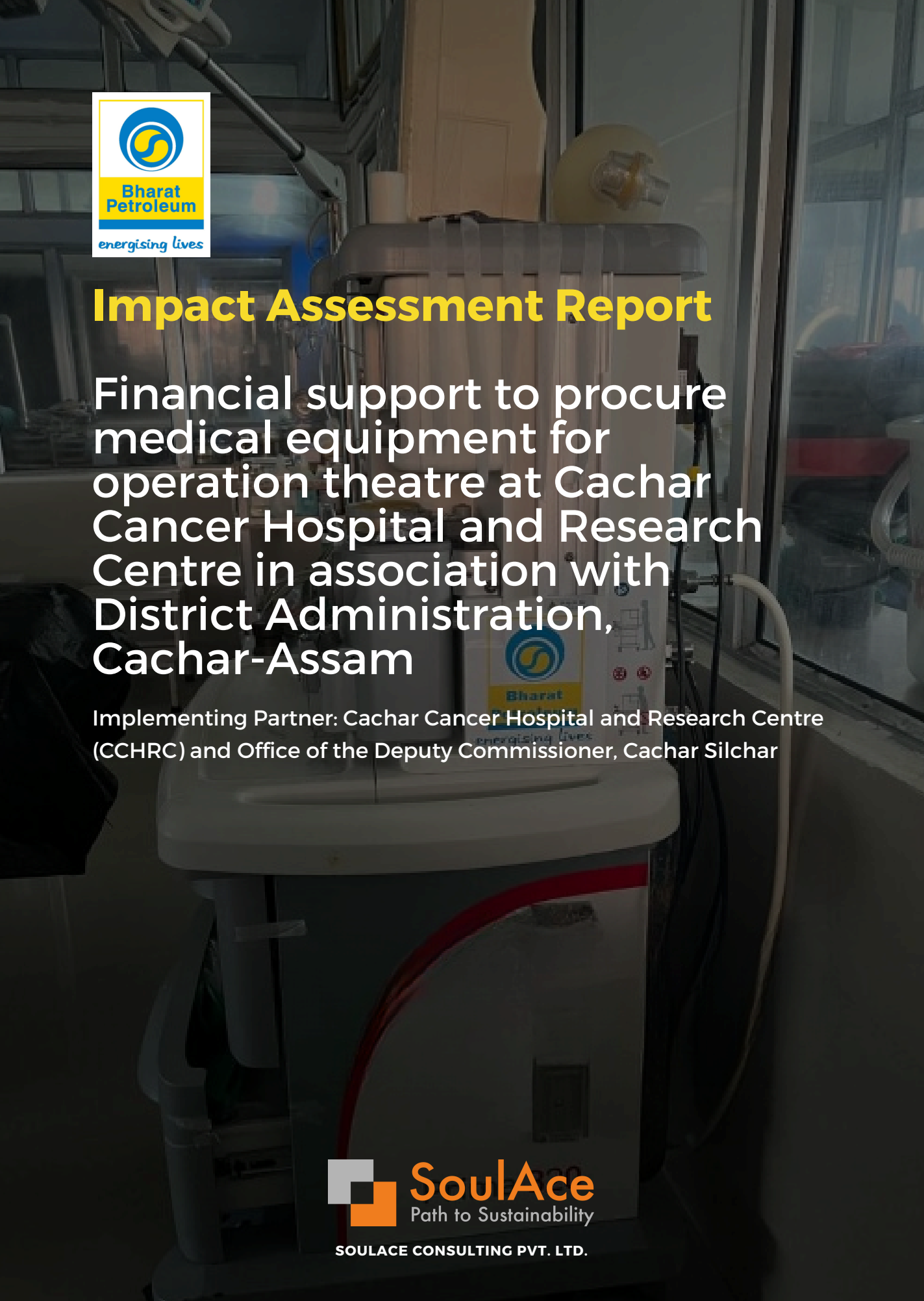

Impact Assessment Report

Financial support to procure medical equipment for operation theatre at Cachar Cancer Hospital and Research Centre in association with District Administration, Cachar-Assam

Implementing Partner: Cachar Cancer Hospital and Research Centre (CCHRC) and Office of the Deputy Commissioner, Cachar Silchar

SoulAce
Path to Sustainability
SOULACE CONSULTING PVT. LTD.

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01. EXECUTIVE SUMMARY

Project Background

The project, executed in collaboration with the Cachar Cancer Hospital and Research Centre (CCHRC) and supported by Bharat Petroleum Corporation Limited (BPCL), aims to improve surgical accuracy, enhance surgeons' efficiency, and ensure better diagnostic and treatment outcomes for cancer patients at Cachar Cancer Hospital, Assam. This initiative recognizes the crucial need to focus on enhancing the precision of diagnosis, thereby improving patient outcomes and overall well-being.

Project Details

Implementation year
FY 2021-22

Assessment year
FY 2024-25

Beneficiaries
cancer patients, caregivers, doctors

Locations
Assam

Project Budget as per MOU
₹ 1,99,27,224/-

Cumulative Project Expenditure :
₹ 1,59,06,069/-

Beneficiaries
2250 (Annually)

Implementing partners
Cachar Cancer Hospital and Research Centre (CCHRC) and Office of the Deputy Commissioner, Cachar Silchar

SDG Goals

Project Activities

Replacing existing outdated equipment with the latest technology in operation theatres.

Procurement of new equipment with the latest technology.

Key Findings

A total of 2522 patients received diagnosis and treatment, including surgical microscope, video bronchoscope and anaesthesia workstation. (Till May 2022)

90.0%

of the respondents used the new operating microscope in surgical procedures.

All of the respondents reported that the video bronchoscope utilized for diagnosis or therapeutic procedures is very helpful.

All of the respondents reported that the use of a surgical microscope had reduced the surgery times.

Key Impacts

A significant majority of participants (90%) demonstrated improvement in patient safety during surgeries since the introduction of the new equipment.

The success rate of free flap surgeries has improved to a larger extent with the use of the surgical microscope.

All of the respondents reported that the new equipment has allowed for the treatment of a broader range of cancer cases to some and a larger extent.

90.0%

reported that the equipment supports the sustainability of delivering specialized care.

ABOUT BHARAT PETROLEUM CORPORATION LIMITED (BPCL

Bharat Petroleum Corporation Ltd. (BPCL) is a leading integrated oil and gas company in India, engaged in the entire spectrum of activities from exploration and production of oil and natural gas to refining crude oil and distributing petroleum products. Headquartered in Mumbai, Maharashtra, BPCL operates refineries across Maharashtra, Kerala and Madhya Pradesh. The company's diverse portfolio includes a focus on renewable energy alongside its production of oil products such as light and middle distillates. BPCL markets its products through a vast network of retail outlets, dealers, and distributors under well-known brands like Mak, Speed, and Bharat Gas. Additionally, BPCL plays a crucial role in supplying fuel to both domestic and international airlines, contributing significantly to India's energy sector and economy.

ABOUT NGO PARTNER CACHAR CANCER HOSPITAL AND RESEARCH CENTRE (CCHRC)

Cachar Cancer Hospital and Research Centre (CCHRC) is a comprehensive cancer care facility situated on the outskirts of Silchar town in the Barak Valley of Assam, India. Administered by the Cachar Cancer Hospital Society, a non-profit NGO, CCHRC offers extensive cancer care services, focusing on prevention, treatment, palliation, education, and research. Since its establishment in 1996, the hospital has been committed to providing equitable, inclusive, and high-quality cancer care, particularly to underserved populations.

About District Administration, Cachar –

The District Administration of Cachar is dedicated to achieving universal access to equitable, affordable, and high-quality healthcare services across the State of Assam. With a strong focus on quality, the administration actively participates in the National Health Mission, emphasizing community engagement and service delivery. Efforts are directed toward ensuring that every individual, regardless of socio-economic status, can access essential healthcare services. By strengthening community participation, the District Administration aimed to enhance cancer treatment for districts by supporting the Cachar Cancer Hospital and Research Centre (CCHRC).

STAFF AT CACHAR CANCER HOSPITAL AND RESEARCH CENTRE (CCHRC)

02. OECD FRAMEWORK

The intervention is well aligned with SDGs:
Additionally, the intervention aligned with the government of India's flagship cancer control program.

Coherence

5

Relevance

The project proved highly relevant by replacing two outdated pieces of equipment and procuring one advanced device with state-of-the-art technology. These interventions directly addressed the fundamental issues posed by old and obsolete instruments used in cancer treatment, offering modern alternatives. This upgrade significantly enhanced diagnostic accuracy, improved treatment effectiveness, and ensured better surgical outcomes for cancer patients at CCHRC in Assam

5

Effectiveness

The intervention has demonstrated significant effectiveness, benefiting both cancer patients and doctors at the Cachar Cancer Hospital. Key improvements include enhanced patient safety during surgeries, reduced surgery times, and more effective and accurate treatments. The reduction in human errors has contributed to better patient outcomes. Introducing new equipment has been pivotal in broadening the intervention's reach, encompassing all aspects of cancer treatment.

4.5

Sustainability

The program's emphasis on equipping the operating theatre with new technology for timely cancer diagnosis and quality treatment ensures sustainability by enabling doctors to deliver superior care and achieve positive patient outcomes. The introduction of advanced equipment reduces the likelihood of failures, minimizing downtime and ensuring consistent, reliable service. This sustainability extends beyond immediate patient care, as improved outcomes contribute to better long-term health, thereby alleviating the burden on the healthcare system.

4.5

Efficiency

The project has demonstrated efficiency in allocating and utilizing resources to achieve the desired outcomes. The efficient allocation of resources streamlined decision-making processes, and effective utilization of funds contribute to the project's overall efficiency in implementing new and modern instruments to treat cancer patients.

5

Impact

The program has created a significant positive impact at various levels, including individual, family, and community. By providing the institute with new equipment, the program has enhanced the efficiency of cancer treatment. Surgeons equipped with surgical microscopes can now perform complex procedures with higher precision, leading to shorter surgery times and improved patient safety. At the family level, caregivers benefit from better diagnostic accuracy and surgical precision, potentially minimizing the need for repeated treatments and hospital visits. Patients experience faster recovery and fewer post-surgery complications, resulting in better overall well-being and reduced stress for their families. Moreover, the introduction of advanced medical equipment has greatly enhanced the quality of healthcare services available to the community.

4.5

Index : 5 Points - Very High ; 4 Points - High ; 3 Points - Moderate ; 2 Points - Low ; 1 Point - Very Low

CHAPTER 3
OVERVIEW OF THE PROJECT

Surgery using the Surgical microscope

BACKGROUND AND NEED OF THE PROGRAM

BPCL-backed CSR initiatives are crucial in addressing community needs and fostering overall development. A significant focus of these efforts lies in upgrading surgical equipment to alleviate the challenges faced by surgeons using outdated tools. In cancer surgeries, the quality of equipment is paramount, and outdated tools hinder technological support, impacting patient outcomes negatively post-treatment.

Recognizing this, the Cachar Cancer Hospital and Research Centre (CCHRC), supported by BPCL, has initiated a program. This aims to replace two outdated pieces of equipment and procure one modern device with cutting-edge technology. The goal is to enhance the accuracy of diagnosis, improve treatment efficacy, and ensure better surgical outcomes for cancer patients at CCHRC in Assam.

OBJECTIVES OF THE PROGRAM

To enhance accuracy in the diagnosis, surgery, and treatment of various types of cancer patients.

To improve the efficiency of surgeons, reducing difficulties and ensuring better outcomes in both diagnosis and surgery.

PROJECT ACTIVITIES

Replacement of outdated equipment with state-of-the-art technology in two operation theatres, one in each.

Procurement of two new pieces of equipment equipped with the latest technology.

HOLI CELEBRATION IN CCHRC

CHAPTER 4
RESEARCH METHODOLOGY

BPCL commissioned SoulAce to assess the impact of its CSR initiative, which focuses on enhancing the accuracy of diagnosis, improving treatment efficacy, and ensuring better surgical outcomes for cancer patients at CCHRC, Assam

OBJECTIVES OF THE STUDY

The primary objectives of the study were:

To evaluate the immediate impacts of the program implemented and assess the enduring impacts of the program.

To measure the extent to which the program has contributed to the well-being of the beneficiaries.

To provide insights into the strengths and areas for improvement of the program implementation.

USE OF MIXED METHOD APPROACH

This evaluation utilized a mixed-methods approach, incorporating both qualitative and quantitative research methods. The qualitative component delved into subjective experiences and perspectives of key stakeholders, including doctors, patients, and family members, providing a nuanced understanding of participant views. Meanwhile, quantitative methods facilitated the collection and analysis of numerical data collected from the primary beneficiaries, i.e. doctors, yielding statistical insights and identifying trends. A mixed methodology approach was employed. This approach combines qualitative and quantitative methods to collect robust and diverse data, providing a holistic understanding of the project's impact.

APPLICATION OF QUALITATIVE TECHNIQUES

Qualitative methods capture the lived experiences, perceptions, and narratives of beneficiaries, stakeholders, and project implementers. In-depth interviews engage stakeholders, such as cancer technicians, doctors, and family members of cancer patients. Quantitative methods enable a detailed exploration of changes observed in surgery time and improvement in patients' safety and overall well-being.

APPLICATION OF QUANTITATIVE TECHNIQUES

Quantitative techniques are utilized to assess project impacts through objective data analysis. Surveys and questionnaires gather quantitative data on various indicators like the speciality of work, years of experience, use of equipment in the surgery procedure etc. By comparing pre- and post-intervention data, the projects' effects and enhancements are evaluated.

ENSURING TRIANGULATION

To enhance the reliability and validity of its findings, the study implemented various triangulation techniques. Data triangulation was achieved by gathering information from diverse sources, including field notes, interviews with beneficiaries, and interaction with stakeholders. This extensive data collection facilitated a comprehensive evaluation of the program's impact. Methodological triangulation was also employed, utilizing a variety of research methods such as surveys and interviews. This approach allowed for cross-verification of information and helped mitigate potential biases. Through these triangulation strategies, the study ensured a robust and dependable analysis, reinforcing the trustworthiness of its findings

RESEARCH DESIGN

Name of the project

Financial support to procure medical equipment for operation theatre at Cachar Cancer Hospital and Research Centre in association with District Administration, Cachar-Assam

Implementing agency

Cachar Cancer Hospital and Research Centre and with District Administration, Cachar-Assam

Research design used

Descriptive research design

Sampling technique

Purposive sampling

Sample size

10 doctors and specialists

Qualitative method used

Semi-structured interviews, testimonials with the key stakeholders, and survey with beneficiaries

KEY STAKEHOLDERS

Doctor | Patients | Family members of patients

STUDY TOOLS

Questionnaire for Primary Beneficiaries:
Structured questionnaires were developed, reviewing the project details for each of the focus areas and indicators were pre-defined before conducting the surveys.

Questionnaires for secondary beneficiaries and stakeholders :
A semi-structured questionnaire guide were developed for each type of sample of this group. Stakeholders were identified across the focus areas.

ETHICAL CONSIDERATIONS

The impact evaluation research was guided by a strong commitment to ethical considerations, ensuring that the study was conducted responsibly and ethically. The study adhered rigorously to ethical principles, ensuring the rights and well-being of participants were paramount throughout. Informed consent was diligently obtained, with participants provided comprehensive information on the study's objectives, procedures, and potential risks and benefits. They were given the opportunity to ask questions and make informed decisions about their involvement. Confidentiality and privacy measures were rigorously upheld, with data securely stored and accessible only to authorized personnel and participant identities protected through anonymization or coding. Importantly, participation was entirely voluntary, with no coercion or pressure exerted on individuals to take part, emphasizing the importance of autonomy and respect for individual choice. Throughout the study, participants were treated with utmost respect, dignity, and fairness, with their well-being prioritized and necessary support or assistance provided whenever needed.

CHAPTER 5
MAJOR KEY FINDINGS

This chapter provides a detailed overview of the key findings from the comprehensive Impact Assessment study. Through extensive surveys and in-depth interactions with key stakeholders,
including doctors and patients. The study offers valuable insights into the program's impact on various aspects of addressing the quality of cancer treatment.

GEOGRAPHICAL COVERAGE

The intervention was implemented in the Cachar district, Assam.

OUTREACH AND INCLUSIVITY

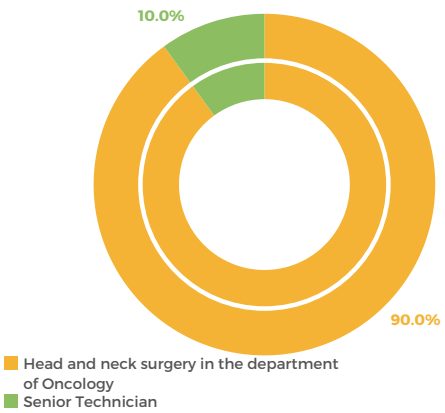
The program's primary beneficiaries were cancer patients taking treatment at Cachar Hospital and doctors.

ADD TEXT

DEMOGRAPHIC PROFILE OF THE BENEFICIARIES

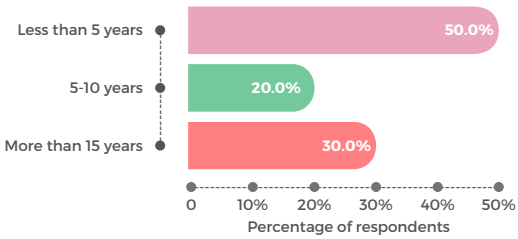
The demographic profile of the beneficiaries reveals a wide representation across various indicators.

CHART 1: SPECIALITY-WISE DISTRIBUTION OF RESPONDENTS



Shows that the majority of respondents specialized in head and neck surgery within the oncology department, while the remaining respondents were senior technicians for the oncology department.

CHART 2: SPECIALITY-WISE DISTRIBUTION OF RESPONDENTS



shows that half of the respondents had less than five years of experience, with the next largest group being those with more than fifteen years of experience.

PRE-INTERVENTION STATUS

Discussions with stakeholders, including doctors, have unveiled the pre-intervention status of the program:

Before the intervention, surgeons had to put in extra effort and time due to old and outdated instruments, leading to time consumption.

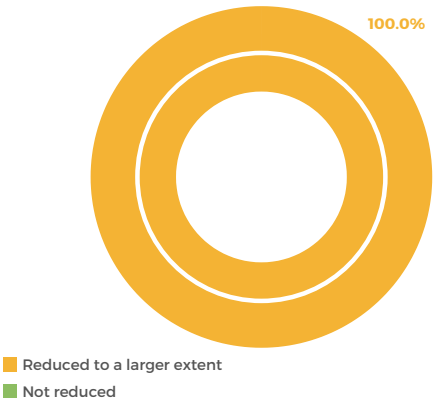
Discussions with doctors also revealed that outdated instruments compromised treatment accuracy, increased the risk of human errors, and sometimes resulted in undesirable patient outcomes.

SURGICAL MICROSCOPE

CHAPTER 6
KEY IMPACT

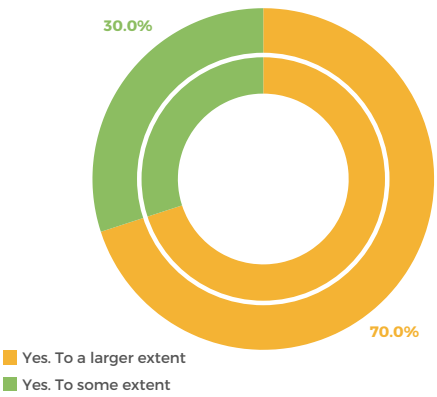
NO-COST MEDICAL CAMPS HELD FOR THE ELDERLY

CHART 3: THE EXTENT OF REDUCTION IN SURGERY TIMES WITH THE USE OF THE SURGICAL



Shows that all respondents reported a reduction in surgery times when using a surgical microscope. This improvement has led to more effective and accurate treatment of cancer patients with less time and effort required.

CHART 4: THE EXTENT TO WHICH NEW EQUIPMENT HAS CONTRIBUTED TO MINIMIZING PROCEDURE DURATIONS



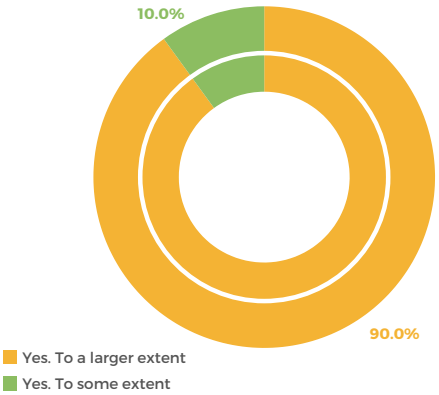
Shows that the majority of respondents reported that the new equipment has significantly contributed to minimizing procedure durations. This reduction in duration has positively impacted the efficiency of doctors, leading to decreased stress associated with outdated instruments and time-consuming procedures

SURGICAL MICROSCOPE

"I am very satisfied with the hospital treatment. The equipment at the hospital was readily available, making it easy for us to access the treatment services. The hospital also provided adequate follow-up care and support, ensuring a comprehensive and reassuring healthcare experience.

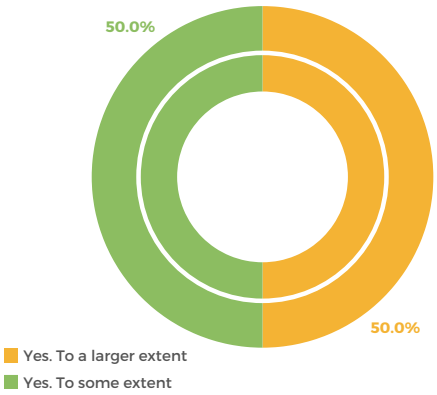
- **Ayush Roy, patient, Cachar hospital**"

CHART 5: THE EXTENT OF IMPROVEMENT IN PATIENT SAFETY DURING SURGERIES SINCE THE INTRODUCTION OF NEW



Shows that a majority of the respondents reported improvement in patient safety during surgeries since the introduction of the new equipment. Respondents also noted that the success rate of free flap surgeries has improved to a large extent with the use of the surgical microscope. This enhanced safety during surgeries has resulted in better and higher quality treatment for cancer patients.

CHART 6: THE EXTENT TO WHICH NEW EQUIPMENT HAS ALLOWED FOR THE TREATMENT OF A BROADER RANGE OF CANCER

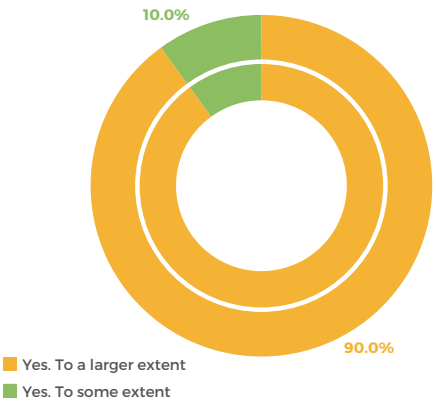


Shows that half of the respondents reported that the new equipment has allowed for the treatment of a broader range of cancer cases to a larger extent, while the other half reported this impact to some extent. This provision of new equipment has expanded the capabilities of healthcare providers to diagnose and treat a wider spectrum of cancer conditions, thereby enhancing the overall quality of care and patient outcomes.

CACHAR CANCER HOSPITAL AND RESEARCH CENTRE (CCHRC)

IMPROVED PROFESSIONAL DEVELOPMENT

GRAPH 7: THE EXTENT TO WHICH NEW EQUIPMENT HAS FACILITATED BETTER TRAINING OPPORTUNITIES FOR HEALTHCARE PROFESSIONALS



Shows that the new equipment has facilitated training opportunities to a larger extent for the majority of respondents. By providing training and assisting healthcare professionals in the use of new instruments, the program has contributed significantly to their professional development and skill enhancement.

"The new equipment is working in excellent condition, with quarterly maintenance ensuring its optimal performance. The upgraded equipment has been a tremendous help not only to the doctors but also to the students practising in our hospital. Previously, doctors had to rely on manual treatment methods, which were not only dangerous but also time-consuming. Now, with the upgraded equipment, doctors can precisely analyze where the disease has occurred and treat it at the exact point. This has significantly reduced the time required to treat patients, improving both efficiency and safety in our medical procedures.

- Dr. Ritesh Tapkire, Deputy Director and Head of Surgical Oncology, Cachar Hospital"

"Thanks to BPCL, the upgraded surgical microscope has revolutionized our approach to cancer treatment. This advanced equipment allows us to scan tumours during surgery and examine cancer biopsies with unparalleled precision. Video bronchoscopy has become an invaluable tool for diagnosing and determining the clinical stage of diseases. These upgrades have significantly enhanced our diagnostic capabilities and surgical outcomes, greatly benefiting both our doctors and patients.

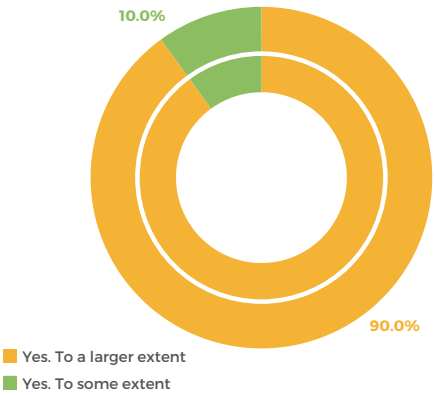
- Dr. Kapil Malik, Junior Specialist, Surgical Oncology, Cachar Hospital"

VIDEO BRONCHOSCOPE

SUSTAINABILITY

The program has several elements of sustainability embedded in its design:

CHART 8: THE EXTENT TO WHICH NEW EQUIPMENT SUPPORTS THE SUSTAINABILITY OF DELIVERING SPECIALIZED



shows that respondents reported to a large extent that new equipment has supported sustainability in delivering specialized care. The program's focus on providing new equipment in the operating theatre for timely diagnosis and quality treatment of cancer ensures sustainability by empowering doctors to provide quality care and satisfy patient outcomes. The introduction of advanced technology reduces the frequency of equipment failures, minimizing downtime and ensuring continuous, reliable service. This sustainability extends beyond immediate patient care, as better outcomes lead to improved long-term health, reducing the burden on the healthcare system.

ANAESTHESIA WORKSTATION

IMPACT CREATED ACROSS MULTIPLE LEVELS

CENTRE / INSTITUTE

- The program has provided the institute with new equipment, which has led to improvements in the treatment efficiency of cancer patients.
- With the surgical microscope, surgeons have been able to perform intricate procedures with greater precision, resulting in reduced surgery times and enhanced patient safety.

PATIENTS/FAMILIES

- Families of cancer patients benefit from enhanced diagnostic accuracy and surgical precision, potentially reducing the need for multiple treatments and hospital visits.
- Patients experience improved recovery and fewer complications post-surgery, leading to better overall well-being and reduced stress for their families.
- Reduction in traveling time due to the proximity of the hospital.

COMMUNITY

- The introduction of new, advanced medical equipment has significantly improved the quality of healthcare services available to the community.
- As the quality of medical care improves, the community's trust in local healthcare facilities has grown. This trust encourages more individuals to seek timely medical attention, potentially leading to earlier detection and treatment of cancer and other diseases.
- The new equipment has enabled healthcare facilities to treat a wider range of cancer cases, ensuring specialized care is received locally and reducing the need to travel to distant medical centres.

STATE

Contribution to state-level initiatives like the National Cancer Control Program, thereby supporting broader efforts towards treatment and overall development of patients.

CHAPTER 7
RECOMMENDATIONS

SCALE UP

The intervention has proven effective in enhancing doctors' efficiency in diagnosing and treating cancer by providing new and modern equipment. With the surgical microscope, surgeons have been able to perform intricate procedures with greater precision, resulting in reduced surgery times and enhanced patient safety. The successful outcomes underscore the potential for broader impact. To maximize these benefits, it is recommended that the program be extended to include other critical departments and operating theatres.

MAINTENANCE AND SUPPORT

Implementing a comprehensive maintenance schedule and support system to ensure all equipment remains in optimal condition is crucial. This includes regular checks and prompt repairs, which will prevent downtime and extend the lifespan of the equipment. Ensuring that the equipment is always operational will help maintain the high standards of care established by the program.

COMMUNITY OUTREACH

Expanding outreach initiatives to raise awareness about the availability of advanced treatment options at the hospital is recommended. This can attract more patients and ensure that a larger portion of the community benefits from the upgraded facilities. Outreach efforts could include informational campaigns, partnerships with local healthcare providers, and community events to educate the public about the new capabilities and services available.

CHAPTER 8
CONCLUSION

The collaboration between BPCL and Cachar Cancer Hospital and Research Centre aimed at replacing two outdated pieces of equipment and procuring one modern device with cutting-edge technology. Implemented in Cachar Cancer Hospital and Research Centre, Assam, the program focused on enhancing the accuracy of diagnosis, improving treatment efficacy, and ensuring better surgical outcomes for cancer patients. By providing the institute with new equipment, it has led to improvements in the treatment efficiency of cancer patients. With the surgical microscope, surgeons have been able to perform intricate procedures with greater precision, resulting in reduced surgery times and enhanced patient safety.

STUDY TOOLS
ANNEXURES

ANNEXURE 1: THE DETAILS OF THE TYPES OF EQUIPMENT

Sr. No	Equipment	Replacement with upgraded version/new equipment.	Quantity
1.	Surgical microscope	Replacement with an upgraded version	1
2.	Gastrointestinal video scope, Broncho videoscope, and accessories	Replacement with an upgraded version	1
3.	Anaesthesia workstation	New	2

ABBREVIATIONS

BPCL	Bharat Petroleum Corporation Limited
CCHRC	Cachar Cancer Hospital and Research Centre
CSR	Corporate Social Responsibility
FY	Financial Year
NGO	Non-Governmental Organization
SDGs	Sustainable Development Goals