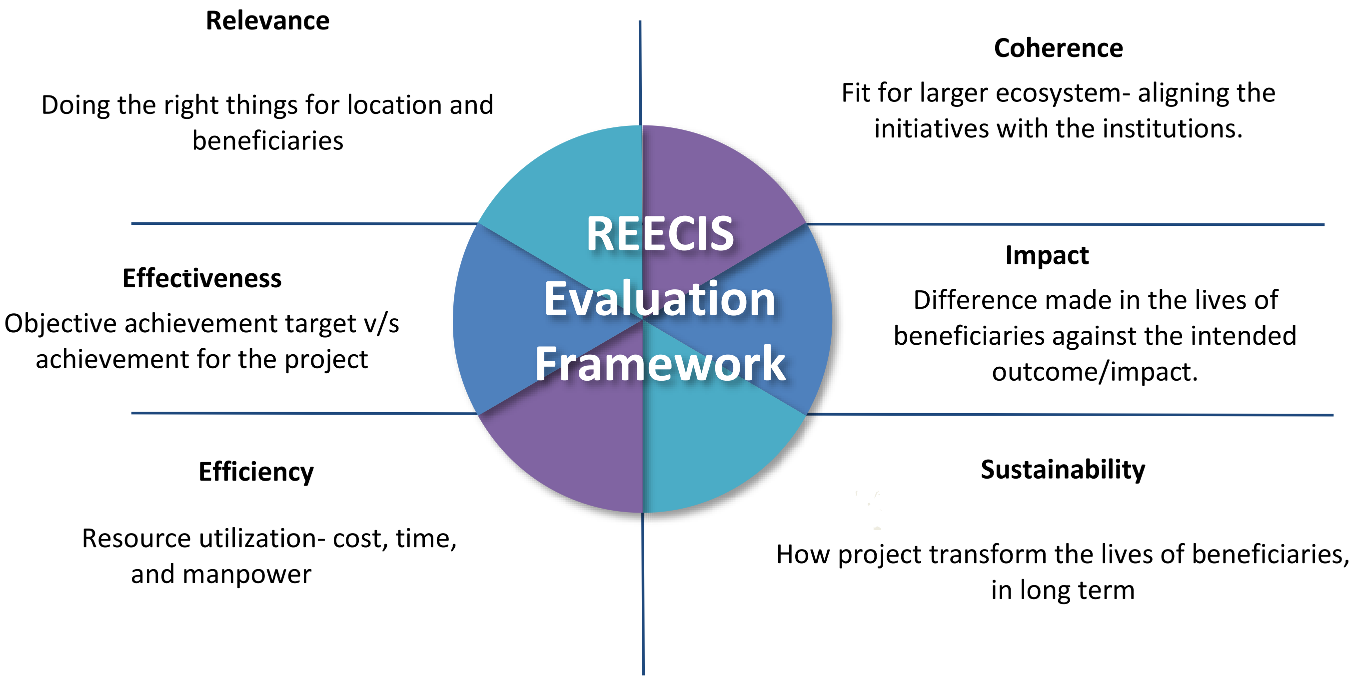
Analysing the information

After the primary and secondary research, the team compiled and tabulated the acquired data. Tabulated data was analysed and triangulated with the findings of KIIs to get insight as per the requirements of the study.

The assessment was done through the REECIS evaluation framework, developed by the Organization for Economic Co-operation and Development (OECD) and the Development Assistance Committee (DAC). It includes analysis of the results based on parameters such as Relevance, Effectiveness, Efficiency, Coherence, Impact and Sustainability. It is explained below:

Documentation and Report Preparation

The team prepared a detailed report of the Impact Assessment study of the **“Bone Marrow Transplant”** project covering all the necessary aspects in accordance with the findings of the data analysis.



Relevance

Doing the right things for location and beneficiaries

Coherence

Fit for larger ecosystem- aligning the initiatives with the institutions.

Effectiveness

Objective achievement target v/s achievement for the project

Impact

Difference made in the lives of beneficiaries against the intended outcome/impact.

Efficiency

Resource utilization- cost, time, and manpower

Sustainability

How project transform the lives of beneficiaries, in long term

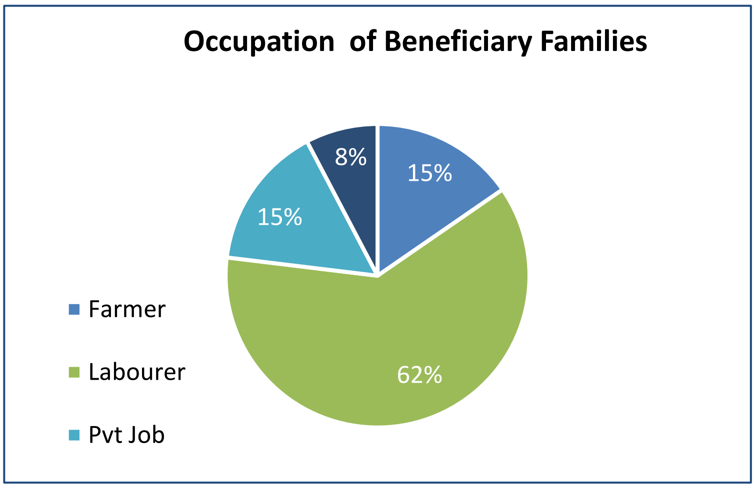
Findings and Analysis

Inclusiveness

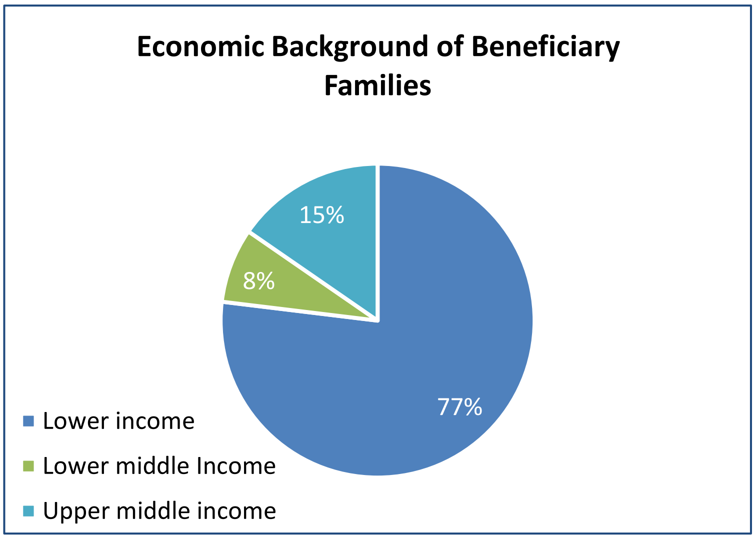
The project supported inclusiveness in paediatric Haematological Disorders care by integrating medical, financial, and post treatment support into a single framework. It ensured that the children battling Haematological Disorders, receive equal opportunities for treatment and recovery, irrespective of their economic and social status.

Eliminating Barriers to Treatment Access

The BMT project adopted an inclusive approach to target the families of underprivileged sections of society. The project ensured that children diagnosed with Haematological Disorders receive timely and high quality medical care through Bone Marrow Transplant process. Project targeted children mainly from underprivileged sections, having annual household incomes below Rs 1 lakh. The majority of the beneficiary families (~78%) were engaged in daily wage labour or farming. Families dependent on skill based employment such as working in shop, Pvt job etc were also benefitted from the project. Economically, ~92% of the families belonged to lower or lower middle income categories.



Primary research revealed that without the project, parents wouldn't have access to life-saving treatment. The beneficiary families represented diverse economically vulnerable categories such as; a daily wage agricultural labourer household struggling to feed the family, a working couple in a rented house making ends meet through combined minimal income, a retired pensioner household supporting three daughters, a daily wage labourer family devastated by sudden medical crisis, and coolie family earning minimal daily wages where every penny is difficult to arrange. All interviewed families found to be BPL category.

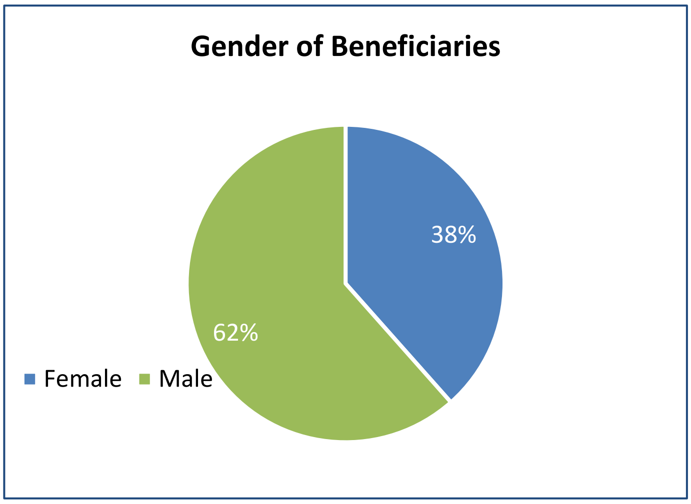


The project adopted a simplified documentation process, which ensured that families could access the program without extensive paperwork such as medical reports, income / BPL certificates etc. Many patients reported that submitting basic documents such was sufficient for eligibility verification. It removed the complex documentation process which often exclude marginalized communities.

Age and Gender Representation

The project ensured equitable healthcare access to children across different demographics. The project served children below 18 years, with particular focus on younger children. The Medical Social Worker explained that the project included more children in the below 13 years age group.

The project included ~38% female beneficiaries, aiming to address gender bias in cancer care, as boys often receive more medical attention than girls. Families mentioned that children were treated with dignity, and no child was prioritized over another based on financial status or social identity.



Geographic Inclusivity

KMC promoted inclusivity by extending support to geographically distant families, reaching beyond its immediate surroundings. BMT was made accessible to families travelling from Kerala and remote regions of Karnataka. Families travelled considerable distances. The project addressed logistical barriers by providing accommodation support, enabling families to maintain treatment continuity. It ensured that distance did not become a barrier to receiving quality healthcare service.

Emotional and Psychological Support

The project prioritized emotional and psychological support for families. It ensured that parents struggling with distress situations received counselling and guidance especially in moments of hopelessness or when considering extreme steps. One of the parents explained that "our life was devastated, it was life that fell apart. We were completely devastated with the reports and diagnosis. We did not know what to do.

The hospital staff and coordinators were empathetic with the family members. They went beyond medical care, serving as a pillar of strength for parents and caregivers. It fostered an environment where families felt valued and supported along with being treated as patients. It is observed that the project provided some level of counselling, however families still experienced immense emotional distress during treatment.

A Three Year Old Girl's Journey from Despair to Recovery

A three year old girl from Kundapura, was diagnosed with thalassemia when she was only six months old, leaving her parents emotionally shattered and financially strained as they struggled with frequent blood transfusions and mounting medical needs. Coming from a lower class family living in a rented home, they had no means to arrange the large funds required for a BMT. They learned about the program through an awareness drive in their hometown and approached Manipal Hospital. They explained that the application process was simple and accessible. Within 15 days, the family received confirmation and their girl was provided comprehensive support such as pre BMT evaluation, donor testing, stem cell collection, accommodation, nutrition, and continuous follow up care. The parents described the medical treatment as flawless and the staff as exceptionally supportive. The family witnessed an improvement in their child’s health, her strength, concentration, and daily activities were transformed completely. They believe this support saved them from overwhelming debt and gave their child a second chance at life. They expressed heartfelt gratitude, calling the project a blessing that brought hope, stability, and happiness back into their family.

Relevance

The BMT project was relevant because it addressed both the medical and socio-economic challenges faced by families of children with Haematological Disorders. It ensured financial accessibility, provided holistic care and reduced emotional distress for families with limited financial means and social support.

Bridging the Gaps in Paediatric Haematological Disorders Care

Treatment of paediatric Haematological Disorders presents many challenges in India. Families often face challenges of high out-of-pocket expenses. BMT therapy costs are Rs ~18 to ~20 lac per patient, an amount unaffordable for BPL families. It placed an overwhelming financial burden on the parents. They tried crowdfunding and sought loans from friends and family, but even after all their efforts, they were unable to arrange the required amount. It leads to a high drop rate (~50% cases) of treatment.

BMT project bridged these gaps by offering full financial coverage for underprivileged children affected with Haematological Disorders, ensuring that no child was denied life-saving treatment due to financial constraints. Families experienced relief, as highlighted during the primary research.

Reducing Mortality

Haematological Disorders can be cured only through BMT. Without BMT, many of these children would either succumb to their illness or be forced to rely on lifelong blood transfusions and medications. BMT was not just a treatment option but it was the only curative path for them. Without it, the disease would remain incurable and the children’s life would be at constant risk.

The project played a role in improving survival rates among beneficiaries by ensuring timely medical intervention. It helped families cope with the challenges of long term treatment by removing financial barriers and ensuring complete treatment. The project directly contributed to increased survival rates and better health outcomes for children diagnosed with Haematological Disorders.

Long Term Societal Impact

The impact of the project extended beyond the immediate medical treatment assistance of children with Haematological Disorders such as Thalassemia, leukaemia, Aplastic Anaemia etc. contributing to broader societal benefits. It reduced the financial burden on families, preventing them from falling into deeper poverty due to catastrophic healthcare expenses. The project bridged this gap by providing knowledge of funding options and guiding them through the application process.

Effectiveness

The effectiveness of the BMT project has been evaluated based on its progress against the input and output activities as detailed in the impact map. The planned input activities and intended outputs of the project are given below:

Planned Activities	Intended Outputs
a) Pre BMT evaluation of patient b) Donor evaluation and stem cell collection c) Central line insertion d) Conditioning including chemotherapy and Radiation (TBI) e) Stem cell infusion f) Supportive Care g) Follow up	a) Number of children with Haematological Disorders supported for safe and effective Bone Marrow Transplant.

Effective and Accessible Application Process

BMT project adopted a structured and efficient selection process to ensure timely diagnosis and financial assistance for children in need. MAHE team promptly assessed families' financial conditions and connected them to the project funding support, which ensured swift initiation of treatment. The simplified documentation reduced delays and ensured that the support was easily accessible to those in urgent need. Families praised the straightforward and hassle-free application process. One of the parents said " The process was very easy as we are not so educated to understand the process. The hospital sources made it so easy for us to understand and provide the necessary documents".

Screening and Selection Criteria

The hospital simplified the process, ensuring economic disadvantage does not compound with procedural exclusion. MAHE team collected below standard government recognized documents, under application process:

- Ration card (to identify BPL status)
- Aadhar card of parents and child
- Income certificate (to ensure HH annual income below Rs 1 lac)
- Oral data collection about family assets

A second round of due diligence included the bank account verification and other financial assessments by medical social workers. After assessing and confirming the family's need for financial support, the medical social worker used to forward the case to the hospital committee for the final approval. This committee comprised the Head of the Department of Paediatric Haematology and Oncology, the Dean of the Medical College, and the Medical Superintendent. Approval required signatures from at least two out of the three committee members, ensuring a transparent and accountable process. Many families expressed that funding approvals were granted within 15 days.

This multimodal approach acknowledged that some families may not possess all required documents. The hospital used multiple methods to verify identity and eligibility, ensuring that documentation gaps did not lead to exclusion. In an instance, two patients did not have BPL cards but were genuinely deserving. After thorough due diligence by verification of income through bank statements and obtaining income certificates they were approved as special cases and included in the project.

Comprehensive Support System for Children

The BMT project ensured that children diagnosed with Haematological Disorders receive uninterrupted and holistic care. It supported treatment of 13 children affected by Haematological Disorders through the BMT process. It addressed financial gaps in paediatric oncology treatment by offering long term support. The project involved below steps for treatment of patient:

a) **Pre-BMT Evaluation:** The project ensured that each patient underwent a pre-BMT evaluation. Their disease status was assessed, the medical team confirmed the actual need for a transplant, and the child’s fitness for undergoing BMT was carefully reviewed.

b) **Donor Evaluation and Stem Cell Collection:** It ensured comprehensive donor assessment, prioritizing donor safety at every stage. Donors underwent detailed medical tests, and only after being declared fit were stem cells collected through bone marrow harvest or peripheral blood stem cell collection. In many cases, a sibling or parent served as the donor due to the limited awareness of stem cell donation in the community.

c) **Central Line Insertion:** Project facilitated the insertion of central lines, recognizing that IV access in children is challenging. Specialized Hickman lines were placed and maintained for up to six months as part of the treatment protocol.

d) **Conditioning (Chemotherapy and/or Total Body Irradiation):** It supported the conditioning process, where unhealthy bone marrow was cleared using chemotherapy, radiation, or a combination of both. This created the needed space for healthy donor stem cells to engraft.

e) **Stem Cell Infusion:** Project ensured that donor stem cells were infused safely into the patient using sterile, controlled procedures inside the BMT unit.

f) **Supportive Care:** It provided continuous supportive care during the critical 2-3 weeks period after infusion, when children remained highly vulnerable to infections. Patients received nutrition support, IV fluids, antibiotics, and close monitoring. For children who developed complications such as veno-occlusive disease, graft-versus-host disease, or hypertension, the project enabled extended medical care as required.

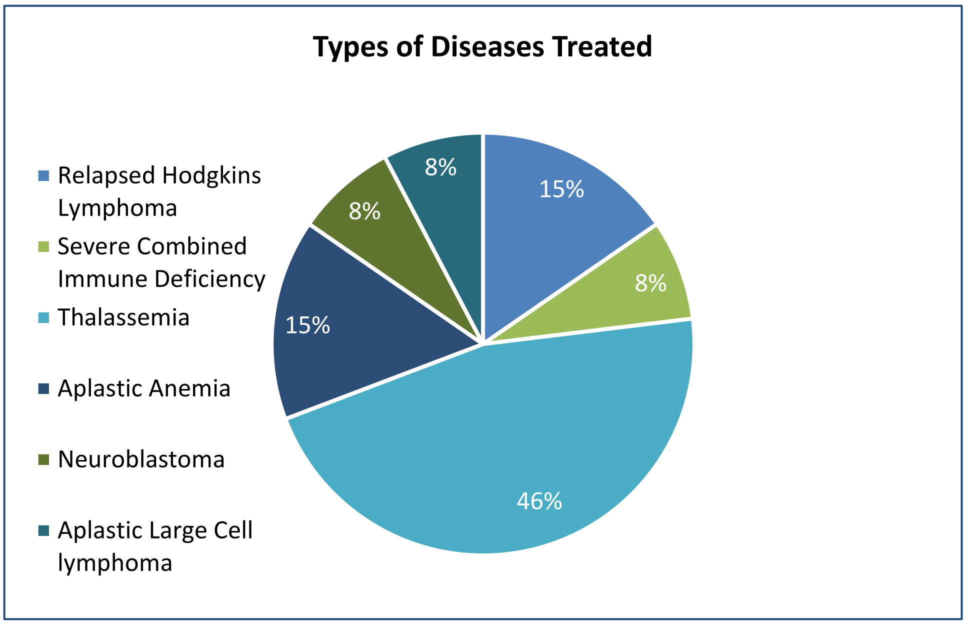
g) **Follow-Up Care**: Project supported structured follow up for up to one year post transplant. Children attended weekly reviews for the first three months, bi-weekly for the next three, and monthly thereafter. During this period, they remained on multiple medications and underwent regular blood tests to monitor graft function and overall recovery.

Treatment of Life-Threatening Disease

The project enabled life-saving BMT for children suffering from severe and life-threatening haematological and immunological diseases. A total of 13 children were treated, covering various serious conditions. This included Thalassemia,(6 patients), a genetic disorder requiring lifelong transfusions; Relapsed Hodgkin’s Lymphoma (2 patients) and Aplastic Anaemia (2 patients), both of which pose high mortality risks; Severe Combined Immune Deficiency (1 patient); Neuroblastoma (1 patient); and Aplastic Large Cell Lymphoma (1 patient) where children are extremely vulnerable to infections. The project ensured that children who would otherwise face progressive illness, repeated hospitalizations, or premature death received BMT which is the only curative treatment available.

Ensuring Continuous and Uninterrupted Treatment

One of the primary challenges in paediatric Haematological Disorders care is treatment abandonment due to financial constraints. BMT project has effectively mitigated this issue by providing complete financial assistance for children. The project covered essential aspects of BMT therapy, including hospitalization, diagnostic tests, procedure and emergency care etc. The project eliminated out-of-pocket expenses by covering treatment costs, thereby preventing families from falling into a cycle of debt. It also offered nutritional support, and accommodation assistance to the families collaborating with the support of a local NGO reducing the indirect costs associated with prolonged hospital stays.



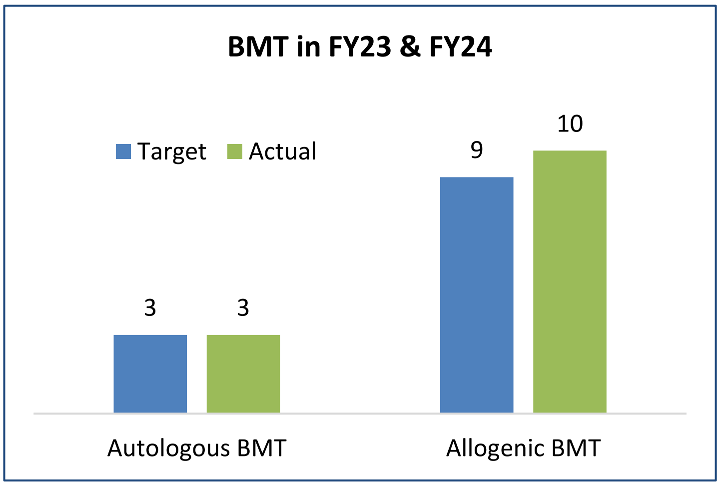
Efficiency

The efficiency of the project has been measured based on the intended outcome of the program. The “Bone Marrow Transplantation” project was intended to support 12 children by providing care and treatment.

Targeted Support

The project has demonstrated efficiency in terms of speed, resource utilization, cost-effectiveness, and impact delivery. It ensured fast fund disbursement by removing administrative hurdles and optimizing hospital resources. The project successfully achieved its treatment targets, supporting a total of 13 BMT for children during FY 2022-23 and FY 2023-24 to treat the Haematological Disorders.

The project surpassed targets of allogenic BMTs (a procedure where stem cells are taken from a donor, usually a sibling or a matched relative) by treating 10 children against a target of 9, reflecting effective implementation. For autologous BMTs (procedure where a patient’s own stem cells are collected, treated, and reinfused), the project treated 3 children achieving 100% target. Prior to the project in FY 2021-22, KMC only conducted 4 allogenic BMTs which increased more than double due to the project.



Hence the project demonstrated a role in enabling life-saving treatment that would otherwise have been inaccessible to the children.

During the primary research an oncologist at KMC explained that "Bone Marrow Transplant is an extremely complex and time intensive procedure, where every step demands precision, resources, and unwavering emotional strength from families. The journey often begins with convincing parents to opt for BMT, a decision filled with fear, uncertainty, and hope. Finding a suitable donor, usually a sibling, is another deeply challenging phase, as bone marrow matching is difficult and may take months. Families endured anxiety while waiting for that crucial match, knowing it is the only chance to save their child's life. In this difficult and emotionally draining process, the project played a critical role by guiding parents, supporting donor searches, and ensuring that no child is denied treatment due to financial or procedural barriers. It stands as a lifeline for families navigating one of the hardest battles of their lives".

Streamlined Fund Allocation and Utilization

BMT project has established an efficient system for fund allocation and disbursement, ensuring that financial aid reaches the right beneficiaries without delay. The project followed a structured selection and approval process. Once approved, funds were directly transferred to the hospital under a sub-ledger account, ensuring immediate access to treatment funds. It has minimized delays and enabled faster commencement of treatment.

Coordinated and Integrated Healthcare Approach

The project functioned through effective coordination between doctors, hospital administrators, and KSL, ensuring seamless treatment execution. It ensured regular inter-departmental communication between medical teams and financial coordinators which prevented any disruptions in treatment schedules. It ensured that medications and BMTs were planned efficiently, minimizing unnecessary hospital stays and resource wastage.

Fund Management and Compliance

The finance team maintained a detailed log of funds received, utilized, and the corresponding medical expenses incurred. Funds were directly transferred to KMC, minimizing the risk of fraud, misuse, or administrative inefficiencies. It ensured that resources were exclusively used for treatment, eliminating unnecessary expenditures on intermediaries. The project also adhered to CSR compliance norms. It provided quarterly fund utilization reports and audited financial statements at the end of the fiscal year. The efficient selection process ensured that financial aid reached the children from underprivileged sections without unnecessary delays. The hospital committee overseeing fund disbursement ensured that decision making remains fast, transparent, and patient centred.

Timely and Regular Medical Follow-Ups

The project adopted a structured follow-up system ensuring that children were treated and monitored post-recovery to prevent relapses or complications. Routine check-ups and counselling sessions with patients and families were conducted, minimizing the risk of post-treatment neglect and ensuring long-term well-being.

Coherence

The project is coherent with the objectives of India’s national healthcare programs and the UN SDGs. It addressed critical gaps in access, affordability, and quality of cancer care.

Alignment with Schemes of Government of India

a) Bridging Gaps of Ayushman Bharat Scheme

The Ayushman Bharat Scheme aims to provide financial protection to vulnerable populations for catastrophic health expenditures. The scheme provides health insurance with annual coverage up to Rs 5 lac per person. However, it offers partial coverage which is not sufficient for treatment procedures such as BMT for critical diseases.

KMC is empanelled under the Prime Minister’s Fund and also provides services to Ayushman Bharat beneficiaries. It collaborated with national donor registries to facilitate timely and reliable donor matching for Bone Marrow Transplants.

The BMT project even goes beyond the intent of the Ayushman Bharat Scheme, supplementing it through bridging the gaps of the scheme by offering comprehensive financial coverage for children suffering from Haematological Disorders.

b) Rastriya Arogya Nidhi (RAN)

RAN provides financial assistance for patients living below the poverty line who are suffering from life-threatening diseases. However, it is not universally accessible due to bureaucratic delays, complex documentation, and fund limitations. The BMT project complemented the objectives of RAN. It simplified access to financial aid, requiring only basic identification documents and ensuring quick approval. It significantly reduced treatment abandonment.

c) National Program for Prevention and Control of Cancer, Diabetes, Cardiovascular Diseases, and Stroke (NPCDCS)

NPCDCS, under the Ministry of Health and Family Welfare, focuses on cancer awareness, early detection, and prevention. The project aligned with NPCDCS goals by ensuring that children diagnosed with cancers receive timely medical intervention and holistic treatment.

d) National Health Policy (NHP)2017

The National Health Policy advocates for reducing the financial burden of healthcare on families and ensuring universal health coverage. The project aligned with the policy’s focus on equity and inclusion in healthcare delivery. The project also integrated palliative care into healthcare systems like NHP 2017.

Coherence with SDGs

1 NO POVERTY	The project provided financial security to families who would otherwise fall into poverty due to high BMT costs. It reduced economic vulnerability by covering full treatment costs preventing families from taking high interest loans.
The project provided uninterrupted treatment of Haematological Disorders, directly contributing to reducing childhood Haematological Disorders mortality in India. It provided comprehensive cancer	

3 GOOD HEALTH AND WELL-BEING	treatment to children from low income backgrounds, ensuring financial risk protection and access to essential healthcare services
5 GENDER EQUALITY	The project supported 38% of female beneficiaries. It demonstrated a commitment to addressing gender disparities in paediatric Haematological Disorders treatment access. It eliminated gender based healthcare bias. It ensured that females, who often face societal and financial discrimination, receive critical healthcare services.
10 REDUCED INEQUALITIES	The project prioritized BPL families and ensured equal access to treatment regardless of caste, religion, or gender.
17 PARTNERSHIPS FOR THE GOALS	The project followed a multi-stakeholder approach, and established collaboration between KMC, MAHE, KSL etc, ensuring sustainable impact through CSR funding.

Impact

The project has been evaluated based on its intended impact. The project "Bone Marrow Transplant" had the following intended outcome:

a) Reduction of dropout rate in paediatric Haematological Disorders treatment
b) Increasing survival rate for paediatric Haematological Disorders patients through access of quality healthcare
c) Financial resilience and economic support for families

The project had a measurable impact on economically disadvantaged patients and their families.

Reduced Dropout

A significant issue in paediatric Haematological Disorders treatment is the high dropout rate, primarily due to financial hardship and lack of awareness. It was found through the interview of the Implementation Partner that observed that ~50% of children would discontinue treatment due to the high cost of BMT. The comprehensive financial support and counselling services of the project reduced dropout at KMC to ~5%[16]. It ensured that nearly all enrolled children completed their treatment without interruption, leading to improved survival outcomes.

Increased Survival Rate for Paediatric Haematological Disorders Patients

BMT project has an impact on survival outcomes for children with Haematological Disorders. The support of the project enhanced the survival rate to ~67%[17], through interventions such BMT, emergency intervention, nutritional support etc. It ensured that more children had a chance of long-term recovery and a healthier future. Post BMT ~60% percent of the children are free from transfusions and out of which ~23% are completely free from cancer, showing curative impact. Around 31% of the children are still undergoing treatment out of which ~23% continue to recover their blood counts. Unfortunately, ~8%

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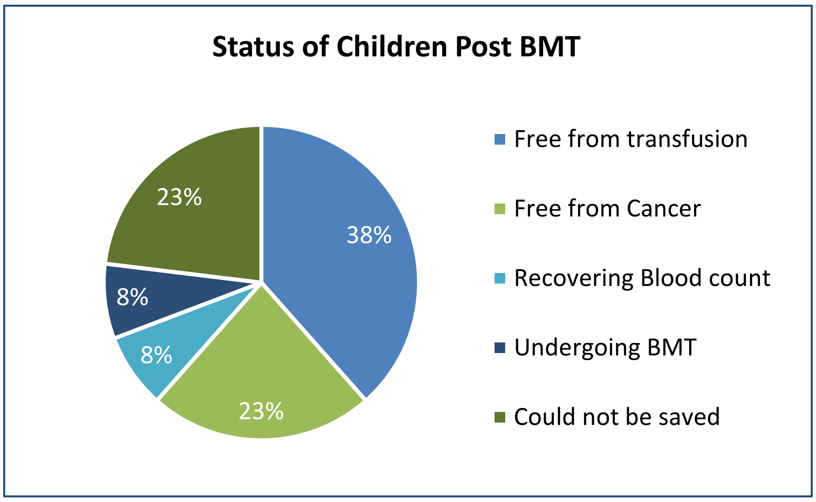
[16] Based on the project completion report submitted by KMC.
[17] Ibid.

could not be saved despite best efforts. The project has enabled the majority of children to move toward healthier, more stable lives, highlighting its life-changing impact for families facing severe medical challenges.

Financial Relief and Reduced Economic Burden on Families

BMT treatment is financially devastating for low income families. It often leads to heavy debt, asset liquidation, or extreme measures such as withdrawing children from school to manage expenses. The BMT project has removed this burden by covering ~75% the BMT cost of treatment for children from underprivileged backgrounds. It protected families from taking on unsustainable financial liabilities.



Improved Psychological and Emotional Well-being for Families

The psychological toll of childhood Leukaemia is immense, for the children and their parents & siblings. Many families reported experiencing severe stress, anxiety, and depression upon diagnosis, primarily due to uncertainty over treatment costs and survival chances. BMT Project has helped families cope better with the emotional strain, by providing financial security, medical guidance, and psychological counselling. It fostered a more positive and hopeful outlook.

The primary research with the Medical Social Worker revealed the profound human impact of the BMT project. She recalled the case of an infant diagnosed with leukaemia whose parents, unaware of the disease and overwhelmed by medical expenses, had exhausted their savings while seeking treatment. The father, an auto driver, had no means left to continue care. After being referred to KMC, the child received treatment under the project, and the transformation was remarkable. The Medical Social Worker recalled the parents' tears of relief and gratitude as they left the hospital with a healthy child, a moment that symbolized a complete change in their lives. She shared that "a new life begins & hope kindles for every child and family who walks in with pain, fear, and rejection,". She expressed it feels blessed and endearing to "see more smiles on the little angels who come with no hope." It highlights the emotional, social, and life changing impact the project has had on the most vulnerable families.

Sustainability

The project has successfully laid the foundation for a long term, sustainable model in paediatric BMT treatment. The project ensured continued high-quality treatment for underprivileged children through financial support in BMT. The project has embedded systemic solutions and brought a long-lasting impact-driven healthcare model, transforming the landscape of paediatrics oncology support in India.

Sustainable Model for Paediatric Leukaemia Care

The BMT project demonstrated sustainability by establishing systems, capacities, and collaborative structures that ensure long-term impact beyond the duration of CSR funding. It strengthened institutional capabilities at KMC and MAHE by streamlining screening, documentation, fund disbursement, and follow-up mechanisms processes that can continue supporting future paediatric Leukaemia cases. The project's multimodal approach to patient verification, simplified documentation, and transparent approval systems created a replicable model that the hospital can sustain.

It fostered partnerships between KMC, MAHE, and KSL, creating a multi stakeholder framework that encourages continued CSR engagement and potential expansion. They also promoted awareness regarding BMT facilities through sessions with the District Paediatric Association.

The project provided evidence for future funding and programme continuation by demonstrating measurable impact in survival rates, reduced dropout, and enhanced financial protection.

They also collaborated with individual donors and local NGOs for additional fundraising to support paediatric patients. However, it was observed through the primary research that funds were not available during April to November months which affected the continuity of the project due to shortage of manpower in the project team.

Potential for Scalability and Long-Term Continuation

The project has strong potential for scale up because it has improved survival outcomes for children with Haematological Disorders and reduced the financial burden on families. The systems and processes created through the project can serve as a blueprint for other hospitals treating paediatric blood disorders. With proven results and streamlined procedures, the program can expand to other states and include more cancer treatment components. The project has demonstrated practical pathways for long term continuation and broader national impact.

Social Return on Investment (SROI) of the BMT Project

The BMT project supported 13 children diagnosed with serious and life-threatening haematological disorders. A total CSR investment of Rs 100 lacs enabled access to BMT, supportive care, and long-term follow-up for economically vulnerable families who otherwise could not afford treatment costing Rs 18 to 20 lacs per child. The outcomes reveal a strong social return, demonstrating that the project generated far greater value than the monetary investment.

Emotional and Social Impact on Families

The emotional dimension of the project is immeasurable yet deeply significant. Many families arrived at the hospital in a state of despair, emotionally exhausted, financially broken, and uncertain about their child's survival. Through counselling, compassionate care, and financial security, the project restored hope and emotional stability.

The project created far-reaching social and economic benefits that extend well beyond immediate medical treatment. By enabling access to lifesaving treatment, it helped families avoid catastrophic debt, prevented them from selling assets, and protected siblings from being pulled out of school to manage expenses. Parents no longer had to approach informal lenders charging high interest rates or lose their income due to prolonged hospital stays. At the same time, the project generated lifelong medical savings for children who would otherwise require constant transfusions or long-term treatment. It also restored the earning potential of caregivers who could return to work once their child stabilized. Most importantly, it unlocked future productivity for the children themselves, giving them the chance to grow into healthy adults who can study, work, and contribute to society benefits that create lasting value far beyond what can be measured in monetary terms today.

Parents repeatedly shared that the project gave them "a second life," "a child's future back," and "relief from unbearable fear and helplessness." Siblings regained normalcy, families avoided long term trauma, and parents regained dignity by no longer needing to borrow or beg for funds. This emotional transformation is a substantial social return, contributing to improved mental wellbeing and healthier family environments.

Health Outcomes and Lives Improved

The project achieved strong treatment outcomes despite the critical nature of the illnesses. Out of the 13 children treated, 8 children (61.5%) recovered fully, either becoming free from transfusions or completely free from cancer. Two other children are showing signs of stabilizing with ongoing care. Three children (23%) unfortunately could not be saved, reflecting the high risk nature of paediatric oncology, however it has saved the majority of the children. It highlights the transformational health impact made possible through timely medical intervention and financial support.

During the primary research, an oncologist shared that the most meaningful change has been "seeing the smiles and relief on the faces of children and their families." Physically, the children are healthier and, in the case of thalassemia, many are now free from regular blood transfusions. Emotionally, parents have regained hope and confidence, knowing their child's life has been saved. Financially, the crushing burden of treatment costs has been lifted, allowing families to focus on care, rather than being in despair and recovery rather than survival. According to the oncologist, "the biggest positive change is that this project has given children a real chance at life and restored hope to families who otherwise would have faced heartbreaking decisions, simply because they could not afford the treatment their child needed desperately."

Economic Value Created by Project

Bone Marrow Transplantation is unaffordable for most low-income families in India due to very high treatment costs. Without financial assistance, families would have fallen into severe debt, sell assets, or discontinue treatment altogether. The project shielded families from these catastrophic expenses.

The SROI for the project has been calculated by adopting the 5 step SROI methodology:

a) **Identifying stakeholders**: Primary stakeholders of the project were children undergoing Bone Marrow Transplantation and caregivers of the children supported under BMT. A total of 13 children were supported through the project.

b) **Mapping outcomes:** Based on primary research, it was found that the most significant outcomes attributable to project were:
   - Completion of treatment (reduced abandonment)
   - Improved survival rate through access to quality care
   - Financial protection of families from catastrophic health expenditure

c) Evidencing outcomes and assigning financial proxies:

Outcome	Qty	Financial Proxy (INR)*	Rationale
Completion of the treatment (abandonment prevention)	13	20,00,000	Average cost for Bone Marrow Transplantation
Survival benefit (by gaining life years)	10	30,00,000	Conservative lifetime productivity value per child
Financial protection to families	13	3,00,000	Preventing families from facing severe financial hardship such as debt, asset sales, or loss of livelihood etc.

***Definition:**

- **Financial Proxy:** Monetary value assigned to a social outcome that does not normally have a direct market price. The project outcomes do not have an actual price tag. A financial proxy is used to estimate the economic value of these outcomes in rupee terms so that social impact can be compared with the money invested.

d) Establishing Impact (Discounting)

Based on **Social Audit Network (SAN)** methodology impact adjustments are applied to avoid over-claiming.

Parameter*	Assumption	Justification
Deadweight	20%	A small proportion of families might have managed to initiate treatment through delayed government schemes, loans, or informal support etc.
Attribution	10%	While BMT played a central role, impact cannot be attributed solely to one project, other CSR projects, government health schemes, and hospital subsidies might have supported parts of treatments.
Displacement	5%	Assumed minimal because BMT beneficiaries are children who would otherwise remain untreated or under-treated rather than displacing services used by others.
Drop-off	5%	Taken as marginal because health outcomes such as treatment completion and survival have long term benefits with little decline over time.

***Definitions:**

- **Deadweight**: The proportion of outcomes that would have occurred even without the project intervention.
- **Attribution**: The extent to which the observed outcomes are the result of contributions from other organisations, schemes, or external factors, rather than the project alone.
- **Displacement**: The degree to which the positive outcomes created by the project replace or reduce benefits that would have otherwise occurred elsewhere or for others.
- **Drop-off**: The reduction in the value of outcomes over time as their effects diminish or become less significant in future years.

Net impact factor applied : 100% − (20% + 10% + 5% + 5%) = **60% net attributable impact**

e) Calculation of Total Present Value (TPV)

Outcome	Gross Value (In Rs Cr)	Calculation
Complete Treatment (abandonment prevention)	2.60	13*20,00,000
Survival benefit (by gaining life years)	3.00	10*30,00,000
Financial protection to families	0.39	13*3,00,000
Total	**5.99**	

Net Present Social Value (after impact discounts) = 5.99× 60% = **Rs 3.59 Crore**

f) Investment Value (Input)

Based on audited financial statements: **Rs 1.01 Crore**

Particulars	Treatment Expense (INR)
Patient-1 (Relapsed Hodgkins Lymphoma)	4,50,000
Patient-2 (SCID)	9,50,000
Patient-3 (Thalassemia)	9,50,000
Patient-4 (Aplastic Anaemia)	9,50,000
Patient-5 (Neuroblastoma)	4,50,000
Patient-6 (Aplastic Large Cell lymphoma)	9,50,000
Patient-7 (Thalassemia)	9,50,000
Patient-8 (Thalassemia)	9,50,000
Patient-9 (Thalassemia)	9,50,000
Patient-10 (Thalassemia)	9,50,000
Patient-11 (Relapsed Hodgkins Lymphoma)	4,50,000
Patient-12 (Thalassemia)	9,50,000
Patient-13 (Aplastic Anaemia)	2,45,079
Total	**1,01,45,079**

g) SROI Calculation

SROI = Total Present Value of Social Outcomes / Investment Value

SROI = 3.59 / 1.01 **= 3.56**

The SROI of the BMT Project is 3.56: 1. It indicates that every Rs 1 invested in the BMT, a social value of Rs 3.56 was generated. This indicates a strong positive social return, particularly considering the conservative assumptions applied and the high cost nature of paediatric cancer care.

However, the true SROI of this project goes far beyond numbers, because a child's life cannot be monetised, its value is immeasurable. While financial calculations help in understanding the scale of support, it can never capture the worth of a life saved, a family healed, or a future restored. The ten children who survived today may one day become doctors, engineers, teachers, innovators, or leaders who contribute far more to society than it can ever quantify. Their potential is limitless, and their future impact on the nation cannot be captured in rupees or percentages. What this project has truly created is hope, possibility, and the promise of a brighter tomorrow, an outcome that no financial metric will ever be able to measure.

Lifetime Social Value Created by Saving a Child

Beyond immediate financial relief, the project created substantial long-term social value. A child who survives Haematological Disorders through the project regains a full lifespan, grows in a stable family, restores school education, and ultimately contributes productively to society. These factors demonstrate that the project generated long-lasting economic and societal value far exceeding the initial CSR investment.

NGO Review System

NGO review system of KMC for the BMT project is well aligned with the SMART (Strategic, Measurement, Analysis, Reporting, and Tracking & Accountability) framework, ensuring that program design, monitoring, governance, and reporting were systematic, outcome-driven, and accountable.

Strategic

BMT was designed based on a need assessment conducted prior to implementation. The assessment identified key systemic gaps in paediatric BMT care such as severe financial constraints that prevented families from diagnostics, donor testing, transplant procedures, and post-transplant care; high treatment abandonment due to financial stress; and irregular funding cycles that restricted timely support to underprivileged patients. In response, the programme adopted a comprehensive intervention model covering financial assistance, counselling, nutrition, diagnostics, donor testing, accommodation, transplant procedures, and post-BMT follow-up. These interventions were aligned with intended outcomes such as timely transplantation, reduced treatment abandonment, improved survival rates, and equitable access to advanced paediatric cancer care.

Measurement

The project used clearly defined and outcome-oriented indicators to measure performance and impact. It included the number of BMTs supported, timely initiation of transplant procedures, completion of the full transplant cycle, the reduction in treatment dropout rates, improvement in survival outcomes, and the post-treatment quality of life. Continuous monitoring was embedded within hospital systems, with social workers, transplant coordinators, and clinicians tracking patient progress in real time. Clinical feedback indicated survival outcomes improving to 80-90 % among supported patients, demonstrating alignment between activities and outcomes.

Analysis

Structured analysis was applied to ensure data reliability and informed decision-making. Socio-economic and medical data were collected through oncologists and medical social workers and were verified using income documents, asset checks, and personal interviews. Patient progress was reviewed daily during hospitalisation and regularly during OPD follow-ups post-transplant. Financial analysis was conducted on a patient-wise basis to ensure optimal allocation of resources and adherence to donor caps. This analytical approach enabled early identification of risks such as potential treatment discontinuation, documentation gaps, or funding shortfalls, allowing for timely corrective actions.

Reporting

Reporting under the programme was transparent, timely, and aligned with KSL’s requirements. Monthly and quarterly reports were prepared by the project team and reconciled with sub-ledger financial accounts. These reports captured beneficiary details, diagnosis, treatment milestones, fund disbursement, utilisation status, and clinical progress. Reports were reviewed internally before submission and shared with KSL to ensure accuracy and compliance. The reporting system supported both financial accountability and programme learning, enabling continuous refinement of implementation strategies based on observed trends and outcomes.

Tracking and Accountability

Accountability was ensured through a clearly defined internal governance structure and systematic beneficiary tracking mechanisms. Patients were tracked across all stages of care, including pre-BMT evaluation, donor matching, financial approvals, transplant procedures, and post-BMT follow-ups. Long-term monitoring continued through survivorship clinics, with tracking of relapse, complications, and quality-of-life outcomes. Multi-level approvals, documented checklists, and regular review meetings reinforced accountability at every stage. For cases extending beyond the project's immediate timeline, continuity of care was ensured through convergence with government schemes.

Best Practices, Suggestions and Conclusion

Best Practices of the Program

Patient Centric and Inclusive Approach

The project ensured that no eligible child was denied treatment due to financial limitations, lack of documents, or social disadvantage. It eliminated major access barriers by simplifying documentation requirements, adopting flexible verification processes, and focusing on economically vulnerable families. The inclusive framework ensured equal treatment for boys and girls, helping reduce gender disparities in paediatric care.

Streamlined and Transparent Selection Process

The selection and approval mechanism implemented by MAHE and KMC was transparent. Project adopted a streamlined due diligence process combining document verification, financial assessment, profiling of beneficiaries and approval through hospital committee. The involvement of a medical social worker ensured authenticity and fairness.

Coordination Between Medical, Administrative, and CSR Stakeholders

One of the project's defining strengths was the seamless coordination between KMC, MAHE, and KSL. Regular communication between oncology teams, financial coordinators, and project administrators prevented delays and ensured efficient utilization of resources. It fostered smooth treatment planning, timely fund flow, and uninterrupted clinical care. The collaboration with a local NGO supported families with accommodation and nutrition. This multistakeholder partnership demonstrated how CSR initiatives can integrate with clinical systems to address complex healthcare needs.

Emotional and Psychological Support for Families

The project recognized that paediatric BMT treatment affects families emotionally as much as financially. The medical social workers and hospital teams created a support system for parents by providing counselling, continuous communication, and empathetic engagement. It navigated fear, uncertainty, and trauma. This emotional support helped families cope with long hospitalization periods and treatment related anxieties, improving adherence to medical protocols and enhancing psychosocial wellbeing.

Treatment Continuity and Follow Up Mechanism

The follow up system adopted by the project ensured that children were monitored closely for up to one year after the transplant. Weekly, bi-weekly, and monthly check-ups ensured sustained recovery. This approach improved long term survival and reduced the risk of relapse, demonstrating best practices in chronic disease management.

Suggestions for Improvement of the Program

Introduce Low-Cost Stem Cell Banking Solutions

To further improve access to curative treatment, the project can explore low-cost stem cell banking models for children requiring BMT. Partnering with public hospitals, not-for-profit stem cell banks, and research institutions can help reduce the high costs associated with stem cell collection, processing, and storage. The project can also support subsidised or shared cost banking, especially for families from low-income backgrounds, and promote awareness about early stem cell preservation among eligible patients. This intervention would enhance treatment readiness, reduce delays in BMT, and significantly improve survival outcomes while keeping costs affordable and scalable.

Deepen Psychosocial and Counselling Support

Strengthening psychosocial support is essential, as families often experience intense fear, stress, and emotional breakdowns during the BMT journey. The project can further enhance this by formalising structured counselling sessions before, during, and after treatment for both parents and siblings. Developing easy-to-understand booklets or videos in local languages explaining the disease, BMT process, side effects, and coping strategies will help reduce anxiety and empower families with knowledge. Creating peer support groups where families who have completed BMT can guide new parents will further help reduce fear and build confidence during an emotionally overwhelming journey.

Strengthen Community and Doctor Awareness

Early referral plays a critical role in survival outcomes, and therefore the project can expand its impact by increasing awareness among physicians, district hospitals, and paediatric associations. Conducting regular sensitisation sessions for doctors will ensure that suspected cases are referred promptly before complications set in.

Conclusion

BMT project has proven to be a transformative intervention that delivered far-reaching medical, financial, and social impact for children with serious haematological disorders. By ensuring access to life-saving treatment for underprivileged families, it reduced dropout rates, improved survival outcomes, and protected households from catastrophic healthcare debt. The project created a sustainable, efficient, and inclusive model of paediatric BMT care that can be replicated across other hospitals. Most importantly, it restored hope to families who arrived in despair and gave children a future that cannot be measured in monetary terms.

The project's emphasis on psychological counselling, and post treatment follow-up demonstrates its commitment to the long term wellbeing of children and their families. It offered equitable healthcare access by reducing the economic burden on families. The project has created a sustainable and replicable model for addressing paediatric care in India.

List of Abbreviations

a) **AB** - Ayushman Bharat
b) **ALL** - Acute Lymphoblastic Leukaemia
c) **AML** - Acute Myeloid Leukaemia
d) **BMD** - Bone Marrow Disorders
e) **BMT** - Bone Marrow Transplant / Bone Marrow Transplantation
f) **BPL** - Below Poverty Line
g) **CML** - Chronic Myeloid Leukaemia
h) **CSR** - Corporate Social Responsibility
i) **DAC** - Development Assistance Committee
j) **FY** - Financial Year
k) **HEPA** - High Efficiency Particulate Air
l) **HH** - Household
m) **HIC** High Income Country
n) **IH** - Inherited Hemoglobinopathy
o) **ITP** - Idiopathic Thrombocytopenic Purpura
p) **KII (s)** - Key Informant Interview(s)
q) **KMC** - Kasturba Medical College
r) **KSL** - Kotak Securities Limited
s) **LMIC** - Low and Middle Income Countries
t) **MAHE** - Manipal Academy of Higher Education
u) **MCCCC** - Manipal Comprehensive Cancer Care Centre
v) **NA** - Nutritional Anaemia(s)
w) **NGO** - Non-Governmental Organisation
x) **NHP** - National Health Policy
y) **NPCDCS** - National Program for Prevention and Control of Cancer, Diabetes, Cardiovascular Diseases, and Stroke
z) **OECD** - Organisation for Economic Co-operation and Development
aa) **PHOD** - Paediatric Haematology and Oncology Division
bb) **PHD** - Platelet and Haemostasis Disorders
cc) **PM Fund** - Prime Minister’s Fund
dd) **RAN** - Rastriya Arogya Nidhi
ee) **REECIS** - Relevance, Effectiveness, Efficiency, Coherence, Impact and Sustainability (evaluation framework)
ff) **Rs** - Indian Rupees
gg) **SCID** - Severe Combined Immune Deficiency
hh) **SDGs** - Sustainable Development Goals (of the United Nations)
ii) **UN** - United Nations