



IMPACT ASSESSMENT REPORT

HEALTHCARE SERVICE DELIVERY AND PATIENT EXPERIENCE
JULY, 2025



GOVERNMENT MEDICAL COLLEGE & HOSPITAL
KARUR, 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.

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EXECUTIVE SUMMARY

Executive Summary

ABOUT THE PROJECT

This project focuses on enhancing healthcare delivery at the Government Medical College Hospital, Karur, through the provision of essential medical equipment and a UV Water Treatment Plant, funded by Karur Vysya Bank (KVB) as part of its CSR initiative. The intervention addresses critical service gaps in ophthalmology and surgery by introducing an Optical Coherence Tomography (OCT) machine and upgraded Surgical Diathermy equipment, including a unit with vessel sealing capability. Additionally, the installation of a UV Water Treatment Plant aims to ensure access to safe drinking water for patients, staff, and attendants. With an average daily footfall of over 6,000 patients, the hospital serves a large number of individuals from marginalized communities. This project is expected to significantly improve diagnostic accuracy, surgical outcomes, and overall patient care, while supporting the hospital's mission to provide quality healthcare to the underprivileged.

KEY FINDINGS



The OCT machine and surgical diathermy units have significantly improved diagnostic and surgical capabilities at the hospital. They have enabled in-house treatment and reduced dependency on external referrals.



Doctors and staff reported increased efficiency and precision in patient care, with minimal technical issues. The equipment has been well-integrated into daily clinical workflows.



Patients now have improved access to advanced care with no out-of-pocket costs. Many reported better health outcomes, especially in eye care, and greater trust in the public health system.



Shortages in medical staff—particularly in ophthalmology—have resulted in long waiting times, limiting the full potential of the new equipment.



All equipment is being regularly used and maintained, with trained staff and valid service agreements in place, indicating strong long-term usability.



Some departments still lack complementary tools, such as a B-scan or surgical drills, which restrict the full use of available equipment.



Travel from rural areas remains a challenge due to poor public transport, but patients continue to use the hospital due to the quality and affordability of services.

CHALLENGES

Despite the positive outcomes, the assessment identified key challenges. Staff shortages, particularly in high-demand departments, have limited the full utilization of equipment. Some essential complementary tools, such as a B-scan in ophthalmology, are still lacking. Over-reliance on single units raises concerns about equipment wear and tear over time. Additionally, poor transport connectivity continues to affect access for rural patients.

RECOMMENDATIONS

- Increase clinical staffing in high-demand departments to reduce patient waiting times and optimize equipment use.
- Provide complementary equipment, such as B-scan and surgical drills, to enhance diagnostic and procedural capacity.
- Implement systems for periodic software updates, calibration, and preventive maintenance to sustain technical accuracy.
- Plan future interventions holistically by aligning equipment support with staffing, training, and projected service demand.

The project supports **SDG 3 (Good Health and Well-being)** by strengthening diagnostic, surgical, and treatment facilities, and **SDG 10 (Reduced Inequalities)** by ensuring equitable access to advanced healthcare and safe drinking water for underserved communities. It also aligns with **Schedule VII of the Companies Act, 2013**, under “promoting health care, including preventive health care” and “reducing inequalities faced by socially and economically backward groups.”



INTRODUCTION

Background and Context

Government hospitals in India are the cornerstone of healthcare access for a vast population, particularly catering to low-income and rural communities where alternatives are scarce. Over the years, the expansion of infrastructure, the establishment of numerous health and wellness centres, and the opening of new medical colleges have contributed to improving service delivery and increasing healthcare coverage. However, persistent challenges remain, including overcrowding, a shortage of trained healthcare professionals, limited advanced medical equipment, and uneven distribution of resources—factors that frequently compromise the quality and timeliness of care in these public institutions. *(India Brand Equity Foundation. (August 2025))*

Many government hospitals in India continue to operate with a significant lack of proper medical equipment, which directly impacts their ability to deliver quality healthcare services. Shortages of vital diagnostic tools, advanced medical devices, essential surgical instruments, and laboratory facilities often force hospitals to function below optimal capacity, making it difficult to provide timely and effective care to patients, especially for those requiring specialized treatments or emergency interventions. *(Ernst & Young LLP. (2024, August 26))*

This equipment gap is further aggravated by uneven distribution of resources, budgetary constraints, and maintenance challenges in the public sector. As a result, patients in government hospitals frequently experience delayed diagnoses, compromised infection control, and referrals to higher-tier facilities, contributing to overcrowding and extended wait times. Addressing the deficit in essential medical infrastructure remains an urgent priority for strengthening public hospitals and achieving equitable healthcare outcomes across India. *(India Brand Equity Foundation. (August 2025))*

Government Medical College and Hospital, Karur

The Government Medical College and Hospital in Karur is a public healthcare institution dedicated to serving economically marginalized populations, offering quality medical treatment at minimal or no cost. It handles an exceptionally high patient volume, with an average daily footfall of around 6,000 individuals seeking outpatient and inpatient services. The hospital is equipped with basic infrastructure and staffed by qualified medical professionals who strive to deliver comprehensive healthcare, including emergency, surgical, and outpatient services. Despite this, certain specialized diagnostic and surgical facilities are limited or outdated, compelling many patients to seek private care for advanced procedures—often at considerable personal expense. The facility plays a crucial role in reducing healthcare inequities by providing accessible and vital medical support to underserved communities in and around Karur.



Image: Government Medical College and Hospital, Karur

Project Rationale

Access to quality healthcare remains a significant challenge in many rural and semi-urban regions of India, including Karur. The Government Medical College Hospital in Karur, despite serving more than 6,000 patients daily, faces limitations in advanced diagnostic and surgical infrastructure, often requiring economically disadvantaged patients to seek costly treatment in the private sector. To address this gap, the project equipped the hospital with critical medical technology—such as an Optical Coherence Tomography (OCT) machine and advanced Surgical Diathermy units—and installed a UV Water Treatment Plant to ensure access to safe drinking water. These interventions aim to strengthen the hospital's capacity to provide timely, accurate, and safe care to those most in need, demonstrating Karur Vysya Bank's sustained commitment to enhancing health outcomes in the communities it serves.

Core Outputs



Improved access to advanced diagnostic and surgical services for underprivileged patients.



Strengthened hospital infrastructure to manage high patient volumes effectively.



Reduced patient referrals to private hospitals for specialized eye diagnostics and surgeries.



Enhanced quality of surgical care through the use of modern, precise equipment.



Ensured continuous access to safe drinking water for patients, staff, and visitors.

KVB's support to the institute

Karur Vysya Bank (KVB), as part of its Corporate Social Responsibility (CSR) efforts, extended substantial support to the Government Medical College Hospital, Karur, by funding the procurement of critical medical equipment and infrastructure valued at ₹59.84 lakhs. Understanding the urgent need for upgraded healthcare services in a hospital that caters primarily to underprivileged populations, KVB facilitated the provision of an **Optical Coherence Tomography (OCT)** machine for the Ophthalmology department, enabling advanced eye diagnostics within the hospital itself. The bank also funded **two Surgical Diathermy units and one Surgical Diathermy unit** with vessel sealing capability, significantly enhancing the hospital's capacity to perform safer and more effective surgical procedures. In addition, KVB supported the installation of a **UV Water Treatment Plant**, ensuring access to safe and clean drinking water for patients, staff, and attendants. This intervention not only addressed immediate infrastructural gaps but also reaffirmed KVB's long-standing commitment to the well-being of its home district, reinforcing its role as a socially responsible institution dedicated to empowering community health.

S.No	Equipment supported in FY 2023-24	Quantity	Total Cost
1	Optical Coherence Tomography	1	2,800,000.00
2	Surgical Diathermy	2	892,678.00
3	Surgical Diathermy with Vessel Sealer	1	1,700,000.00
4	UV Water Treatment Plant	1	591,888.00
	Total Budget (in Rs.)		5,984,566.00

The essential medical equipment and the UV Water Treatment Plant were procured at a total cost of ₹59,84,566/-, plus applicable GST. This amount included the cost of Annual Maintenance Contracts (AMC), ensuring the sustainability and continued functionality of the equipment.



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 all 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 initiatives at the Government Medical College & Hospital, Karur
- Identify trends in patient usage and determine whether the interventions 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 supports.

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

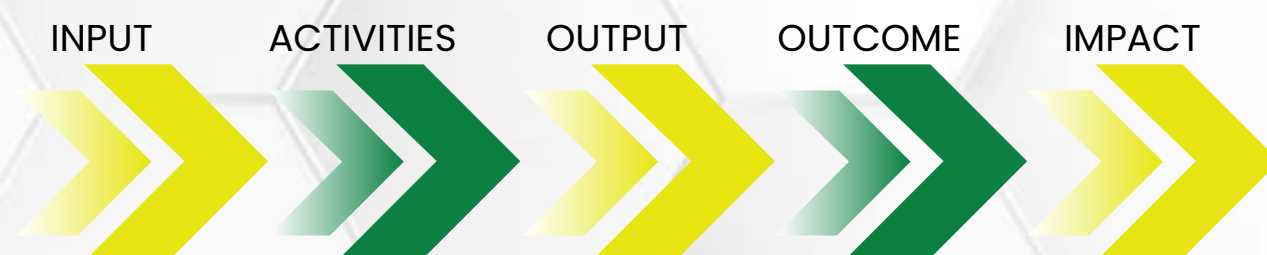
- Evaluate the durability, maintenance, and continued usability of all the provided medical equipment.
- Identify any existing or potential challenges in sustaining the intervention beyond the CSR funding period.

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.

Assessment Framework

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 and UV Water Treatment Plant procurement and installation • Needs assessment data from the hospital • Vendor selection and procurement expertise • Human Resources: Hospital staff, research & evaluation team • Institutional Support: Collaboration with hospital management and local health authorities
Activities	• Procurement of one Optical Coherence Tomography (OCT) machine • Procurement of two Surgical Diathermy units and one with vessel sealer • Installation of a UV Water Treatment Plant within hospital premises

Element	Description
Activities	• Training for relevant medical and technical staff on equipment usage and maintenance • Awareness and operational integration of new services into hospital workflow
Output	• Advanced diagnostic and surgical equipment operational in the hospital • Safe and clean drinking water made available across the hospital • Increased diagnostic and surgical service capacity • Reduced dependency on external/private healthcare providers • Greater patient satisfaction with available in-house services
Outcome	• Improved access to quality eye care and surgical procedures, especially for underprivileged patients • Reduced patient referrals to private hospitals, lowering out-of-pocket expenses • Improved safety and hygiene standards due to availability of clean drinking water • Enhanced efficiency and confidence among healthcare providers using modern equipment • Increased daily patient throughput and reduced waiting times
Impact	• Strengthened public healthcare system in Karur district • Improved health outcomes and recovery rates among economically disadvantaged populations • Reduced health inequalities through equitable access to advanced medical care • Long-term enhancement of trust in government healthcare facilities • Reinforcement of KVB's role as a socially responsible and community-focused institution

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 Government Medical College & Hospital, located in Karur, Tamil Nadu. The data was collected in the first week of 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, staffs, 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 and Surgical Capacities

Analysis of quantitative usage records and qualitative feedback from medical and technical staff indicates that the provision of advanced medical equipment under this intervention has led to measurable improvements in the diagnostic and surgical capacities of the Government Medical College and Hospital, Karur. Data from the ophthalmology department show **consistent monthly utilization of the Optical Coherence Tomography (OCT) machine, with an average of 68 scans per month between April and December 2024, reflecting rapid integration into routine clinical practice.** Interview data from ophthalmology staff confirm that the OCT has expanded the scope of in-house diagnostics, particularly for chronic conditions such as diabetic retinopathy and glaucoma, where serial imaging is now possible without external referrals. Prior to its installation, patients requiring retinal scans were sent to private or distant public hospitals, often facing delays and out-of-pocket expenses; patient accounts corroborate that these costs and travel burdens have now been eliminated.

Similarly, data from the Department of Obstetrics & Gynaecology also show that **1,734 major surgeries were performed between March and December 2024 using the surgical diathermy unit with vessel sealer.** Intraoperative records and surgeon feedback indicate that improved hemostasis has reduced the need for blood transfusions, contributing to shorter recovery times and fewer postoperative complications. In the Departments of General Surgery and Orthopaedics, two additional diathermy units supported 695 and 663 procedures respectively over the same period, with operating teams reporting smoother workflows and fewer interruptions due to equipment limitations.



"Very useful. Earlier we had to send patients to other hospitals. Now we can identify retina and nerve issues easily."

— Medical Staff

Across departments, staff interviews consistently link **the availability of these devices to reduced patient waiting times, faster diagnostic turnaround, and more precise treatment planning.** Departmental procedure records and scan logs indicate that the equipment is consistently utilized and has become an integral part of daily operations, rather than remaining underused. Maintenance records confirm that all units remain fully operational, with staff trained during installation and preventive servicing conducted under active warranty agreements.

Taken together, these data points highlights that the intervention has not only increased the range of services offered but has also improved the speed, precision, and accessibility of care. The observed reduction in referrals, enhanced clinical capacity, and consistent utilization patterns indicate that the equipment is making a sustained, evidence-based contribution to healthcare delivery, particularly for economically vulnerable patients who depend entirely on the public health system.



Image: Diathermy in Govt. Medical College and Hospital supported by KVB

Accessibility and Beneficiary Reach

The intervention has contributed notably to improving the accessibility of critical healthcare services at the Government Medical College Hospital, Karur, particularly for underserved populations. Qualitative data reveal that patients from rural and semi-urban areas are now able to access advanced diagnostic and surgical care—services that were previously either unavailable or financially inaccessible. **While the hospital has always been a safety net institution for the economically marginalized, the integration of high-end equipment has made it possible for a broader range of patients to benefit from comprehensive in-house treatment without the need for costly referrals.**

Most patients interviewed reported that they chose this hospital primarily because of financial constraints. Public sector coverage, including schemes like the Chief Minister's Comprehensive Health Insurance, has made access free or highly affordable. Patients repeatedly cited zero out-of-pocket expenditure for diagnostics, surgeries, and post-treatment care—a significant factor in their decision to return for ongoing treatment. However, physical access remains a concern for many patients, particularly those traveling from remote villages. Common challenges included lack of direct public transportation, long travel times, and additional expenses for reaching the facility. These transport-related issues not only cause fatigue, particularly for the elderly and sick, but also act as a disincentive for regular follow-up care.

Despite these mobility challenges, it is evident that the availability of upgraded services has enhanced the perceived value of visiting the hospital. The availability of advanced medical equipment and advanced surgical interventions has encouraged patients to tolerate logistical difficulties for the sake of receiving quality care. In parallel, **the installation of the UV-treated RO water plant—serving approximately 2,500 outpatients and 700 inpatients daily—has enhanced patient comfort, safety, and dignity.** Staff feedback further confirms that these improvements have contributed to increased patient footfall and broader service utilization across multiple departments.

Importantly, the reach of the intervention extends beyond mere physical attendance. Several patients described experiencing attentive follow-up, timely interventions, and better communication regarding treatment protocols—all indicators of improved institutional responsiveness. **Staff feedback further confirms that these improvements are not confined to a single department but are being felt across surgical units, eye care, laboratory services, and wards.** However, limitations do exist. The shortage of clinical staff relative to patient volume means that while equipment is available, the time taken to access services can still be high. This is particularly the case in the ophthalmology department, where patients reported spending an entire day due to high caseload and limited personnel.

In summary, the intervention has effectively expanded the functional reach of the hospital's services, making advanced medical care accessible to patients who would otherwise be excluded due to financial or geographic barriers. The findings suggest that accessibility has improved significantly in terms of affordability and service quality. However, physical access remains a challenge, and systemic improvements—such as better transport connectivity and increased staffing—would further enhance equitable healthcare delivery.

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“I came here because of budget problems... here it is economical.”

— Patient

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“I have already recommended this hospital to others.”

— Patient

“

“The UV water treatment plant provides clean water, but better washrooms and more medicines would sustain benefits.”

— Patient

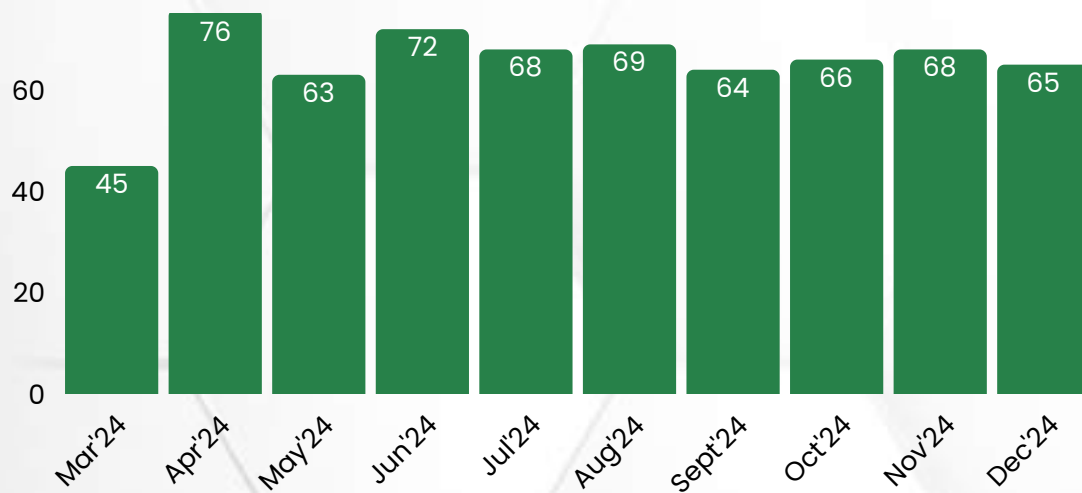


Chart 1: Monthly data for number of OCT taken in the Dept. of Ophthalmology

Between March and December 2024, the Department of Ophthalmology conducted a total of **656 OCT scans**, reflecting consistent and sustained utilization of the equipment. Monthly usage stabilized between 63 to 76 scans, indicating that the OCT has become a routine diagnostic tool, particularly for retinal and optic nerve conditions. This steady uptake demonstrates both the clinical relevance of the machine and the department's capacity to integrate advanced technology into standard care, reinforcing its long-term value and impact on patient diagnostics.



Image: Optical Coherence Tomography supported by KVB

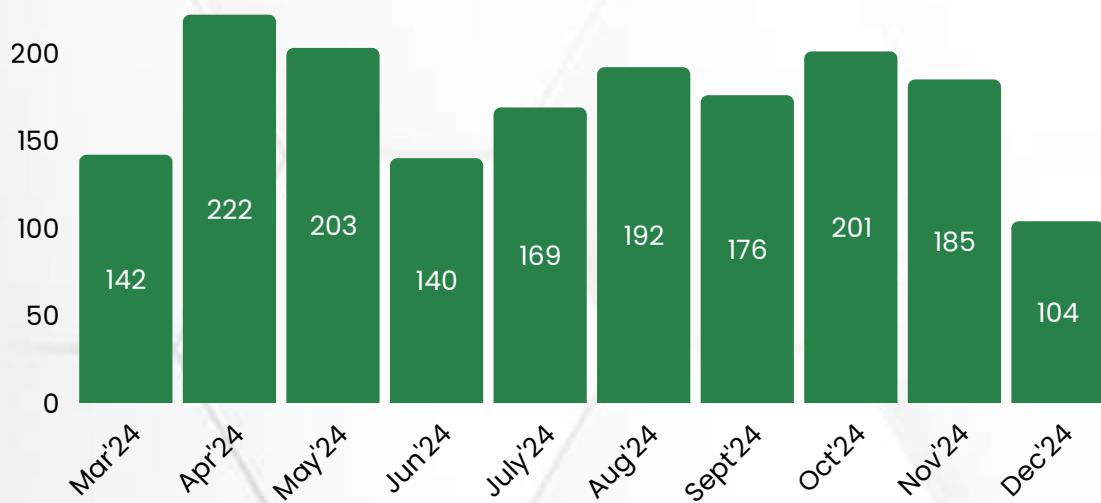


Chart 2: Number of Major Surgeries done in the Department of O&G using the Diathermy with Vessel Sealer supported by KVB.

From March to December 2024, a total of 1,734 major surgeries were performed in the Department of Obstetrics & Gynaecology using the surgical diathermy unit with vessel sealer supported by KVB. Monthly figures ranged from 104 to 222 surgeries, with consistently high usage across the period, particularly in April and May. This sustained utilization reflects the critical role of the equipment in enabling precise and safe surgical interventions, especially in high-volume departments like O&G. **The data reinforces the equipment's importance in managing complex surgical cases efficiently, reducing intraoperative blood loss, and contributing to better patient outcomes in a government hospital setting.**

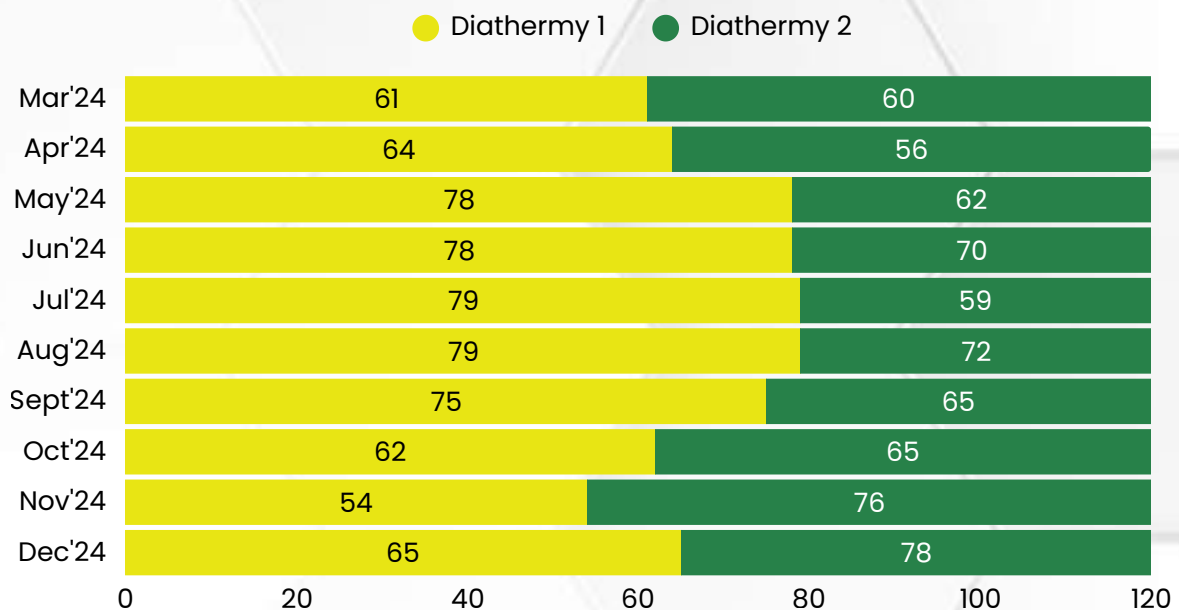


Chart 3: Monthly surgeries performed in the Departments of General Surgery and Orthopaedics using the two diathermy units respectively supported by KVB.

From March to December 2024, **Diathermy 1, used in the Department of General Surgery, supported 695 surgical procedures, while Diathermy 2, deployed in the Department of Orthopedics, facilitated 663 procedures.** Monthly usage remained consistently high across both units, ranging from 54 to 79 cases per month, reflecting their integral role in routine surgical practice. The consistent utilization of both machines indicates strong clinical integration and highlights their effectiveness in improving surgical precision, reducing intraoperative bleeding, and increasing procedural safety. **These figures further affirm the sustained operational relevance of the equipment within high-demand surgical departments of the hospital.**

The UV Water Treatment Plant installed under the intervention is currently serving all inpatients and outpatients at the hospital, reflecting full-scale institutional utilization. **With an average daily footfall of approximately 2,500 outpatients and 700 inpatients, the facility is delivering safe, treated drinking water to over 3,200 individuals per day.** This large-scale access to clean water directly contributes to improved patient safety, infection control, and overall hospital hygiene. As a basic yet critical public health utility, the plant plays a foundational role in supporting recovery, especially for immunocompromised patients, and enhances the overall quality of care environment in a high-footfall government hospital.



Image: UV Treatment Plant supported by KVB

Patient Experience and Recovery Outcomes

The findings from the interviews indicates that the intervention has contributed to measurable improvements in both patient experience and recovery outcomes. Respondents across departments consistently reported that the availability of advanced medical equipment—such as the OCT machine and surgical diathermy units—enabled earlier diagnosis, timely interventions, and more streamlined treatment processes. **This shift from reliance on external referrals to in-house, continuous treatment was highlighted as improving the patient journey at multiple stages, from admission and diagnosis to recovery and discharge.**

Patient interviews showed that repeated references to attentive care, clear communication, and professional conduct by healthcare providers. Multiple patients described receiving detailed explanations of procedures and follow-up instructions, which they perceived as enhancing trust and compliance with medical advice. Follow-up monitoring was also noted, particularly in cases involving chronic conditions or neonatal care, with hospital staff initiating post-discharge contact.

The clinical benefits are strongly evidenced in ophthalmology service records. Between April and December 2024, the OCT machine was used for an average of 68 scans per month, enabling serial imaging for retinal conditions such as diabetic retinopathy and glaucoma. **Patients reported tangible improvements in vision following targeted interventions, which, in several cases, were corroborated by follow-up imaging data demonstrating positive treatment response.** These combined findings point to a direct link between the new equipment, improved service continuity, and enhanced patient-reported outcomes.

“

“They take care well, from nurses to big doctors. No complaints.”

— Patient

In maternity and general inpatient care, the feedback was similarly positive. Patients recounted being well looked after during delivery and recovery, and emphasized that the provision of free medicine, food, and follow-up contributed to a sense of dignity and comprehensive care. While some infrastructural issues remain—such as the need for cleaner toilets and better hot water access—these were reported as secondary concerns when compared to the quality of medical care received. In several cases, patients cited that even with travel and minor discomforts, they would strongly recommend the hospital to others based on their own successful recoveries.

In conclusion, the intervention has significantly improved patient recovery trajectories and strengthened institutional credibility. Patients now experience a more integrated and supportive care environment that directly influences both clinical outcomes and emotional wellbeing. The improved experience is not limited to isolated departments but reflects a system-wide uplift in quality of care facilitated by modern equipment, skilled staff, and streamlined services.

CASE STUDY:

One illustrative case is that of a 75-year-old agricultural labourer who arrived at the hospital with complete loss of vision in his right eye. As he explained, his deteriorating condition had not only affected his ability to work but also made him heavily dependent on others for daily activities. Upon receiving a series of diagnostic scans using the newly installed Optical Coherence Tomography (OCT) machine, he was placed on a regimen of intraocular injections. Over the course of four treatment visits within a single week, he began to regain partial sight—an outcome that was deeply significant for both his physical autonomy and emotional well-being. He emphasized that the treatment was delivered efficiently, with proper communication from the staff, and at no cost, owing to public insurance coverage. This case underlines how timely access to advanced diagnostic and therapeutic tools can substantially restore functionality and dignity, particularly for elderly patients living in rural poverty.

Impact on Healthcare Providers

The intervention has led to meaningful changes in the working conditions, professional capacity, and morale of healthcare providers at the Government Medical College and Hospital, Karur. The introduction of high-value equipment—particularly the Optical Coherence Tomography (OCT) machine in ophthalmology and surgical diathermy units in the operation theatres—has significantly improved the effectiveness of clinical decision-making and enhanced procedural efficiency. **From an institutional perspective, these advancements have allowed the hospital to internalize services that were previously outsourced or referred to distant facilities, enabling doctors and staff to provide more comprehensive care within the same infrastructure.**

Healthcare professionals consistently reported that the availability of these tools has allowed for faster diagnosis, better surgical control, and a more streamlined workflow. For instance, the OCT machine has facilitated high-resolution imaging of retinal conditions, allowing clinicians to design tailored treatment protocols for complex ophthalmic issues such as diabetic retinopathy and glaucoma. Surgeons described how the diathermy equipment improved their ability to minimize intraoperative blood loss, thereby increasing patient safety and improving postoperative recovery. The availability of these technologies has not only advanced the hospital's clinical capabilities but has also empowered providers to perform at a higher standard of care.

Crucially, **staff expressed a sense of increased confidence and efficiency in their roles, reporting that the intervention has reduced their reliance on manual methods or outdated systems. This shift has allowed for greater accuracy and has minimized procedural delays.** Though the overall workload remains high—due in large part to the hospital's substantial patient inflow—healthcare providers highlighted that the nature of their work has become more productive and less constrained by equipment limitations. In this sense, the intervention has improved the qualitative aspects of their professional experience, even if quantitative pressures remain.

Training and technical support were also identified as key enablers of this transformation. **Most departments received functional demonstrations during the installation of equipment, and staff reported that the machines were relatively easy to operate and integrate into routine clinical practice.** The presence of dedicated personnel for equipment handling and a clear chain of accountability for maintenance contributed to the confidence with which these tools are being used. Importantly, there were no significant reports of equipment failure or misuse, suggesting that the institutional culture is supportive of high-standard care delivery.

Nonetheless, the feedback also surfaced some systemic constraints. Providers, especially in departments such as ophthalmology, noted that the mismatch between rising service demand and available human resources remains a challenge. While the equipment has significantly boosted the hospital's capacity to serve more patients and offer higher-quality interventions, the staffing levels have not increased proportionately. As a result, some providers continue to experience pressure in managing high patient volumes, and patients occasionally face long waiting periods despite the availability of equipment.

In summary, the impact of the intervention on healthcare providers has been overwhelmingly positive. The equipment has elevated their ability to deliver safe, efficient, and precise medical care. While certain structural and staffing limitations persist, **the qualitative data indicates that the intervention has contributed to an overall improvement in provider performance, institutional confidence, and clinical service delivery.**

Sustainability and Long-Term Utility

The long-term success of any health systems intervention depends not only on initial implementation but also on the institution's ability to sustain and manage the introduced infrastructure. In case of the Government Medical College and Hospital, Karur, the qualitative findings from healthcare providers and administrative staff indicate a strong foundation for the continued usability and upkeep of the medical equipment provided under this intervention. The integration of essential machines—such as the Optical Coherence Tomography (OCT) and surgical diathermy units—has been accompanied by well-defined maintenance protocols, designated staff responsibility, and ongoing support arrangements, all of which contribute to the likelihood of long-term sustainability.

Respondents across departments consistently noted that the equipment is being maintained regularly and used with appropriate care. For instance, both ophthalmology and surgical teams reported daily use of the machines and confirmed that cleaning, operational checks, and proper storage are embedded into routine departmental workflows. The OCT machine, for instance, is kept in a temperature-controlled environment to ensure optimal performance, while surgical equipment is cleaned before and after each procedure by assigned staff. This points to an institutional culture that prioritizes accountability in asset management—an important indicator of sustainability in public sector facilities.

Equally important is the presence of robust technical support mechanisms. **All equipment provided through this intervention is covered under multi-year warranties and comprehensive maintenance contracts.** Several providers explicitly mentioned three-year warranties and additional long-term service agreements (e.g., 7-year Comprehensive Maintenance Contract for the surgical diathermy), which provide a safety net for troubleshooting and technical servicing.

These agreements reduce the risk of downtime and ensure that the equipment remains functional even in the face of operational challenges or user-related wear and tear. Such arrangements are critical in public hospitals, where procurement and repair cycles are often slow and bureaucratically constrained.

Training and human resource capacity also play a pivotal role in ensuring sustainability. Out of the 5 staff members interviewed, all of them have received adequate training during the installation of the machines, including hands-on demonstrations and direct guidance from technical teams. No significant gaps in user competence were reported. Furthermore, the simplicity of operating the equipment—combined with institutional familiarity developed over time—has created a high degree of comfort among users. In some cases, departments have designated specific staff to oversee equipment use and maintenance, ensuring consistent oversight. This delegation of responsibility contributes to both the physical longevity of the machines and their strategic integration into clinical workflows.

While the equipment itself appears durable and well-managed, sustainability cannot be evaluated in isolation from broader systemic factors. One recurring theme in staff feedback was the need for continued investment in supporting infrastructure—such as staffing, consumables, and updated software. For example, ophthalmology staff noted the need for periodic software updates to enhance the OCT machine's reporting capabilities, particularly for managing glaucoma cases. While these are not current barriers to functionality, they highlight the dynamic nature of sustainability, which requires both preventive maintenance and adaptive upgrades over time.

In conclusion, the sustainability and long-term utility of the equipment provided under this intervention appear strong at the time of this assessment. Proper usage protocols, regular maintenance, staff accountability, and structured service contracts collectively create a supportive environment for continued impact. However, sustaining these gains will require periodic reinvestment and responsiveness to emerging needs, especially as patient volumes grow and technology evolves.

Voices from field

“

“We chose this hospital for its affordability, addressing our budget constraints with quality care.”

–Patient

“

“Clear instructions and caring staff supported my recovery, enabling me to go out independently after eye treatment.”

–Patient

“

“Frequent care during my twin delivery and follow-up calls ensured a positive experience and healthy outcomes.”

–Patient

“

“Specialized machines for four eye injections have steadily enhanced my blurry vision with precise care.”

— Patient

“

“Just 3 km away with a 10-rupee bus ride, I accessed free eye treatment using advanced machines at this hospital.”

— Patient

“

“Affordable care with ICU machines and clean water from the UV treatment plant met our budget needs effectively.”

— Patient

Voices from field

“

“I had been struggling with blurred vision for quite some time. Before coming to this hospital, I had to rely on distant facilities to get any kind of eye treatment, which was not only difficult but also stressful. When I started receiving treatment here, everything changed. The hospital’s ophthalmology team put me on a course of injections, and the availability of the OCT machine made a big difference. I no longer had to travel far or deal with the confusion of new places — all the tests and procedures were done here itself. After my sixth injection, I was able to go out on my own again — something I hadn’t been able to do in months. The doctors and staff explained everything clearly and even followed up with me to make sure I was recovering well. It wasn’t just the equipment that helped me — it was the entire care process that gave me both physical relief and confidence.”

—Patient, 64 yeras old

“

“The surgical diathermy has made work easier and reduced blood loss for patients.” — Medical Staff, speaking about the surgical diathermy.

“

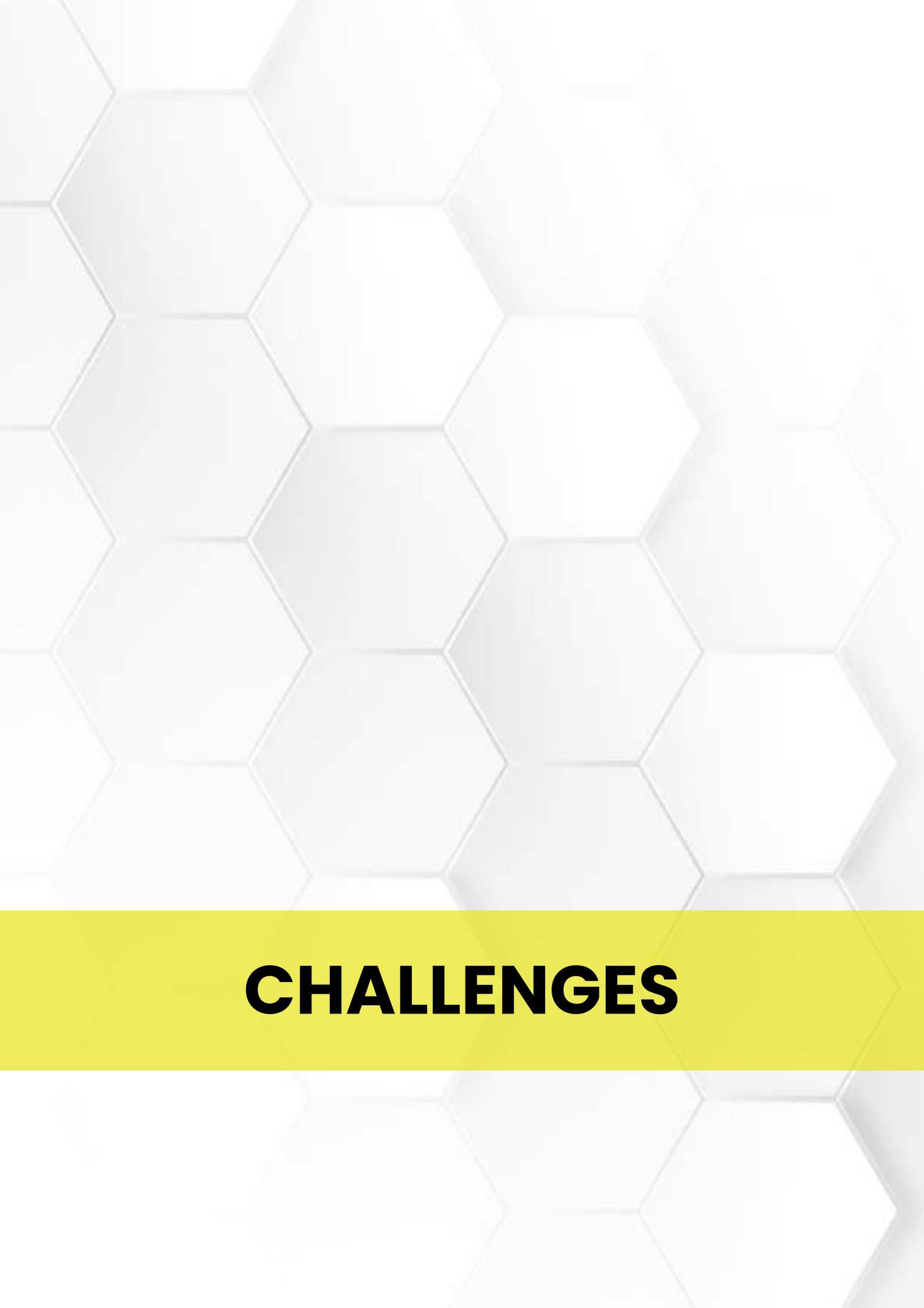
“Because of the new equipment, their waiting time and cost has been reduced.”

— Admin Staff

“

“People are happy now, as earlier they had to travel to different districts for this service.”

— Hospital Staff



CHALLENGES

Challenges



Staff Shortages Limiting Equipment Utilization

While the installation of advanced equipment has expanded the hospital's diagnostic and treatment capacity, limited human resources continue to constrain full utilization. In departments like ophthalmology, a single provider often handles a large patient load, leading to long waiting times despite equipment availability. This reduces overall efficiency and delays timely access for patients.



Lack of Complementary Equipment in Key Departments

Some clinical departments remain partially under-equipped. For example, in ophthalmology, the absence of a B-scan machine limits the ability to fully assess certain eye conditions that the OCT cannot capture. Similarly, in orthopaedics, the lack of surgical drills restricts the completion of certain procedures, affecting workflow despite the availability of diathermy units.



Overload on High-Use Equipment

The newly installed machines, especially the OCT, are being used heavily on a daily basis. While this reflects high demand and utility, it also raises the risk of overuse and long-term wear, particularly in the absence of a backup unit. If patient volume continues to grow, there may be a need for additional units or equipment rotation to ensure continuity.



Need for Technical Updates and Calibration Support

Although equipment maintenance is being handled well, some departments noted the need for periodic software updates and advanced reporting features, especially in ophthalmology. Without timely updates and calibration support, diagnostic capabilities may become limited over time, affecting the precision and reliability of results.



RECOMMENDATIONS

Recommendations



Strengthen Human Resources to Maximize Equipment Use

To fully leverage the benefits of the installed medical equipment, departments with high patient loads—particularly ophthalmology—require additional trained personnel. Increasing the number of doctors, technicians, or support staff would help reduce waiting times and ensure optimal utilization of equipment like the OCT and surgical diathermy.



Provide Complementary Diagnostic and Surgical Tools

To close remaining procedural and diagnostic gaps, additional support is recommended for departments in need of complementary equipment. For example, a B-scan machine would enable more comprehensive ophthalmic diagnostics, and orthopaedic units would benefit from surgical drills to perform complete procedures in-house.



Introduce Equipment Load-Balancing Measures or Backup Units

Given the high-frequency use of machines like the OCT, the hospital may benefit from either an additional unit or a load-sharing mechanism across departments. This would reduce wear, prevent breakdown from overuse, and ensure service continuity during maintenance or downtime.



Establish a System for Scheduled Software Updates & Calibration

Technical sustainability can be strengthened by institutionalizing a schedule for software upgrades, recalibration, and preventive servicing. In departments like ophthalmology, this would enhance diagnostic reporting and ensure the equipment remains up-to-date with evolving clinical standards.



CONCLUSION

Conclusion

The impact assessment of the medical equipment and infrastructure provided to Government Medical College Hospital, Karur, under the CSR initiative of Karur Vysya Bank, shows a clearly positive contribution to public healthcare delivery. The intervention has effectively addressed long-standing gaps in diagnostic and surgical services, particularly in high-demand departments such as ophthalmology and general surgery. The Optical Coherence Tomography (OCT) machine and surgical diathermy units have significantly improved diagnostic accuracy, procedural efficiency, and patient outcomes. These technologies have empowered healthcare providers to deliver more timely and targeted care, while reducing referrals and associated costs for underprivileged patients.

From the standpoint of patients, the availability of advanced yet free services within a government hospital setting has increased both trust and service uptake. Many reported functional recovery, greater independence, and satisfaction with the quality of care received. Hospital staff also reported enhanced capacity, reduced procedural bottlenecks, and improved workflow integration as a result of the new equipment.

However, the assessment also highlighted some critical areas that require attention for sustaining and scaling the intervention's success. These include the need for additional staff to manage increased service demand, provision of complementary equipment to maximize existing capabilities, and systems for regular technical updates and maintenance. Addressing these areas would ensure that the benefits of this investment are preserved and amplified over time.

Overall, the intervention stands as a strong example of how strategic CSR investment in medical infrastructure can enhance the quality, accessibility, and equity of public health services. With targeted follow-up support and system-wide planning, such initiatives have the potential not only to strengthen individual hospitals but also to contribute meaningfully to broader healthcare system resilience.

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