



IMPACT ASSESSMENT REPORT

HEALTHCARE SERVICE DELIVERY AND PATIENT EXPERIENCE
JULY, 2025



CANCER INSTITUTE
ADYAR – CHENNAI, TAMIL NADU

Acknowledgement

ImpactDash expresses its sincere gratitude to all those who contributed to successfully completing the CSR Impact Assessment. We are particularly indebted to the Karur Vysya Bank's CSR team for their support and collaborative spirit throughout the assessment process.

We extend our appreciation to the diligent enumerators whose meticulous work in conducting the data collection and whose collective efforts have enabled us to produce a comprehensive analysis of this important project.

Finally, and with the utmost sincerity, we offer our profound thanks to the respondents who so graciously and patiently endured the extensive interview sessions. Their contributions were invaluable.

Agency: ImpactDash

Author:

- Puja, MA Social Work, Tata Institute of Social Sciences, Mumbai
- Danish Mohammed Raza, M.Phil, Tata Institute of Social Sciences, Mumbai

Advisor:

- Azin Mir, MA Social Work, Tata Institute of Social Sciences, Mumbai

Publication year: 2025

S.N.	Section	P.N.
1	Executive Summary	04
2	Introduction	07
3	Impact Assessment Study	12
4	Key Findings	19
5	Challenges	32
6	Recommendation	34
7	Conclusion	36
8	References	38

List of Charts

Chart No.	Description
Chart 1	Month wise patient count
Chart 2	X-Ray Machine Utilization – Special Ward Vs General Ward



EXECUTIVE SUMMARY

Executive Summary

ABOUT THE PROJECT

The project focused on the installation of a state-of-the-art digital X-ray machine at the Cancer Institute (WIA), Adyar, to enhance the diagnostic capabilities and operational efficiency of the facility. This initiative, funded through Corporate Social Responsibility (CSR) support from Karur Vysya Bank, aimed to improve early cancer detection, reduce patient waiting times, and provide high-quality imaging for timely and accurate diagnoses. The digital X-ray machine replaced an outdated model, enabling faster and clearer imaging, which is crucial for effective cancer treatment and patient care. The project aligns with the broader goal of strengthening healthcare infrastructure and improving access to critical diagnostic services for underserved populations.

KEY FINDINGS



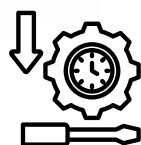
The digital X-ray machine significantly reduced diagnostic turnaround times, with same-day results leading to faster decision-making and treatment initiation.



The affordability of the diagnostic services—significantly cheaper than private hospitals—made cancer screening and treatment more accessible, particularly for economically disadvantaged patients.



The new machine allowed for fewer technicians to handle imaging tasks, reducing staff workload while maintaining high service output.



Patients reported reduced waiting times and quicker diagnoses, improving overall satisfaction and reducing the anxiety associated with prolonged waiting periods.



With the digital X-ray machine, the Cancer Institute handled a higher volume of cases, performing over 5,500 X-rays in just 10 months, which indicates substantial utilization and impact.



Faster and more accurate imaging allowed for earlier intervention in cancer treatment, which is critical for improving patient recovery rates.



The hospital has already planned for long-term sustainability, with provisions for future maintenance and internal budgeting for the machine's upkeep beyond the CSR support period.

CHALLENGES

Key challenges included geographic barriers that limited patient access and financial constraints that prevented some individuals from reaching the institute or affording services. The reliance on a single machine, without adequate equipment redundancy, created vulnerabilities during periods of downtime. Furthermore, post-warranty maintenance costs and a heavy dependence on the existing workforce posed significant risks to the long-term sustainability of operations.

RECOMMENDATIONS

- **Acquire Additional Equipment:** Consider purchasing a second digital X-ray machine to reduce bottlenecks and ensure service continuity during peak demand or machine downtime.
- **Expand Mobile Services:** Launch mobile diagnostic camps or collaborate with local clinics to improve access for rural and underserved patients.
- **Enhance Financial Support:** Establish a patient hardship fund to assist low-income patients with transportation and diagnostic costs.
- **Ongoing Staff Training:** Implement regular refresher training for radiology technicians to maintain operational efficiency and reduce skill gaps.

The project supports **SDG 3 (Good Health and Well-being)** by improving access to early cancer diagnosis and treatment, and **SDG 10 (Reduced Inequalities)** by extending advanced diagnostic care to underserved patients. It also aligns with **Schedule VII of the Companies Act, 2013**, under "promoting health care, and "reducing inequalities faced by socially and economically backward groups."



INTRODUCTION

Background and Context

Cancer remains a major public health challenge in India, with over 14 lakh new cases reported in 2023 and projections indicating further increases (Press Information Bureau [PIB], 2024; Sudarshan et al., 2023). Early detection and timely intervention are crucial to improving survival and reducing the burden on families and healthcare systems.

Diagnostic imaging, particularly radiography, plays a vital role in identifying abnormalities, staging cancer, and guiding treatment. Yet, access to advanced imaging remains limited in many regions due to cost and infrastructure barriers (Sudarshan et al., 2023).

ICMR estimates show 14.61 lakh new cancer cases in 2022, with incidence expected to rise by 12.8% by 2025 (Sathishkumar et al., 2023). Among women, breast and cervical cancers dominate, while oral and lung cancers are most common in men. Tamil Nadu contributes heavily to this burden; Chennai reports some of the country's highest rates—152.4 per 100,000 for women and 129.3 per 100,000 for men (Rajkumar et al., 2024).

Delayed diagnosis remains a critical barrier. Many patients present at advanced stages due to poor screening coverage and uneven healthcare infrastructure. Nationally, only 1.9% of women had cervical screening, 0.9% breast, and 0.9% oral; Tamil Nadu fares better but still inadequate (9.8% cervical, 5.6% breast) (Rajkumar et al., 2024; Sharma & Singh, 2024).

This diagnostic gap worsens patient outcomes. Conventional X-rays, though common, lack clarity and precision, while digital radiography provides sharper imaging, faster results, and reduced radiation, enabling earlier detection and better treatment planning (Sharma & Singh, 2024). Expanding access to such tools is essential to reduce mortality and improve quality of life.

Cancer Institute, Adyar – Chennai, Tamil Nadu

The Cancer Institute, located in Adyar, is a renowned charitable institution dedicated to cancer care, research, and support services. Founded in 1954 by Dr. Muthulakshmi Reddy and developed further by Dr. S. Krishnamurthi and Dr. V. Shanta, the institute has significantly evolved from its modest beginnings as a small 12-bed hospital to become a leading comprehensive cancer center.

Today, the Cancer Institute houses over 675 beds dedicated to patient care. Its facilities include a robust research division, a college of oncological sciences offering educational programs in medical and paramedical fields, and a preventive oncology division actively conducting cancer screening initiatives across Tamil Nadu. Additionally, the institute provides essential palliative care services.

Reflecting its charitable mission, the institute offers completely free treatment to approximately 20–25% of its patients, while the remaining 75% benefit from subsidized care supported by governmental and non-governmental organizations. Over nearly seven decades, the Cancer Institute has established itself as a pioneering entity and a leading example of excellence in cancer treatment and support services within India's non-governmental healthcare sector.



Image: Cancer Institute, Adyar

Project Rationale

The Cancer Institute (WIA), Adyar, Chennai, renowned for its pioneering efforts in cancer detection, treatment, and palliative care, has witnessed a substantial increase in patient inflow due to its extensive field-level awareness campaigns. Serving predominantly disadvantaged and marginalized communities, the institute urgently requires an advanced Digital Radiography (X-Ray) machine to replace an existing unit that has reached its end of life. With approximately more and more patients requiring diagnostic services daily, maintaining fully operational, state-of-the-art diagnostic equipment is critical. The Digital Radiography technology, FDA-approved for cancer screening, generates high-quality images essential for accurate diagnosis, early cancer detection, and effective patient management.

This project directly aligns with the institute's objectives of providing equitable healthcare, raising cancer awareness, and ensuring quality treatment across socio-economic strata.

Core Outputs



Enhanced capability for early detection of cancers at a curable stage using high-quality imaging.



Improved diagnostic accuracy, boosting medical confidence and patient care.



Reduction in cancer mortality through early identification of benign and malignant micro-calcifications.



Comprehensive diagnostic imaging capability for examining bones, lungs, and other organs for potential cancerous or other medical conditions.



Strengthening the institute's preventive oncology, epidemiology, and early detection initiatives.

KVB's support to the Cancer Institute (WIA)

As part of its strategic CSR mission—focusing on health, sanitation, education, environment, and inclusive development—Karur Vysya Bank consistently supports advanced healthcare initiatives across India.

In a direct intervention to enhance cancer diagnostic services, **the Bank funded and donated a state-of-the-art Digital X-Ray (Radiography) machine to the Cancer Institute in Adyar, Chennai.** This investment empowers the centre to better serve thousands of patients, especially from socially and economically disadvantaged backgrounds. The equipment supports comprehensive assessments—examining bones, lungs, and other organs—for timely identification of both benign and malignant conditions. The new machine notably boosted early detection capacity and diagnostic confidence. The total CSR-funded project amounts to ₹1 crore plus applicable GST, and includes a 3-year comprehensive warranty, aligning with KVB's approach for impactful, long-term contributions

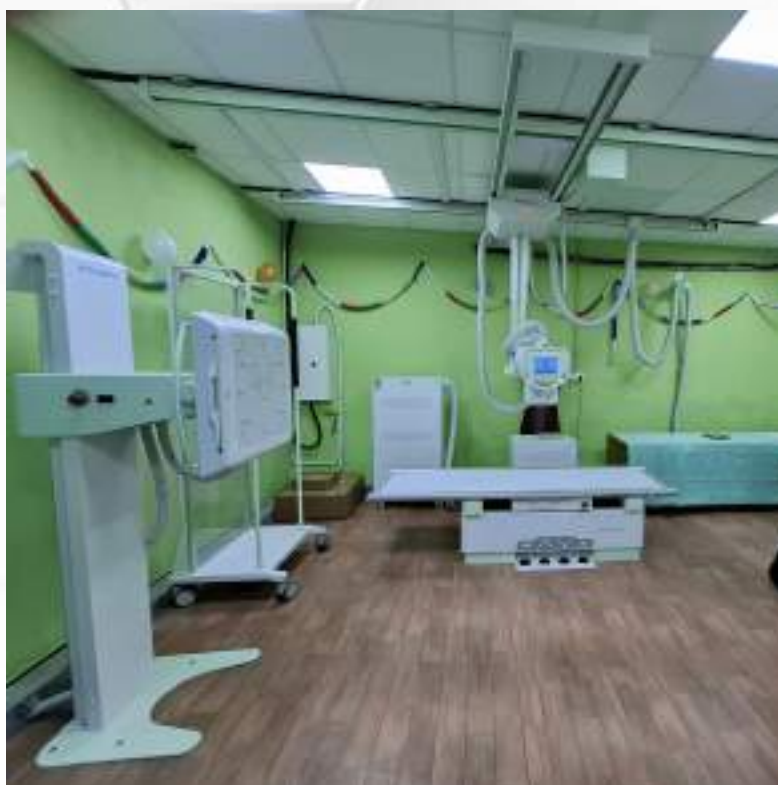


Image: X-Ray Machine installed at the Cancer Institute, Adyar



IMPACT ASSESSMENT

Impact Assessment Study

Impact assessments are systematic assessments designed to measure the long-term effects and overall success of programs or interventions. These assessments aim to identify how programs influence target populations and whether they achieve their intended goals. By employing diverse data collection methods, including surveys, interviews and field observations, impact assessments offer a comprehensive view of both outcomes and underlying factors contributing to success or challenges.



Assessment Objectives

1. Evaluate the Effectiveness of the Medical Interventions

- Assess how the installed medical equipment and funded healthcare services have improved diagnostic, treatment, and surgical capacities in the beneficiary hospitals.
- Measure the extent to which the interventions have contributed to enhancing patient outcomes and overall healthcare efficiency.

2. Assess Beneficiary Reach and Utilization

- Analyze the number and demographics of patients who have benefited from the initiative at the Cancer Institute (Adyar)
- Identify trends in patient usage and determine whether the intervention has improved accessibility to critical healthcare services.

3. Analyze the Impact on Patient Care and Recovery

- Examine improvements in patient care, treatment timelines, and recovery rates as a result of the funded interventions.
- Collect qualitative insights from patients, doctors, and hospital staff on the perceived benefits and challenges of the provided medical support.

4. Understand the Perspectives of Healthcare Providers

- Gather insights from doctors, nurses, and medical technicians on how the intervention has supported their work and hospital efficiency.
- Identify any operational gaps or challenges related to the use, maintenance, and sustainability of the installed equipment.

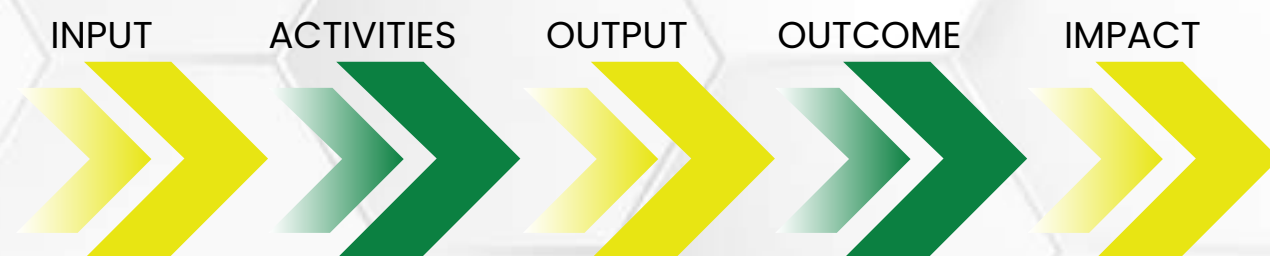
5. Assess the Sustainability and Long-Term Utility of the Intervention

- Evaluate the durability, maintenance, and continued usability of the provided medical equipment.
- Identify any existing or potential challenges in sustaining the intervention beyond the CSR funding period.

6. Identify Areas for Further Improvement or Scale-up

- Provide recommendations on how similar future interventions can be enhanced for greater impact.
- Suggest possible strategies for scaling up, replicating, or improving the initiative based on findings.

The Theory of Change (ToC) is a methodological tool to analyse and evaluate the social change that has been brought by the intervention. It is essentially a comprehensive description and illustration of how and why a desired change is expected to happen in a particular context. The theory shows a causal pathway from the inputs required that lead to tangible outputs and outcomes. Through this approach, the precise link between activities and the achievement of the long-term goals are more fully understood. It also leads to better evaluation, as it is possible to measure progress towards the achievement of longer-term goals that goes beyond the identification of program outputs.



Element	Description
Input	- Financial Resources: CSR funds from KVB for equipment procurement and installation - Medical Equipment: Digital X-ray Machine - Human Resources: Hospital staff, research & evaluation team - Institutional Support: Collaboration with hospital management and local health authorities
Activities	- Procurement of FDA-approved advanced Digital Radiography equipment. - Installation, calibration, and staff training on the new equipment. - Maintenance of a comprehensive 3-year warranty period for sustained operation.

Element	Description
Output	• Acquisition and installation of an advanced Digital Radiography (X-Ray) machine. • Increased daily diagnostic imaging capacity to serve maximum patients. • Improved ability to identify both benign and malignant micro-calcifications and other conditions.
Outcome	• Increased early detection of cancer cases in curable stages. • Enhanced diagnostic accuracy and patient care. • Reduced inequalities in healthcare accessibility and quality.
Impact	• Reduced cancer-related mortality and improved overall public health outcomes among disadvantaged and marginalized communities.

The Theory of Change for this project was based on investing financial resources, acquiring necessary technical expertise, and leveraging institutional support provided through Karur Vysya Bank's CSR initiatives (Inputs). The Cancer Institute procured and successfully installed an advanced Digital Radiography (X-Ray) machine, significantly enhancing its diagnostic capacity to serve maximum patients daily (Activities). This installation immediately improved diagnostic accuracy, facilitating the detection of benign and malignant micro-calcifications and other medical conditions (Outputs). As a result, there was an increase in the early detection of cancers at curable stages, an improvement in patient care quality, and a notable reduction in healthcare inequalities (Outcomes). Ultimately, this contributed significantly to reduced cancer-related mortality rates and improved overall public health outcomes, particularly benefiting disadvantaged and marginalized communities (Impact).

METHODOLOGY

The assessment followed a **qualitative approach** to measure service reach and efficiency, incorporating qualitative insights to understand beneficiary experiences and institutional perspectives. A cross-sectional study design was adopted, capturing data at a single point in time while reflecting on the period from the installation of the medical equipment and implementation of healthcare services to the present. A combination of stratified purposive sampling for patient groups and quota sampling for healthcare professionals and administrators ensured diverse representation across hospitals and beneficiary categories.

STUDY LOCATION

The study was conducted at the Cancer Institute (WIA), located in Adyar, Chennai. The data was collected on 4th July, 2025.

DATA COLLECTION PROCESS

Primary data was gathered through direct engagement with beneficiaries and stakeholders using the following methods:

Key Informant Interviews (KIIs): Semi-structured interviews were held with hospital administrators, doctors, nurses, and CSR representatives to evaluate operational challenges, sustainability, and long-term impact.

Facility Observations: On-site observations of medical equipment usage and healthcare service delivery complemented stakeholder feedback and provided an objective assessment of service efficiency.

Secondary data sources was used to contextualize the primary findings and validate trends observed during data collection.

SAMPLING STRATEGY

Stakeholders	Tool Type	Sample Covered
Patients	Key Informant Interviews	5
Healthcare Providers (Doctors, Nurses, Technicians)	Key Informant Interviews	5
Hospital Administrators	Key Informant Interviews	1
CSR & Project Implementation Representatives	Key Informant Interviews	1
Total Sample Covered		12

DATA ANALYSIS

The study utilized Narrative, and Thematic Analysis to comprehensively assess the program's impact. Qualitative data was transcribed, coded, and synthesized into key themes. This ensured a thorough interpretation, providing nuanced insights to inform policy decisions and enhance program effectiveness.

DATA QUALITY ASSURANCE, VALIDATION & ANALYSIS

Data quality in the assessment was ensured through a comprehensive monitoring process. The Supervisors played a crucial role by conducting spot-checks and back-checks of the data enumerated by the field teams. Data monitoring was also carried out by the Researcher, who assessed the performance of the field teams on a sample basis. The Qualitative data from interviews were systematically analyzed to extract meaningful insights.

ETHICS ADHERED

The study followed strict ethical guidelines, ensuring confidentiality, informed consent, and participant safety. Adhering to UNICEF's 2021 standards, it prioritized privacy, transparency, and respect, safeguarding all participants, including adolescents, from distress.



KEY FINDINGS

Enhanced Diagnostic Accuracy and Speed

The introduction of the KVB-funded digital X-ray machine at the Cancer Institute (WIA), Adyar, has significantly improved diagnostic accuracy and speed, directly benefiting patients by enabling faster and more precise identification of medical conditions. **Patient interviews highlight the machine's role in streamlining the diagnostic process, reducing the need for multiple tests, and providing clearer results that facilitate timely consultations with doctors.** The advanced imaging capabilities of the digital X-ray machine, such as its ability to detect small abnormalities (e.g., cysts as small as 2mm) and capture comprehensive scans in a single shot, have enhanced the overall diagnostic experience for patients.

Patients expressed appreciation for the clarity and efficiency of the diagnostic process, which has alleviated some of the stress associated with cancer diagnosis and treatment planning. The machine's digital technology allows for immediate image availability, enabling quicker consultations and reducing delays in initiating treatment. This has been particularly impactful for patients who previously faced prolonged diagnostic timelines due to limitations in older equipment.

Key Insights from Patients:

- *Speed of Diagnosis:* Patients noted that the digital X-ray machine significantly reduced the time taken to obtain diagnostic results, allowing them to consult with doctors on the same day. This efficiency is critical for cancer patients, where timely diagnosis can influence treatment outcomes.
- *Improved Accuracy:* The machine's high-quality imaging has been praised for its ability to detect small abnormalities, reducing the need for additional diagnostic tests and providing confidence in the accuracy of results.
- *Reduced Diagnostic Burden:* Unlike older systems that required multiple scans or tests, the digital X-ray machine's ability to capture comprehensive images (e.g., from hip to ankle in one shot) has simplified the diagnostic process, making it less burdensome for patients.

““

“They explained all the tests that need to be taken. The scan was done quickly, and I could understand what was wrong because they showed me the results right away.”

-Patient

““

“The scans here were clear, and I didn’t have to go for multiple tests like I was told elsewhere. I got my results fast and could talk to the doctor the same day.”

-Patient

““

“The X-ray was quick, and they told me exactly what was happening with my hand. It helped the doctors decide on my chemo and surgery fast.”

-Patient

Hospital staff, including radiologists and technicians, emphasized the technical advancements of the digital X-ray machine, which have directly contributed to improved patient care. They noted that the machine’s high-resolution imaging allows for the detection of minute abnormalities, such as 2mm cysts, and its ability to capture full-body scans in a single shot eliminates the need for multiple images, unlike older cassette-based systems. The immediate availability of images, often within seconds, enables rapid diagnosis, allowing patients to consult with doctors sooner. **Staff also highlighted that the machine’s efficiency reduces the operational burden, requiring fewer personnel and less time per scan, which indirectly benefits patients by ensuring smoother workflows and quicker service delivery.**



Beneficiary Reach and Service Utilization

The intervention significantly improved the reach and utilization of diagnostic services, particularly among economically and geographically disadvantaged populations. Patient narratives revealed that the availability of the digital X-ray machine, expanded access to timely and high-quality imaging services for individuals who would otherwise face limitations in affordability, proximity, or institutional responsiveness.

Analysis of patient interviews from various demographic segments—rural laborers, students, senior citizens, and urban low-income residents—shows that the intervention reached a wide spectrum of beneficiaries. Patients travelled from peri-urban and rural regions, such as Ariyalur and Urapakkam, to access cancer diagnostic and treatment services at the institute. In most cases, initial screenings or consultations at local clinics led to referrals to the Cancer Institute, indicating that the X-ray machine played a central role in both confirming diagnosis and facilitating further treatment planning.

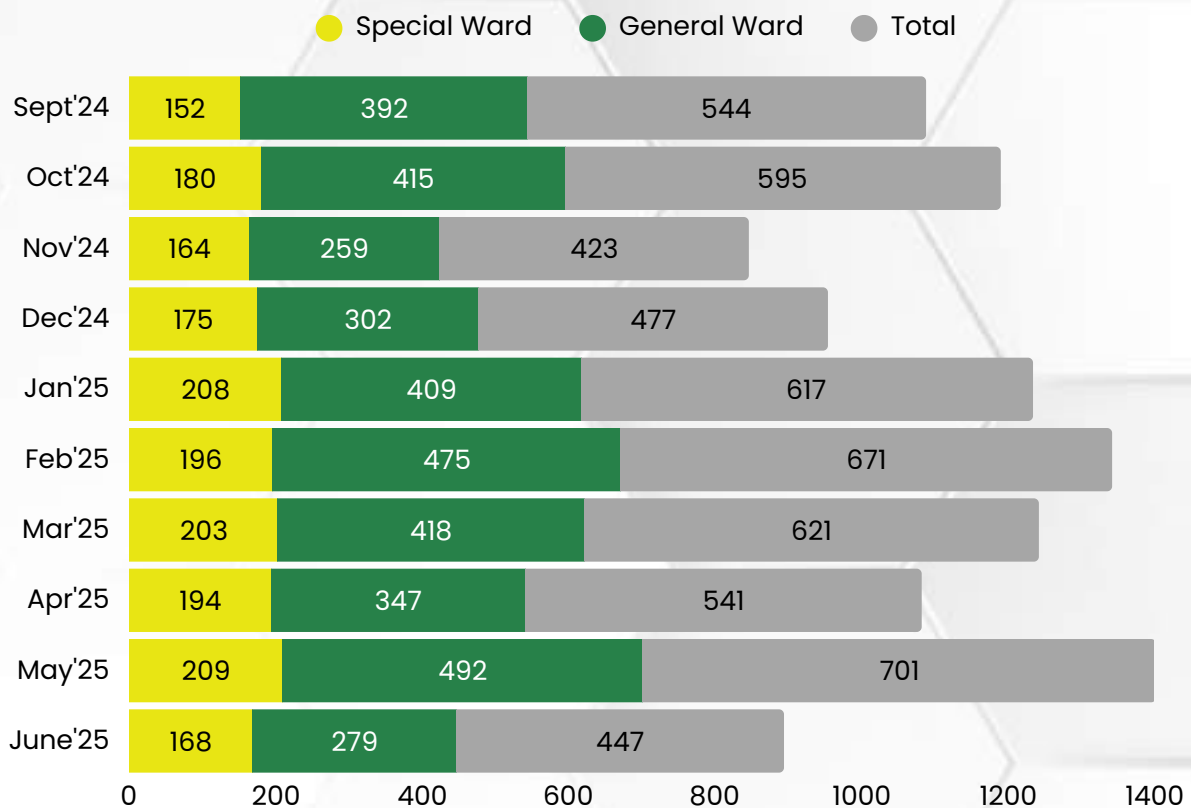


Chart 1: Month wise patient count

The data from September 2024 to June 2025 indicates a substantial uptake of the Digital X-ray Machine, with a total of 5,637 patients utilizing the service.

The month-on-month trend reveals relatively stable utilization, with peaks observed in May 2025 (701 patients) and notable dips in November 2024 and June 2025, potentially indicating seasonal variations or external service delivery constraints. From an impact assessment standpoint, the data underscores the machine's integration into routine health service delivery and its consistent contribution to **improving diagnostic access, particularly for general ward patients, which aligns well with the objectives of CSR-supported healthcare interventions aiming at inclusive service reach.**

Despite challenges in physical accessibility—especially for those residing 20–30 kilometers from the hospital—patients consistently reported satisfaction with the quality and efficiency of services received upon arrival. **The reduced waiting time and quicker diagnostic turnaround facilitated faster entry into treatment cycles, including chemotherapy and surgery, for many respondents.** Several patients confirmed that they had delayed hospital visits in the past due to distance, uncertainty, or financial stress, but the reputation of the institute and the reliability of services encouraged them to complete the referral journey.

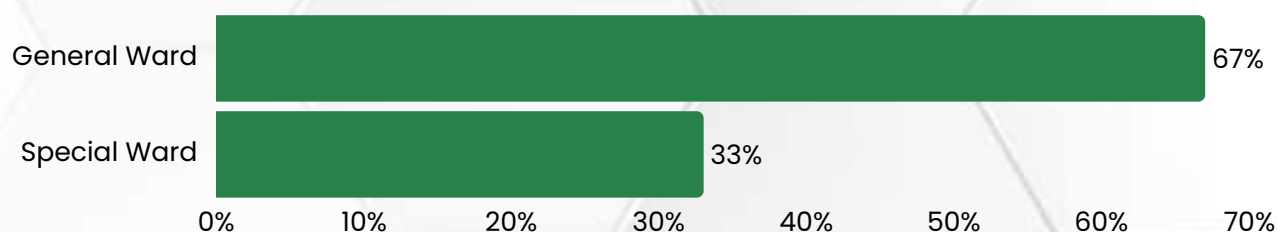


Chart 2: X-Ray Machine Utilization – General Ward Vs Special Ward

A disaggregated analysis shows that 67% of the patients were from the General Ward and 33% from the Special Ward, suggesting a higher dependency on the machine for general healthcare diagnostics, which may reflect its accessibility and relevance to a broader patient base. This capacity helped the institution maintain its commitment to subsidized and free services for a majority of its patient population, thereby strengthening its mandate to serve underprivileged groups.

Positive Impacts on Patient Comfort, Satisfaction, and Overall Care Experience

The KVB-funded digital X-ray machine at the Cancer Institute (WIA), Adyar, has significantly enhanced patient comfort and satisfaction by streamlining the diagnostic process and creating a more supportive care environment. Patients expressed relief at the reduced physical and emotional strain due to faster X-ray procedures, which minimized discomfort during hospital visits. The machine's efficiency, coupled with the hospital's patient-centered approach, has fostered a sense of trust and reassurance, particularly for those undergoing cancer treatment. Interviews reveal that patients appreciate the clear communication from medical staff and the hospital's ability to provide affordable or free services, which further enhances their overall care experience. The machine's role in reducing waiting times and simplifying diagnostics has directly contributed to a less stressful and more positive hospital experience.

Key Insights from Patients:

- *Improved Comfort:* The quick and efficient X-ray process reduced the physical discomfort of prolonged diagnostic procedures, particularly for patients with pain or mobility issues.
- *High Satisfaction Levels:* Patients reported high satisfaction due to the machine's speed, the hospital's compassionate care, and the affordability of services, with many benefiting from free or subsidized treatment.
- *Enhanced Care Experience:* Clear explanations from medical staff about the X-ray results and treatment plans helped patients feel informed and supported, boosting their confidence in the care received.



"The staff were so kind, and the X-ray was quick, so I didn't feel uncomfortable waiting in pain. They made sure I understood everything."

-Patient

Hospital staff emphasized that the digital X-ray machine has improved the patient care experience by reducing procedural delays and enhancing staff-patient interactions. Technicians noted that the machine's ease of use allows them to focus more on patient care rather than managing complex equipment, creating a calmer environment. Staff also reported positive patient feedback about reduced waiting times and the hospital's supportive atmosphere, which aligns with the patients' expressed satisfaction.

“

“The doctors and nurses explained everything clearly, and the fast scan made me feel less worried. This hospital feels better than others.”

-Patient

“

“The X-ray didn't take long, and the staff were caring. It made me feel like they really want to help me get better.”

-Patient

“

“They were friendly and made the process easy. I felt comfortable because it was so quick and they explained what the X-ray showed.”

-Patient



Contributions to Better Treatment Outcomes & Recovery

The KVB-funded digital X-ray machine at the Cancer Institute (WIA), Adyar, has played a pivotal role in improving treatment outcomes and recovery for patients by enabling faster and more accurate diagnoses, which are critical for effective cancer care. Patient interviews highlight how the machine's rapid and precise imaging has facilitated timely treatment decisions, leading to smoother transitions from diagnosis to interventions such as chemotherapy and surgery. The ability to detect abnormalities early and with greater clarity has allowed medical staff to tailor treatment plans more effectively, contributing to improved health outcomes and patient recovery. Patients reported feeling healthier and more optimistic about their recovery, attributing these improvements to the hospital's efficient diagnostic process and supportive care environment.

Key Insights from Patients:

Patients emphasized the significant impact of the digital X-ray machine on their treatment and recovery, noting that its quick diagnostic capabilities enabled them to begin treatments like chemotherapy or surgery sooner, minimizing delays that could affect outcomes. They reported substantial health improvements, such as reduced symptoms and completion of treatment cycles, which they linked to the machine's accurate diagnostics. Additionally, the combination of fast results and clear communication from medical staff about their treatment plans fostered greater confidence in their recovery process, making the experience less daunting and more hopeful.

“

“The X-ray showed exactly what was wrong with my hand, and after chemo and surgery, I’m doing much better.”

–Patient

The high utilization rate—over 5,500 X-rays in ten months—indicates that the equipment has been fully integrated into daily operations and clinical pathways. Hospital staff confirmed that the digital X-ray machine has enhanced treatment outcomes by providing high-quality images that support precise treatment planning. The machine's ability to detect small abnormalities ensures that oncologists can identify cancer spread to critical areas like bones or lungs, enabling targeted interventions. The Head Radiologist noted that the machine's clarity and speed have streamlined the diagnostic-to-treatment pipeline, while technicians emphasized that fewer follow-up tests are needed, allowing patients to start treatment earlier.



Image: X-Ray Machine at the Cancer Institute

“

“They found the lump in my leg quickly with the X-ray, and after surgery and chemo, I’m not on medicines anymore and feel good.”

– Patient

“

“After the X-ray showed the cysts clearly, the doctors started my treatment quickly. I feel better now because they caught it early.”

– Patient

Sustainability and Future Improvements

The KVB-funded digital X-ray machine at the Cancer Institute (WIA), Adyar, has demonstrated strong potential for sustained impact on patient care, while interviews reveal opportunities for further improvement and scale-up to maximize benefits. Patients and staff highlighted the machine's durability and ease of maintenance, supported by a three-year Annual Maintenance Contract (AMC) and plans for funding maintenance beyond the CSR period. However, patients from remote areas emphasized the need for improved geographic accessibility, such as better transportation or additional facilities closer to their communities. Staff suggested acquiring more advanced imaging equipment, like MRI or CT machines, to further enhance diagnostic capabilities. These insights point to strategies for scaling up the intervention, such as replicating the model in other hospitals or increasing the number of X-ray machines to serve more patients, ensuring long-term benefits for underserved populations.

Patients appreciated the machine's reliability, which ensured consistent access to diagnostics, but expressed challenges with traveling long distances to the hospital. They suggested improving local healthcare infrastructure and transportation to make services more accessible, which would amplify the machine's impact on their care experience.

“

“The X-ray machine is good, but coming here is hard. If there were buses or a closer hospital, it would help a lot.”

– Patient

“

“The X-ray was great, but the 30 km travel is tough. More hospitals with these machines would be better.”

– Patient

Additionally, staff training emerged as both a success factor and a potential replicable model. Institutions that are integrated with training programs (e.g., radiology education) are better positioned to absorb new technologies and develop a pipeline of skilled personnel. Encouraging training linkages as part of any future CSR-healthcare partnership could therefore enhance the long-term sustainability of such donations.

Finally, qualitative feedback from patients consistently pointed to the importance of clear communication, empathy, and structured care pathways. Replicating this patient-centric approach across other healthcare settings can multiply the social return on similar investments, ensuring that improvements in technology are matched by improvements in human experience.

Collectively, these insights suggest that future scale-up efforts should not only replicate the technological model but also the institutional readiness, patient-centered design, and systemic coordination that have enabled the success of this intervention.



“

When I first noticed lumps in my breast, the X-ray machine played a vital role in quickly and accurately diagnosing the issue. The advanced imaging technology allowed the doctors to assess the extent of the problem with high clarity and speed, which was crucial in determining the right course of action. The faster results meant I could start my treatment, including surgery and chemotherapy, without unnecessary delays. The efficiency of the machine not only helped in quicker diagnosis but also made the process less stressful. I was able to receive my X-ray results the same day, which relieved much of the anxiety and allowed me to consult the doctors immediately. Overall, the digital X-ray machine made a significant difference by improving the speed and accuracy of my diagnosis, ultimately speeding up my treatment and recovery process.

-Patient, Age 39, Housewife

“

I came here after my local hospital found cysts in my stomach. I was anxious, but the doctors and staff treated me with respect and explained every test clearly, which gave me confidence. Although managing the cost has been difficult, the care and cleanliness here make a big difference. Unlike in government hospitals, where patients are often left waiting without proper information, here I always feel guided and supported. With my family's encouragement, I am following the doctors' advice, and I would surely recommend this hospital to others.

-Patient, Age 55

“

“It is clean here and they guide us well. In government hospitals, they make us roam around without proper information.”

– Patient

“

“Reports get prepared faster... making it better for the patient to immediately go and consult the doctor.”

– Hospital Staff

“

“Almost 25% of the patients here receive full treatment for free. Another 35% receive it at a subsidised price.”

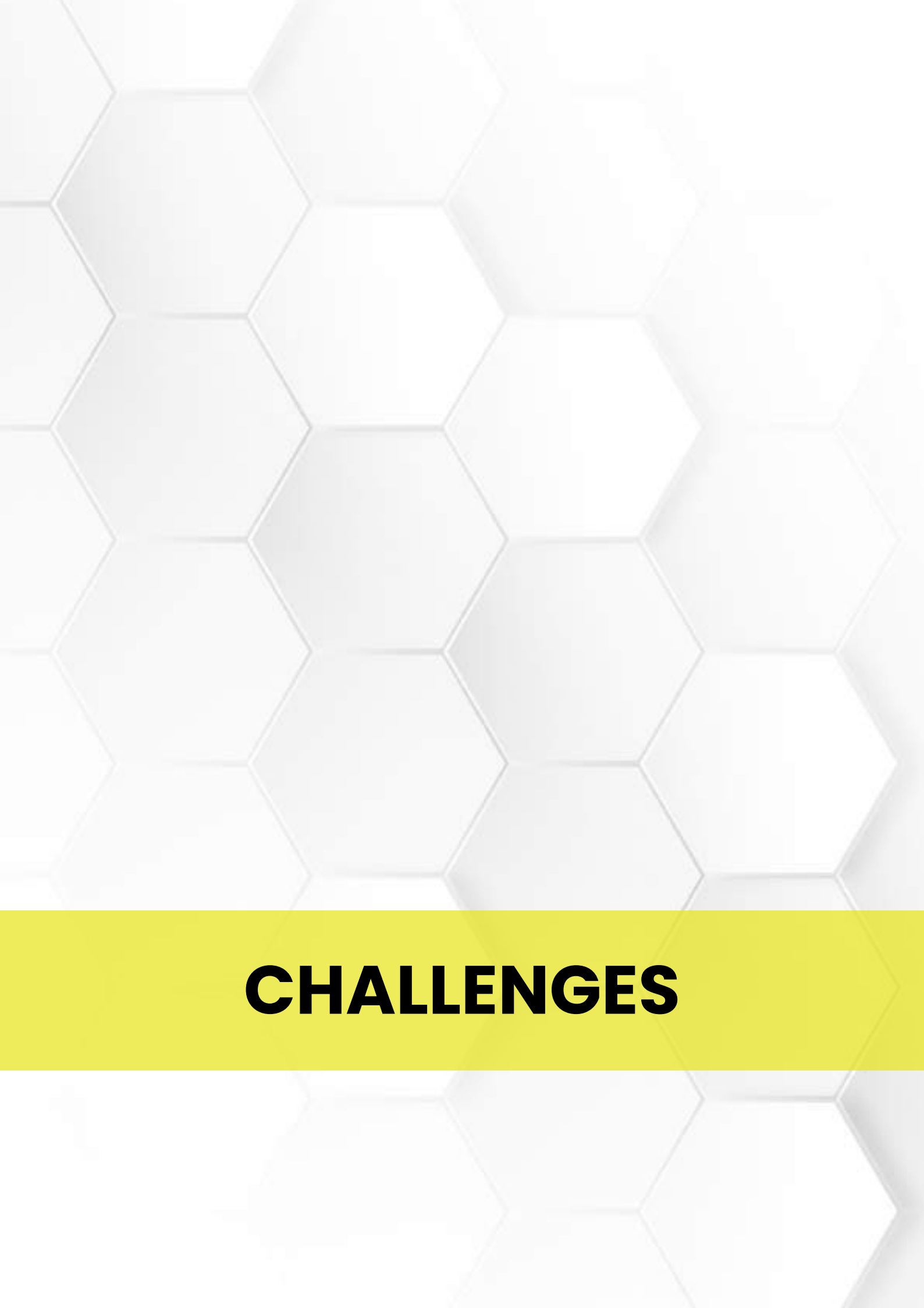
– Hospital administration

“

“I came here after experiencing severe pain in my right hand that no local doctor could explain. At the Cancer Institute, they used scans and X-rays to quickly diagnose my problem and begin treatment – three cycles of chemotherapy, followed by surgery, and then another three cycles. The doctors and staff have been very caring and always explained everything clearly.

The new X-ray machine helped speed up my tests and reduced waiting time, so my treatment could move forward without delays. Even though the hospital is 30 km away, the care and accurate diagnosis made the journey worthwhile. My health has improved, and I've changed my food habits as advised. From the beginning to the end, they gave me the right information and stood with me throughout, which is why I would recommend this hospital to others.”

–Patient, Age 15



CHALLENGES

Geographic Barriers to Access



Several patients reported challenges in accessing the Cancer Institute due to long travel distances, inadequate public transport, or absence of nearby healthcare infrastructure. While the institute offers quality care, systemic accessibility gaps remain, particularly for patients from rural or peri-urban areas who may delay seeking care due to these logistical hurdles.

Limited Equipment Redundancy



Although the newly installed X-ray machine improved service efficiency, the reliance on a single unit introduces vulnerability during periods of technical downtime or peak demand. Staff expressed a need for additional machines to avoid service delays, especially during high-volume periods or if the machine requires extended maintenance.

Financial Constraints Among Patients



Although a significant proportion of patients receive subsidized or free care, some patients still reported difficulty affording diagnostic and treatment services. Out-of-pocket expenditures, including travel and medication costs, continue to act as barriers, particularly for low-income individuals who are not covered by government schemes or hospital concessions.

Short-Term Warranty Limitations



Though the machine is covered under a three-year maintenance contract, the sustainability of the intervention relies on the hospital's ability to mobilize internal funds for post-warranty servicing. This model may not be replicable in resource-constrained institutions without a similar financial planning framework.



RECOMMENDATIONS

Recommendations

Diversifying Diagnostic Capacity



To reduce service bottlenecks and dependency on a single unit, acquiring a second digital X-ray machine should be considered. This can be achieved through staggered fundraising or new CSR partnerships. In the interim, preventive maintenance should be scheduled during off-peak hours to minimize disruptions.

Bringing Services Closer to the Community



To address geographic constraints, the institute could organize periodic mobile diagnostic camps in rural areas or partner with local clinics for initial screenings. This would reduce travel burdens and ensure earlier access for patients in distant or underserved regions.

Addressing Affordability Gaps in Care



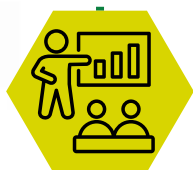
Despite subsidized care, incidental costs remain a burden for many. A patient hardship fund, supported through philanthropy or CSR, could help cover non-medical expenses like travel or medication. Financial screening during intake would ensure targeted support.

Ensuring Long-Term Equipment Support



To sustain equipment utility post-warranty, internal budgets should be allocated for ongoing maintenance. Negotiating extended service contracts with reliable vendors and including service-level commitments can reduce future risks.

Strengthening Staff Training



To sustain service quality, regular refresher training for radiology technicians should be institutionalized. Facilities can leverage vendor support or internal academic programs to ensure staff remain updated on equipment use and basic troubleshooting. This helps maintain efficiency and reduces downtime.



CONCLUSION

Conclusion

The integration of the digital X-ray machine at the Cancer Institute has proven to be a transformative intervention, significantly enhancing diagnostic efficiency, patient care, and operational throughput. **Through this impact assessment, it is evident that the intervention has not only improved the accuracy and speed of diagnoses but also reduced patient waiting times and streamlined clinical workflows, which are crucial in oncology care.**

While the project has demonstrated strong success, several opportunities for further improvement were identified. These include expanding equipment capacity, addressing geographic and financial barriers to patient access, and ensuring long-term sustainability through strategic financial planning and training programs. With these enhancements, the intervention's impact can be extended and replicated in other healthcare settings, ensuring equitable access to high-quality diagnostic services for underserved populations.

Moving forward, it is recommended that the hospital and its stakeholders consider scaling the intervention by addressing these challenges and leveraging the lessons learned from this phase. By doing so, the initiative can continue to make meaningful strides toward improving healthcare outcomes and fostering sustainable, patient-centered care for all.

References

- Press Information Bureau. (2024, February 6). Cancer cases in India: Government initiatives and ICMR projections. Government of India. <https://www.pib.gov.in/PressReleasePage.aspx?PRID=2102729>
- Rajkumar, R., Ranganathan, R., Jayaraj, R., & Kannan, R. (2024). Cancer incidence and screening uptake in Tamil Nadu: Trends and challenges. *Indian Journal of Medical and Paediatric Oncology*, 45(2), 123–131. <https://pmc.ncbi.nlm.nih.gov/articles/PMC11902917>
- Sathishkumar, K., Chaturvedi, M., Das, P., Stephen, S., & Mathur, P. (2023, March 11). Cancer incidence estimates for 2022 & projection for 2025: Result from National Cancer Registry Programme, India. *Indian Journal of Medical Research*, 156(4–5), 598–607. https://doi.org/10.4103/ijmr.ijmr_1821_22 – PMC10231735
- Sharma, A., & Singh, P. (2024). Enhancing cancer screening and early diagnosis in India: Overcoming challenges and leveraging emerging technologies. *Asian Pacific Journal of Cancer Prevention*, 25(4), 987–995. <https://www.researchgate.net/publication/388881436>
- Sudarshan, H., Chaturvedi, M., & Agarwal, R. (2023). Co-designing strategies to improve access to early cancer detection and care in rural India: A formative phase implementation research protocol. *ecancer*, 17, 1849. <https://ecancer.org/en/journal/article/1849>

impactDash

Maximising your Social & Climate Impact

Contact us



www.impactdash.com



hello@impactdash.com



www.linkedin.com

Registered Office

3716/4831, Sasan Padia,
Old Town, Bhubaneswar,
Khordha, Odisha, 751002

Branch Office

2203, B-Wing, Hubtown Greenwoods,
Vartak Nagar, Thane, 400606
Ph: +91-9967357276

Branch Office

247, Indira Nagar, Dehradun,
Uttarakhand, 248006
Ph: +91-78954 80370