



Impact Assessment Report

Providing Medical Equipments to BHU Trauma Centre, Varanasi Project code - P0693







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Chapter 1 Project Background & Overview



Chapter 1: Program Overview and CSR Initiatives of HDFC Bank

1.1 HDFC Bank's CSR Initiatives

HDFC Bank's Corporate Social Responsibility (CSR) initiative, "Parivartan¹," is committed to driving sustainable and holistic development throughout India. Operating across all states and union territories, Parivartan focuses on creating sustainable livelihoods for marginalized communities, with a particular emphasis on empowering women.

The initiative addresses critical areas such as rural development, education, skill enhancement, healthcare, financial literacy, and environmental sustainability.

By aligning its efforts with the United Nations Sustainable Development Goals (SDGs) and India's development priorities, Parivartan aims to foster self-sufficiency and social integration among underserved populations.

Additionally, the program plays a pivotal role in disaster response, facilitating infrastructure restoration and community rehabilitation in the aftermath of natural calamities. Through these multifaceted interventions, HDFC Bank strives to effect positive change and contribute to the nation's progress.

Parivartan's efforts are concentrated in six key areas:

Rural Developmet	Education Promotion	Skill development and livelihood Enhancement
Financial Literacy	Envoirnmental	Healthcare and
and Inclusion	Sustainability	Hygiene

¹ <u>https://v.hdfcbank.com/csr/index.html</u>

Rural Development	•Through the Holistic Rural Development Programme (HRDP), Parivartan enhances natural resources and promotes their optimal use for community economic development
Education Promotion	•Aligned with the Sarva Shiksha Abhiyan, Parivartan aims to improve education quality by training teachers, offering scholarships, and upgrading school infrastructure.
Skill Development and Livelihood Enhancement	 Parivartan provides vocational training to enhance employability and create sustainable livelihoods.
Financial Literacy and Inclusion	•Recognising the importance of financial awareness, Parivartan conducts literacy camps and workshops to educate individuals on banking, savings, and financial planning.
Healthcare and Hygiene	•The initiative addresses healthcare needs by organising health camps, mobile clinics, and sanitation projects.
Environmental Sustainability	•Parivartan undertakes environmental initiatives such as reforestation, clean energy projects, and waste management to promote sustainability and reduce the carbon footprint.

HDFC Bank Parivartan, in collaboration with Centre for Advanced Research and Development (CARD) foundation as the implementation partner, have provided the equipment to the Trauma Center and Super speciality Hospitals, Institute of Medical Science, Banaras Hindu University, Varanasi. The project goal was to significantly enhance treatment capabilities, reduce waiting times, and ensure timely and accurate medical care for patients.

Equipment	Quantity
TI500 Transport Incubator	1
Oxygen Bed head Panels	5
PulmoVista 500	2

Table 1. Equipments Installed at BHU Trauma Center

1.2 Alignment with Schedule VII

Schedule VII (Section 135) of the Companies Act, 2013 specifies the list of the activities that can be included by the company in its CSR policy. The below-mentioned table shows the alignments of the intervention with the approved activities by the Ministry of Corporate Affairs.

Activity	Description	Alignment with the Project
Schedule VII (i)	Eradicating hunger, poverty and malnutrition, 2 [promoting health care including preventive health] and sanitation 3 [Including contribution to the Swatch Bharat Kosh set up by the Central Government for the promotion of sanitation] and making available safe drinking water;	Completely

Table 2. Alignment with CSR Policy

1.3 Alignment with BRSR Principle

The project's intervention also aligns with the corporate ESG Sustainability Report. Specifically, it aligns with the Business Responsibility & Sustainability Reporting (BRSR) framework outlined by the Securities & Exchange Board of India (SEBI), as detailed in the following principle.

ESG Principle	Alignment with the Project	
5	Businesses should respect and promote human rights.	
8	Businesses should promote inclusive growth and equitable development.	

Table 3. Alignment with CSR Policy

1.4 Alignment with SDGs

The Sustainable Development Goals (SDGs), also known as the Global Goals, were adopted by the United Nations in 2016 as a universal call to action to end poverty, protect the planet, and ensure that by 2030 all people enjoy peace and prosperity.

Alignment with SDG's			
3 GOOD HEALTH AND WELL-BEING	Ensure Healthy lives and promote well-being for all at all ages. 3.4 By 2030, reduce by one-third premature mortality from non-communicable diseases through prevention and treatment and promote mental health and well-being 3.8 Achieve universal health coverage, including financial risk protection, access to quality essential healthcare services, and access to safe, effective, quality, and affordable essential medicines and vaccines for all.	Completely	
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE	9.1 Develop quality, reliable, sustainable and resilient infrastructure, including regional and transborder infrastructure, to support economic development and human well- being, with a focus on affordable and equitable access for all.	Completely	
17 PARTNERSHIPS FOR THE GOALS	17.17 Encourage and promote effective public, public-private and civil society partnerships, building on the experience and resourcing strategies of partnerships	Completely	

Table 4 .Alignment with SDG's

Chapter 2 Design & Approach of the Impact Assessment



Chapter 2: Design Methodology and Approach

2.1 Objectives of the Study



2.2 Evaluation Framework and Indicators

The study's objectives and primary areas of investigation directed the development of the evaluation, with a central focus on learning. In this segment, CSRBOX outlines its strategy for crafting and implementing a rigorous, adaptable, and outcome-driven evaluation framework/design.

To measure the impact of the project, a pre-postproject evaluation approach was adopted for the study. This approach relied on the respondents' recollection ability. With this approach, beneficiaries were queried about their conditions before and after the project intervention. The disparity aided in comprehending the project's contribution intended to enhancing the beneficiary condition.



This approach, at best, could comment on the contribution of the project to improving living standards, though it might not be able to attribute the entire change to the project. Other external factors might also have played a role in bringing positive changes along with the project. Hence, contribution was assessed, but attribution might not have been entirely assigned to the project.

OECD - DAC Framework

Given the study's objectives to determine the project's effectiveness, efficiency, impact created and sustainability, the evaluation has used the **OECD-DAC Framework**. Using the criteria of the

OECD-DAC framework, the evaluation has assessed HDFC Bank's contribution to the results while keeping in mind the multiplicity of factors that may be affecting the overall outcome. The social impact assessment hinges on the following pillars:

Relevance

Extent to which intervention objectives and design responds to beneficiary needs

Sustainability

Extent to which net benefits of the intervention are likely to continue

Coherence

Compatibility of the intervention with other interventions in a country, sector or institution



Effectiveness

Extent to which intervention objectives and design responds to beneficiary needs

Efficiency

Extent to which the intervention delivers, and how well resources were used

Impact

Extent to which intervention has generated significant positive or negative, intended or unintended, higher-level effects

The impact assessment has aligned itself with the impact parameters as per the criteria mentioned in the Terms of Reference. The following parameters are prioritised to satisfy the criteria of the Impact Assessment – **Relevance, Coherence, Effectiveness, Efficiency, Impact, and Sustainability.**

2.3 Sampling

A two-pronged approach to data collection and review was been chosen for the assessment. The secondary data was obtained through a literature review, while the primary data was collected from qualitative data collection methods. This methodology enabled us to gather valuable insights related to the impact from a holistic, 360-degree perspective that includes all pertinent stakeholders necessary for the study.

- 1. Primary Source
- Qualitative Data
- IDI's
- Kill's

- 2. Secondary Source
- Project Implementation
 Documents
- Reports

Stakeholder Mapping

In-depth discussions were held with the hospital staff and the maintenance team of. to acquire information about the equipment and its overall impact.

	Qualitative Sampling		
Stakeholder	Mode of Interaction	Mode of Data Collection	Total No. of Interactions Conducted
Interview with Hospital		On - Field	
Management/Administration	IDI		1
Interview with Medical Superintendent	IDI	On - Field	1
Interview with Head of the Department		On - Field	
for all three equipment	IDI		1
Interview with doctor of department		On - Field	
using Transport Incubator	IDI		1
Interview with doctor of department		On - Field	
using Pulmovista 500	IDI		1
Interview with team member of dept		On - Field	
using Oxygen Bedside Panel	IDI		1
Technical support staff	IDI	On - Field	1
Implementation Agency	IDI	Virtual	1
HDFC Team	IDI	Virtual	1
		Total	9

Table 2.List of Stakeholders

Theory of Change

Activities	Output	Outcome	Impact
Installation of medical equipment at BHU trauma centre.	 8 medical equipment provided, which includes Transport incubator TI500, PulmoVista 500 (regular) and bedside Oxygen air panels. 5 neonatal patients transported safely using the incubator. 1 respiratory monitoring procedures conducted using PulmoVista 500. 	 Increased efficiency in neonatal transportation. Enhanced respiratory monitoring and diagnosis. Improved oxygen therapy. Medical staff gain competency in using advanced equipment. 	 Strengthened healthcare infrastructure at BHU. Improved survival and recovery rates for critical patients. Enhanced capacity of medical personnel, ensuring long-term impact. Sustainable use of medical equipment, ensuring long- term functionality. Long-term reliability and efficiency of installed medical equipment
Training conducted by the Manufacturer	1 Training session conducted. 30 medical staff trained in handling and maintenance of the equipment.	 Improved operational efficiency and better handling of medical emergencies. Reduced equipment misuse and breakdowns due to proper training. Increased awareness of medical best practices Knowledge on who to contact in case of breakdown or repair required 	
Maintenance and Support Visits	1 scheduled Preventive maintenance completed. No technical issues faced till date	 Increased lifespan and efficiency of medical equipment. Reduced risk of equipment failure during critical patient care. Improved operations and service continuity. 	

Table 6. Theory of Change



Image 1. Bedhead Oxygen Panels

Chapter 3 Impact Findings



Chapter 3 Impact Findings

HDFC, under its Corporate Social Responsibility (CSR) initiative, provided advanced medical equipment to the Trauma Center, Banaras Hindu University, Varanasi, in **2023–24**. The initiative aims to strengthen the hospital's critical care capabilities and ensure better access to quality medical care for patients coming in for treatment from Varanasi and surrounding regions.

As part of this intervention, HDFC provided three essential medical devices to improve neonatal transport, respiratory monitoring, and oxygen delivery systems:

Equipment In Trauma Cer	stalled at nter, BHU	Features
TI500 Transport Incubator	Temperate Infection •Integrate •Mobility of	ure Control Control d ventillation and Oxygen Supply and Shock Absorbtion
•Con Pulmovista 500 Electrical Impedence Tomograph •Early		s Lung Imaging Free Diagnosis d Ventillation Management ection of Lung Complications
Bedside Oxygen Air Panels	•Centralise •Multiple C •Pressure	ed Oxygen Supply Outlets Regulation and Flow Control

3.1 Relevance

The BHU Trauma Center, a leading tertiary care hospital and one of India's largest Level-1 trauma centers, plays a vital role in providing emergency and specialized medical care nationwide. With a capacity of **354 beds**, it serves a high volume of critically ill and injured patients, including neonates in need of surgical interventions.

Government healthcare facilities like BHU often struggle with equipment shortages, affecting patient care and accessibility. BHU faced challenges such as a lack of essential medical equipment and limited specialized resources, impacting overall patient care.

Key Challenges faced include:

• High Risk of Pediatric Morbidity and Mortality

A significant challenge faced at the center is the safe and effective transport of neonates who require surgical procedures immediately after birth. Previously, newborns were often wrapped in blankets and transported on stretchers, a practice that posed serious risks, including hypothermia due to inadequate thermal regulation and increased infection rates from exposure to hospital environments. These factors significantly contributed to higher risk of neonatal morbidity and mortality. The provision of Transport Incubator at BHU has ensured a safer and more controlled environment for neonatal care, reducing health risks and improving clinical efficiency

• Lack of Real Time Lung Monitoring in Patients with Acute Respiratory Distress

Prior to the introduction of PulmoVista 500, Healthcare professionals evaluated lung function using conventional lung monitoring techniques such arterial blood gas (ABG) analysis, CT scans, ultrasound, and chest X-rays. These techniques did, however, have significant limitations. One significant issue was the absence of continuous, real-time monitoring because CT scans and X-rays only produced static images, which made it challenging to monitor dynamic lung changes. Additionally, it was dangerous to transport severely ill patients on artificial breathing for CT scans, which further delayed diagnosis and treatment. These limitations highlighted the need for a non-invasive, bedside lung monitoring solution. The introduction of Pulmovista 500 Electrical Impedence Tomograph has enhanced clinical decision-making, improved patient safety, and allowed timely interventions.

Shortage of Ventilator Support

Before the installation of oxygen bedhead panels, patients requiring ventilator support had to be shifted to the ICU, leading to a shortage of ICU beds and increased strain on critical care resources. This process not only delayed timely respiratory support but also increased patient risk during transfers. Strengthening healthcare infrastructure has expanded the hospital's capacity to provide critical care, ensuring timely treatment and better patient management.

The intervention by HDFC Bank Ltd. has significantly strengthened the hospital's capacity to address these challenges, enhancing patient care, safety, and operational efficiency.



"It was heartbreaking to see newborns being transferred to the NICU on a stretcher, wrapped in blankets, or having to examine them while they were in their mother's lap."

Hospital Staff, Trauma Centre, BHU

3.2 Effectiveness

The programme's effectiveness measures the extent to which objectives have been achieved and identifies the supporting processes and systems that influence the achievement of these objectives.

3.2.1 Reduced Risk of Hypothermia and Neonatal Complications

The introduction of transport incubators has significantly reduced the risk of hypothermia and neonatal complications, particularly in critical care settings such as the BHU Trauma Center.

Previously, neonates requiring surgical intervention were transported wrapped in blankets on stretchers, exposing them to uncontrolled temperature fluctuations and increased infection risks. Hypothermia in newborns can lead to instability, respiratory complaints, and impaired immune response, further complicating their already fragile health condition. By providing a thermally regulated, sterile environment, transport incubators ensure that neonates remain at an optimal body temperature, minimizing the risks associated with exposure. Moreover, the hospital staff have explained that the equipment has assisted in efficiently examine newborn patients in a controlled and safe environment, allowing for more accurate assessments and timely interventions.

3.2.2 Improved Lung Monitoring

PulmoVista 500, an advanced electrical impedance tomography (EIT) device, has the potential to enhance real-time, non-invasive monitoring of Acute Respiratory Distress Syndrome (ARDS) patients by providing continuous insights into lung function and airflow distribution. Unlike traditional methods such as blood gas analysis and chest imaging, which offer delayed or indirect assessments, PulmoVista allows doctors to see how different parts of the lungs are working in real time. This helps in detecting collapsed lung areas, over-expanded lung regions, and uneven airflow, enabling better adjustments to ventilator settings and reducing the risk of further lung damage.

However, despite its advantages, the device has been used only once due to a lack of consumables, limiting its impact on ARDS management. Ensuring a consistent supply of

necessary materials is critical for fully integrating PulmoVista into routine critical care practice. Addressing this limitation will allow for more frequent and effective use of the technology, ultimately improving ventilator management, reducing complications, and enhancing overall patient care in ARDS cases.

3.2.3 Improved Ventilator Support

Previously, the hospital wards lacked oxygen bedhead panels, limiting the ability to provide ventilator support within the ward itself. This required transferring patients to other areas, increasing response time and dependency on ICU resources. However, with the installation of bedhead panels, the need for frequent patient transfers has reduced, allowing for ventilator support to be provided directly in the ward, improving efficiency and patient care.

The 5 bedhead panels are installed in 5 different trauma wards including, neurosurgery, polytrauma, orthopaedics, disaster and Operation Theatre of BHU Trauma center where 3 Oxygen bedhead panels are in fully functional state.

Qualitative interviews with healthcare staff revealed that while the installation of bedhead panels has been beneficial, challenges remain as not all panels are fully functional. Staff members highlighted that once fully operational, these panels will significantly improve response time, reduce workload, and enhance patient comfort by ensuring consistent access to ventilator support within the ward. Over the next six months, efforts will focus on making all panels fully functional, further strengthening critical care capacity and optimizing patient management.



Image 2. TI500 Transport Incubator



Image 3. PulmoVista 500 Electrical Impedance Tomography

3.3 Efficiency

The efficiency of the programme is evaluated by examining the utilisation of the equipment installed under the intervention. The data underscores the programme's success in ensuring that resources are effectively used and that the intended behavioural changes are being implemented.

3.3.1 Installation and Training Provided for the Equipment

Dräger, the Original Equipment Manufacturer conducted the training and installation of the PulmoVista 500 and TI500 transport incubator, as these were newly introduced to the BHU Trauma Center. To ensure proper usage, hospital staff and biomedical engineers participated in a comprehensive training session on the operation and management of these devices.

The installation of Oxygen Bedhead panels faced challenges due to the unavailability of the oxygen gas pipeline at the designated installation site, resulting in delays.

During the initial installation phase, technical support was provided by Dräger's structural engineering team, while biomedical engineers maintained close communication with Dräger to address operational challenges. This ongoing collaboration helped resolve initial issues, ensuring the seamless integration of the equipment into the hospital's critical care workflow.

In the event of a technical issue, the hospital's biomedical team contacts the manufacturing team responsible for issue resolution. While no technical problems have been reported with the equipment so far, the biomedical team has highlighted difficulties in accessing spare parts, which must be sourced externally.



Image 1.Training Conducted for TI500 Transport Incubator



Image 2.Training session Conducted for PulmoVista 500

3.3.2 Maintenance of the Equipment

The installed medical equipment has been installed with a 5-year warranty, during which the Original Equipment Manufacturer (OEM) is responsible for its maintenance and servicing. This warranty ensures that any technical issues or malfunctions are addressed promptly, minimizing disruptions in hospital operations.

To ensure the equipment operates efficiently and has a long lifespan, quarterly maintenance visits have been scheduled. During these visits, the equipment manufacturer conducts preventive maintenance, which is supervised by the Biomedical Engineering team at BHU.

These routine inspections focus on performance evaluation, calibration, and early detection of potential issues, preventing unexpected failures that could compromise patient care.

As part of the warranty agreement, the OEM conducts preventive maintenance visits, with one such visit already completed.

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Image 3. Preventive Maintenance Visit for Oxygen Bed Head Panel

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Image 4. Preventive Maintenance Visit for TI500 Transport Incubator

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Image 5.Preventive Maintenance Visit for PulmoVista500

3.4 Coherence

The Coherence section of the report checks the alignment of the programme with other interventions, i.e., with similar programmes aiming at enhancing quality of healthcare services and providing access to quality healthcare

	Support maternal and child health interventions, particularly under Rashtriya Bal Swasthya Karyakram (RBSK) , which focuses on early identification and management of birth-related complications.
	India Newborn Action Plan (INAP) aims to reduce neonatal mortality by improving access to high-quality neonatal care, including better transport facilities to prevent hypothermia and infection risks during transfers.
स्वास्थ्य एवं परिवार कल्याण मंत्रालय MINISTRY OF HEALTH & FAMILY WELFARE स्वास्थ्य एवं परिवार कल्याण विभाग DEPARTMENT OF HEALTH & FAMILY WELFARE	Pradhan Mantri Ayushman Bharat Health Infrastructure Mission strengthens ICU capabilities and digital health monitoring, which PulmoVista 500 facilitates by providing real-time, non-invasive lung imaging.
स्वास्थ्य एवं परिवार कल्याण मंत्रालय MINISTRY OF HEALTH & FAMILY WELFARE स्वास्थ्य एवं परिवार कल्याण विभाग सरयनेव जयते DEPARTMENT OF HEALTH & FAMILY WELFARE	National Programme for Prevention and Control of Non-Communicable Diseases Supports the management of respiratory diseases and critical care, ensuring efficient ventilatory support and reducing complications in ICU settings.
स्वास्थ्य एवं परिवार कल्याण मंत्रालय MINISTRY OF HEALTH & FAMILY WELFARE स्वास्थ्य एवं परिवार कल्याण विभाग सत्यमेव जयते DEPARTMENT OF HEALTH & FAMILY WELFARE	PM-Ayushman Bharat Health and Wellness Centres (HWCs) Promotes infrastructure upgrades in secondary and tertiary hospitals, ensuring access to ventilation support and critical care within general wards.

Table 3. Alignment with National Policies

3.5 Impact

This section evaluates the broader and long-lasting effects of the programme on its beneficiaries and the surrounding community. It examines the key changes brought about by the intervention, both intended and unintended.

3.5.1 Improved Diagnostic and Treatment Capabilities

The installation of TI 500 Transport Incubator, PulmoVista 500, and Oxygen Bedhead Panels has significantly enhanced the hospital's diagnostic and treatment capabilities, leading to improved patient management, faster decision-making, and better clinical outcomes. The TI 500 Transport Incubator has ensured safe and stable neonatal transport, reducing the risk of hypothermia and infection, which were previously common when newborns were transported using blankets or stretchers.

This has led to timely surgical interventions and improved survival rates. Similarly, the PulmoVista 500 has revolutionized respiratory diagnostics, allowing real-time lung imaging to detect conditions like lung collapse, overexpansion, and uneven ventilation. By providing personalized ventilation strategies, it has improved the management of ARDS patients and reduced ventilator-associated complications. The introduction of Oxygen Bedhead Panels has further strengthened respiratory support, ensuring immediate access to oxygen therapy and enabling in-ward ventilator use, thereby reducing the need for ICU transfer.

3.5.2 Enhancing Neonatal Care with Transport Incubators

The introduction of the transport incubator in the NICU has enhanced the care and safety of critically ill newborns by improving response times during transfers. By providing a stable and controlled environment, the incubator helps regulate temperature, maintain oxygenation, and offer protection during transport. This ensures smoother and safer transfers between departments or to the NICU, facilitating timely medical intervention and continuous care for newborns.

3.5.3 Reduced Dependency on Traditional Diagnostic Procedures

The implementation of PulmoVista has reduced dependence on invasive diagnostic procedures by providing real-time, non-invasive lung monitoring. This advanced imaging technology enables continuous assessment of lung function, allowing clinicians to make informed decisions without the need for frequent X-rays or invasive procedures like arterial blood gas analysis. As a result, patient comfort has improved, clinical efficiency has enhanced, leading to safer and more effective respiratory management in critical care settings.

3.6 Sustainability

To ensure the project's sustainability, emphasis must be placed on maintenance, hospital support, and ongoing improvements.

3.6.1 Continuous Staff training

To ensure the sustainability of the project, it is crucial to focus on **maintenance**, **hospital support**, **and continuous improvement**. Maintaining high-quality patient care and maximizing the use of equipment require ongoing staff training. Regular training sessions can enhance staff proficiency in equipment operation and maintenance, leading to improved patient outcomes and overall efficiency.

3.6.2 Need of Consumables for the functioning of Equipment

Ensuring a **steady supply of consumables** is essential for the seamless operation of medical equipment. A consistent stock of essential consumables helps maintain equipment functionality and minimize downtime. By streamlining procurement and inventory management, hospitals can enhance operational efficiency, ensure uninterrupted patient care, and extend the lifespan of critical medical devices.

3.6.3 Ensuring Oxygen Availability for Seamless Bedhead Panel Installation

To ensure the availability of oxygen supply, it is essential to **assess infrastructure requirements before installation**, coordinate with the hospital's engineering team for timely pipeline setup, maintain a reliable inventory of necessary components, and establish a proactive maintenance plan to prevent future disruptions.

3.6.4 Regular Maintenance to ensure sustainable usage of equipment

Conducting **regular maintenance visits** ensures the continued efficiency and reliability of medical equipment. Regular inspections, preventive servicing, and performance assessments help identify potential issues before they escalate, reducing downtime and ensuring patient safety. A structured maintenance schedule, supported by trained biomedical engineers and a well-stocked supply of spare parts, enhances operational efficiency, extends equipment lifespan, and optimizes healthcare delivery.

3.6.5 Strengthening Communication for Effective Project Implementation

Establishing communication is essential for defining clear objectives and broader impact metrics. Implementing a structured monitoring and feedback mechanism will enhance transparency, facilitate progress tracking, and support data-driven decision-making. Clear documentation of beneficiaries, impact assessment metrics, and periodic evaluations will improve accountability, while regular reporting and stakeholder engagement will strengthen collaboration and ensure efficient project execution.

Observation Checklist

	Criteria		Equipments			
Sr. No		Conditions	Transport Incubator TI500	PulmoVista 500	Bedside Oxygen Air Panels	
	Physical Condition of the Donated Equipment	Clean and properly maintained	~	~	~	
		Placed in an appropriate location for easy access	~	1	~	
1		Power supply and battery backup functional	~	~	~	
		No visible signs of damage or malfunction	~	V	V	
		Installed properly	\checkmark	\checkmark	\checkmark	
	Usage and Operation	Being actively used	~	~	3 out of 5	
2		Monitored by trained staff	~	~	~	
		Staff following safety and infection control protocols	~	~	~	
		Proper data visualization and interpretation observed	~	~	~	
		Accessible to both doctors and nurses when needed	~	~	✓	
		No frequent breakdowns or issues reported	~	~	V	
		Staff using the machine confidently without errors	~	~	✓	
3	Staff Training & Familiarity	Staff trained to operate the Machinery	~	~	✓	
		Training records/logs	✓	✓	~	

		available for			
		verification			
		Emergency protocols			
		in place for		/	
		malfunction	V	v	√
		scenarios			
		Trainina sessions			
		conducted by			
		vendor or hospital	\checkmark	\checkmark	\checkmark
		administration			
		Staff can			
		troubleshoot minor			
			\checkmark	\checkmark	\checkmark
		Regular	~	v	~
			^	~	^
		schedule followed			
		Hospital technical	,	<i>,</i>	,
		team aware of	\checkmark	\checkmark	~
		servicing needs			
		No history of long			
	Maintenance and	downtime due to	✓	~	✓
4	technical support	repairs			
		Maintenance logs		~	
		available and	\checkmark		✓
		updated			
		Vendor or hospital		~	
		technicians conduct	\checkmark		✓
		periodic checks			
		Emergency backup	~	v	~
		solutions in place	~	*	~
	Impact	Reduced neonatal			
		transport risks	\checkmark	\checkmark	\checkmark
5		observed			
		Staff feedback on	\checkmark	~	~
		improved infant care			
		Number of babies	5	0	0
		benefitted recorded			
		Enhanced lung			
		0			
		monitoring and			
		monitoring and better patient	×	\checkmark	×
		monitoring and better patient diganosis	×	✓	×
		monitoring and better patient diagnosis Staff feedback on	×	✓	*
		monitoring and better patient diagnosis Staff feedback on	× _	✓	× _

	Number of patients benefitting recorded	5	1	Data not	
		benefitting recorded	0	I	available
		Improved oxygen			
		availability for critical	-	-	✓
		patients			
		Reduced			
		dependency on	_	-	./
		portable oxygen	_		•
		cylinders			
		Any equipment lying		×	
		idle due to technical,	¥.		×
		space, or training	^		
		issues			
		Any need for			
		additional training or	<u> </u>	<u> </u>	<u> </u>
		refresher sessions for			
		staff			
6	Challenges and Gaps	Any reports of			
		frequent	×	×	×
		breakdowns or			
		repair delays			
		Staff concerns about			
		long-term	×	✓	×
		sustainability and			
		spare parts			
		availability			

Table 8.Observation Checklist





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