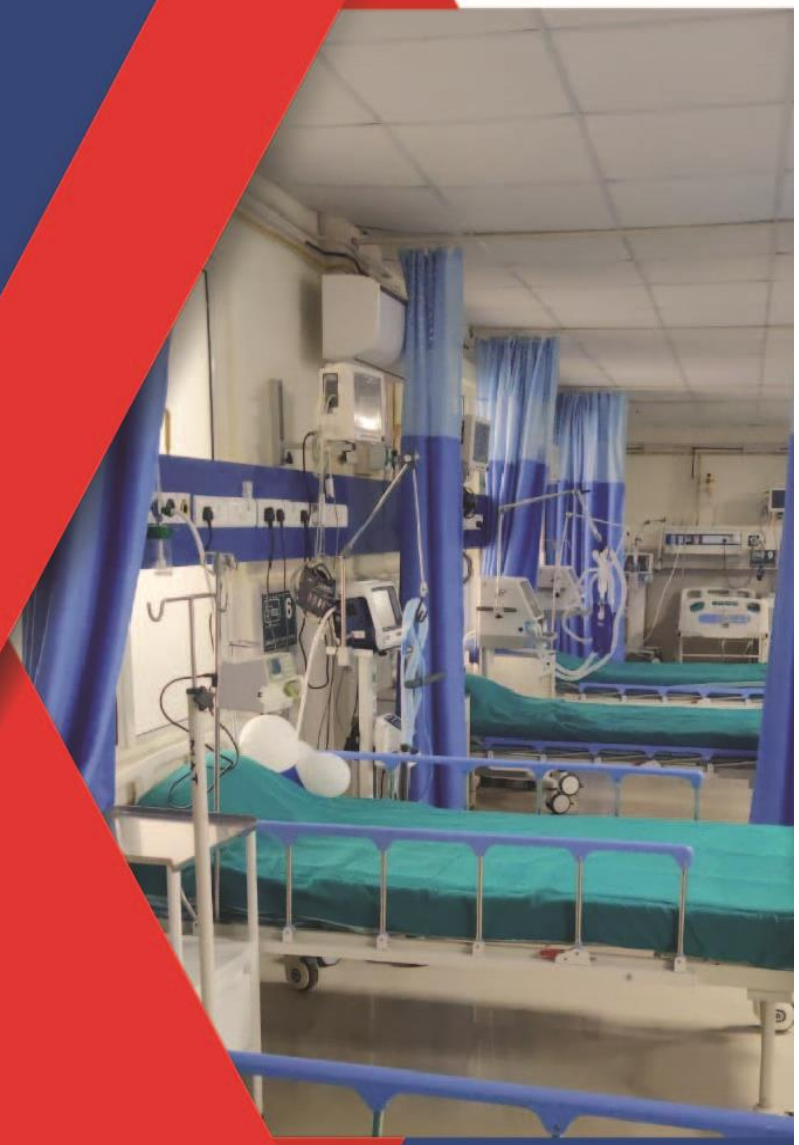
HDFC BANK

Impact Assessment

Setting up 30 ICU wards in Government Hospitals

(In North East, West Bengal, Pondicherry and Karnataka)



Project Code: C0094

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Chapter 1

Project Background and Overview

This section provides an overview of the funding organisation, the project cardinals and the detailed interventions.

1.1 CSR initiatives of HDFC Bank

HDFC Bank is actively contributing to the improvement of the lives of millions of Indians through its social initiatives. These endeavors, collectively known as 'Parivartan,' are designed with the objective of fostering sustainable empowerment within communities, thereby making significant contributions to the economic and social development of the nation.

HDFC Bank has a long-standing commitment to corporate social responsibility (CSR), and healthcare is one of its key focus areas. The bank has implemented a number of CSR projects in the healthcare sector, with the goal of improving access to quality healthcare for underserved communities.
The themes of HDFC's CSR project include:

Rural Development

HDFC Bank team believes in including villages in economic progress for overall development. The Bank's Holistic Rural Development Programme (HRDP) addresses the specific needs of each village through carefully planned interventions developed in consultation with the community and stakeholders.

Skill Development and Livelihood Enhancement

In the realm of Skill training and livelihood enhancement, Parivartan provides backing for numerous projects. This initiative encompasses capacity building, the promotion of financial literacy, credit and entrepreneurial endeavours, along with enhancing skills for agricultural and related practices.

Promotion of Education

The bank's educational initiatives are designed to foster learning by establishing a conducive and efficient learning atmosphere in schools. Within the second pillar of education in Parivartan, the interventions concentrate on teacher training, incorporating alternative methods, promoting innovation, and enhancing school infrastructure through refurbishment. HDFC Bank Parivartan has introduced smart classes in various states, aiming to integrate technology with education.

Healthcare and Hygiene

In the area of Healthcare and Hygiene, primary efforts revolve around supporting the Indian Government's Swachh Bharat Abhiyan through initiatives that raise awareness, induce behavioural change, and construct toilets. Additionally, to foster healthcare and hygiene, the Bank regularly conducts health camps, raises awareness about nutrition, ensures access to clean drinking water, and organises blood donation drives. Moreover, the Bank has set up ICUs at 30 government hospitals nationwide to aid hospitals in meeting the heightened demand during the COVID-19 pandemic.

Financial Literacy and Inclusion

They hold the belief that the initial stride toward financial inclusion involves fostering financial literacy. Through HDFC Bank's extensive network of over 5,400 branches, millions have gained insights into fundamental concepts like savings, investment, and accessing organised financial resources via financial literacy camps conducted nationwide. Moreover, their branches emphasise delivering basic financial services and implementing capacity-building programmes

1.2 Project Overview

The HDFC Bank's Parivartan initiative is dedicated to ensuring access to medical facilities for everyone. As part of this commitment, the bank supported in setting up the 30 ICU wards in Government Hospitals. The initiative aimed to assess the effectiveness of the Focused Development Project (FDP), which specifically evaluates the feasibility and long-term sustainability of the medical equipment supplied to these healthcare facilities.

The proposed idea was to create a hub and SPOC model where the state's central facility, known as the "hub," serves as the main point of reference for specialized diagnostic services, consultation, and expertise. These services can be provided to remote districts through tele ICU, enhancing healthcare accessibility and quality in underserved areas.

Figure 1:Singtam District Hospital, Sikkim

1.3 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.

Sub-Section	Activities as per Schedule VII	Alignment
(i)	Eradicating hunger, poverty, and malnutrition (Promoting health care, including preventive Health) and sanitation (Including contribution to the Swacch Bharat Kosh set up by the Central Government for the promotion of sanitation) and making available safe drinking water;	Completely
(viii)	Contribution to the Prime Minister's National Relief Fund or [Prime Minister's Citizen Assistance and Relief in Emergency Situations Fund (PM CARES Fund) or] any other fund set up by the Central Government for socio-economic development and relief and welfare of the Scheduled Castes, the Scheduled Tribes, other backward classes, minorities and women;	Partially

Table 1:Alignment with Schedule VII

1.4 Alignment with ESG Principle

The project's intervention also aligns with the ESG Sustainability Report of the corporate. Particularly, concerning the Business Responsibility & Sustainability Reporting Format (BRSR) shared by the Securities & Exchange Board of India (SEBI), the project aligns with the principle mentioned below:

PRINCIPLE 2

Businesses should provide goods and services in a manner that is sustainable and safe.

1.5 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.

Sustainable Development Goal	Target	Alignment
	**Goal 3: Good Health and Well-being** **3.3** By 2030, end the epidemics of AIDS, tuberculosis, malaria and neglected tropical diseases and combat hepatitis, water-borne diseases and other communicable diseases.	Completely
	Goal 9: Industry, Innovation and Infrastructure	Completely

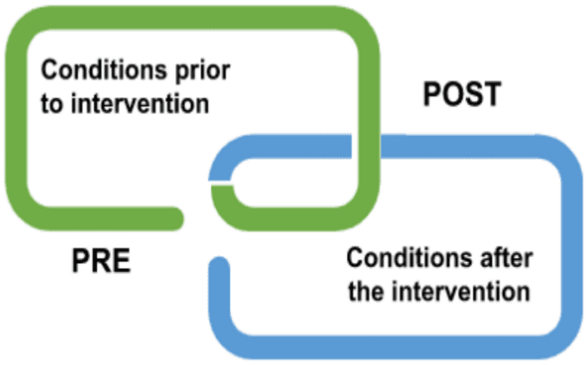
	9.1 Develop quality, reliable, sustainable and resilient infrastructure, including regional and transborder infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all.	
	**Goal 17: Partnership for the goals** 17.17 Encourage and promote effective public, public-private and civil society partnerships, building on the experience and resourcing strategies of partnerships	Completely

Table 2:Alignment with SDGs

Chapter 2

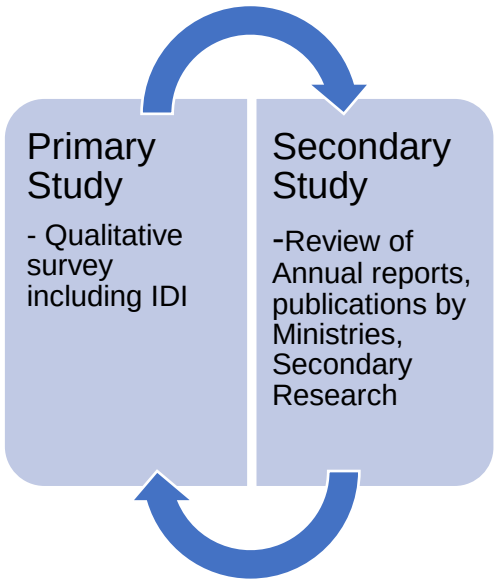
Design and Approach for Impact Assessment

2.2 Evaluation approach, methodology and framework



In line with the study's objectives and key areas of investigation, the evaluation's design prioritised learning as its primary goal. This section outlines our strategy for developing and implementing a robust, dynamic, outcome-focused evaluation framework/design. To gauge the impact, the study proposed a pre-post programme evaluation approach, relying on the recall capacity of the respondents. Under this method, stakeholders were surveyed about their conditions before and after programme intervention. Analysing the difference helps to discern the programme's contribution to enhancing the intended condition of the stakeholders. While this approach can effectively comment on the programme's role in improving living standards, it may not entirely attribute all changes to the programme.

For the assessment of the programme, the team employed a two-pronged approach to data collection and review that included secondary data sources and literature, as well as primary data obtained through qualitative methods of data collection. The figure below illustrates the study approach used in data collection and review. The secondary study involved a review of the functioning of ICUs and other studies and research by renowned organisations available in the public domain for drawing insights into the situation of the area.



The primary study comprised a qualitative approach to data collection and analysis. The qualitative aspects involved in-depth interviews (IDIs) with the Medical Superintendent and Key machine operator.
In addition to primary data collection, the consultants studied various project documents like Project Proposals, Project log-frame (Logical Framework Analysis), and other relevant reports/literature related to the projects.

OECD-DAC Framework
To assess the Relevance, Coherence, Effectiveness, Efficiency, Impact, and Sustainability of the project, the evaluation employed the OECD-DAC framework. Using the logic model and the criteria of the OECD-DAC framework, the evaluation analysed the HDFC team's

contribution to the results, considering the various factors that might have influenced the

overall outcome. The social impact assessment hinged on the following pillars:

2.3 Geographical Sampling

In-depth discussions were held with the hospital staff and the individual in charge of operating the ICUs to gather information about its operations and its overall impact.

A site evaluation of the plant took place at the following locations:

S.No.	State/UT	District	Name of the Hospital
1	Assam	Nagaon	BP Civil Hospital
2	Assam	Morigaon	Morigaon Civil Hospital
3	Manipur	Imphal East	Jawaharlal Nehru Institute of Medical Sciences
4	Manipur	Thoubal	District Hospital Thoubal
5	Meghalaya	West Jaintia Hills	Jowai MCH
6	Meghalaya	West Khasi Hills	Nongstoin Civil Hospital
7	Nagaland	Dimapur	District Hospital Dimapur
8	Sikkim	East Sikkim	Singtam District Hospital
9	Karnataka	Shivamogga	Taluk General Hospital Sagara/Sub-divisional hospital (SDH)
10	Karnataka	Kolar	Taluk General Hospital Srinivasapura
11	Karnataka	Kodagu	GH Virajpet
12	Pondicherry	Puducherry	Indira Gandhi Medical College and Research Institute,

Table 3:Geographical Sampling

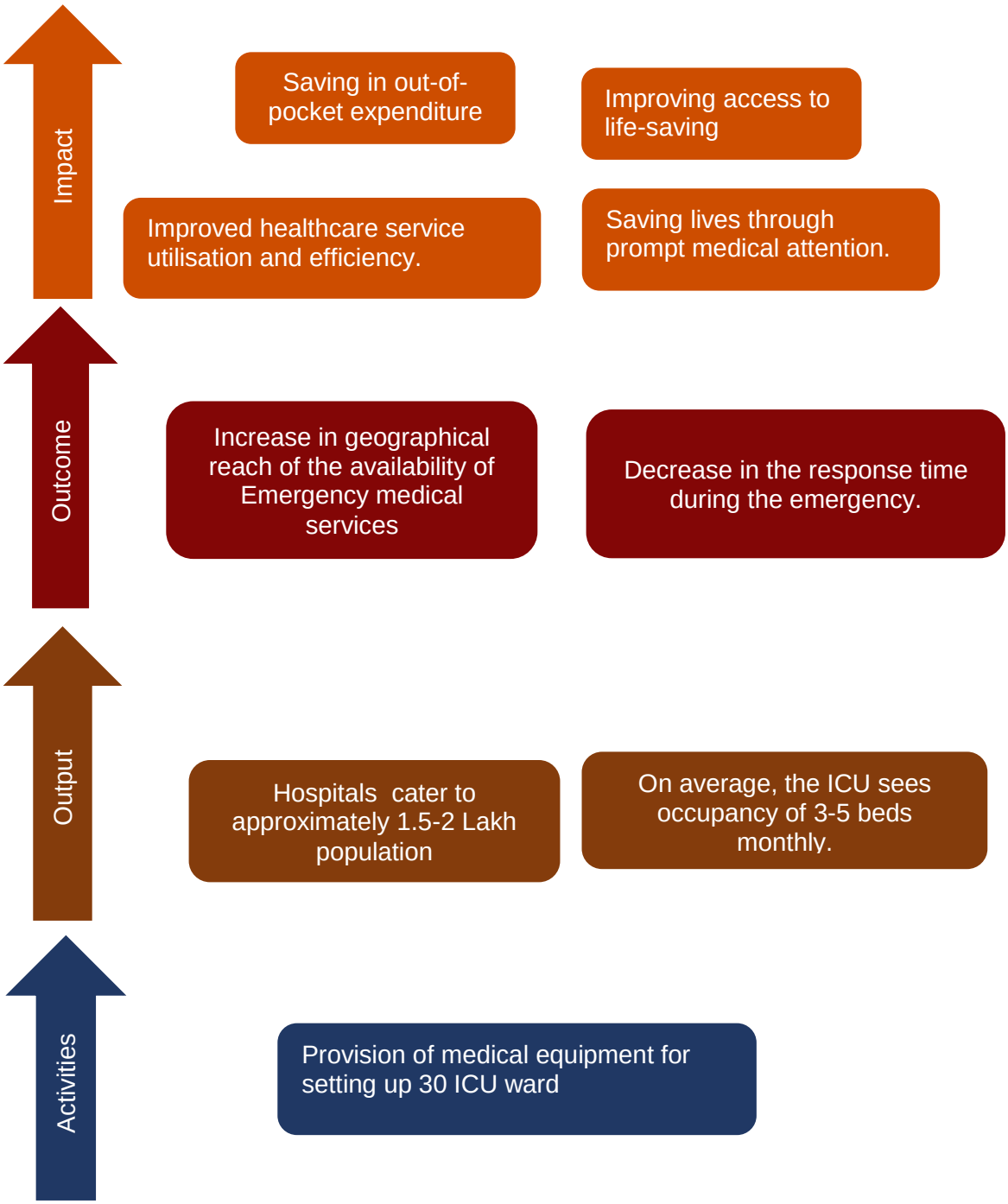
Qualitative Sampling

S No.	Stakeholder	Method of Data Collection	No. of Interviews/ per location
1	Medical Superintendent	IDI	1
2	Medical Officer (Doctor)	IDI	1
3	ICU Nurse	IDI	1
4	Patient /Caretaker	IDI/FGD	3**
5	In-person interaction with the PMU in charge (senior-bureaucrat)	IDI	1 (for entire project)

6	State Nodal Officer (7 states/UT)	IDI	1
7	Implementing partner	KII	1*
	Total		**31**
	Total interaction in 1 hospital		**5**

Table 4:Qualitative Sampling

2.4 Theory of Change



Chapter 3

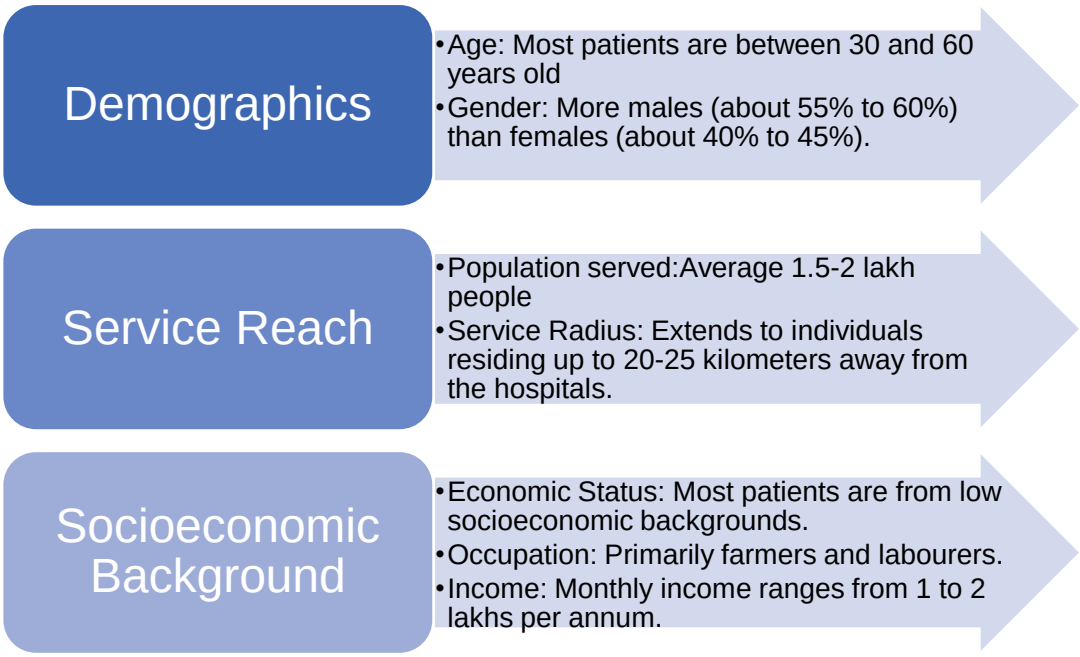
Impact Assessment Findings

The following section of the report indicates the key findings and insights drawn from the impact assessment study based on the OECD-DAC framework's standard parameters as outlined. The insights have been drawn adopting a 360-degree approach to data collection by gathering data through qualitative methods from multiple stakeholders involved in the programme.

3.1 Relevance

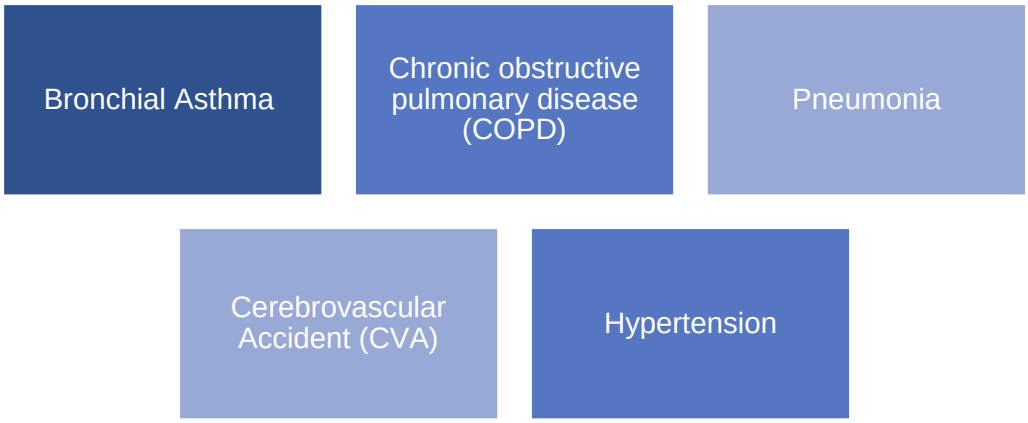
The healthcare systems faced unprecedented challenges during the coronavirus pandemic, struggling with overwhelming patient volumes and critical resource shortages. During its peak, India recorded 4 lakh [1]cases in a single day. As the second wave subsided, it became evident that tertiary care hospitals experienced a surge in patients, leading to overcrowding and insufficient beds and oxygen supply. Patients were forced to move from one hospital to another in search of available beds and oxygen support, a situation exacerbated in rural India, where healthcare access is limited.

The establishment of ICUs by HDFC Bank aimed to tackle the significant shortage of medical facilities. The **qualitative observations** regarding ICU service utilisation and beneficiary demographics are outlined below:



The most common diseases observed in the patients visiting the hospitals:

[1] https://www.thehindu.com/news/national/coronavirus-india-becomes-first-country-in-the-world-to-report-over-400000-new-cases-on-april-30-2021/article61817889.ece



Challenges before establishment of ICU:

Qualitative interactions with doctors and nurses highlighted that there were various challenges faced by patients before the establishment of the ICU, indicating a pressing need for such a service in the selected locations.

1. Lack of ICU Facility: There was no ICU available in the district, leading to patients being referred to higher centres for critical care.

2. Insufficient Space and Equipment: Hospitals lacked adequate space and equipment to accommodate patients in need of intensive care.

3. Referral to Higher Centres: Patients often had to be referred to higher centres due to the unavailability of critical care facilities locally.

4. Long and Time-Consuming Travel: Patients faced challenges traveling long distances, often exceeding 50-60 kilometres, to reach fully equipped hospitals, resulting in treatment delays. In the context of NE, where hilly terrain complicates accessibility, the need for Tele ICU with remote treatment becomes crucial to justify ICU placement

5. Financial Hardship: Patients faced financial burdens as they had to visit private clinics for medical care due to the lack of facilities in public hospitals.

6. Inadequate Infrastructure and Workforce: While infrastructure existed, the functionality of ICU services couldn't be executed due to deficiencies in the workforce across various categories.

Establishing an ICU facility addressed these challenges, ensuring that critical patients, including children and mothers, could receive timely and appropriate medical care locally, thus improving overall healthcare accessibility and outcomes in the area.

3.2 Effectiveness

Current ICU facilities have transformed patient care, offering enhanced monitoring, advanced treatments, and improved overall care compared to the past. With better tracking of vital signs and prompt interventions, patients receive timely care. Managing complex cases locally reduces the need for referrals, making care more efficient. These advancements benefit patients with infectious diseases and multi-organ failure, improving management and recovery chances. Through discussions with doctors, it was noted that prior to the implementation of ICU facilities, cases were either referred to nearby hospitals or managed in emergency wards with limited resources.

The following tables offer detailed insights into the operational status of various ICUs and the alternative referral destinations for patients in the event of non-functioning ICUs.

1. Operationality of the ICUs

The efficiency of the ICUs depends on their operational status. **Out of the 12 ICUs inspected, 5 were non-functional**, either due to the unavailability of trained staff or because some ICUs had recently been inaugurated. **Conversely, 7 ICUs were found to be fully functional.** Detailed information regarding the operational status of each ICU is provided in the table below.

S.No.	Name of Hospital	Location of ICU	Status before intervention	Status of ICU after intervention	Comments
1	BP Hospital Nagaon	Nagaon, Assam	Lack of ICU Facility	Functional (since 2023)	In Nagaon, the facility is operational, with all required manpower available at the facility, but in limited numbers. Efforts are underway to post additional staff to address this shortfall.
2	STHG civil hospital Morigaon Assam	Morigaon, Assam		Non-Functional, installation completed in Dec 2023	Installation completed in Dec 2023. Currently non-functional as staff is not available.
3	District Hospital Thoubal	Thoubal, Manipur		Functional	The Facility is functional with active admission of beneficiaries
4	Jawahar Lal Nehru Institute of Medical Science	Imphal east, Manipur		Functional	HDFC expanded the capacity of the facility by setting up 10 beds within their existing ICU.
5	MCH Hospital Panaliar, Jowai, Meghalaya	West Jaintia Hills, Meghalaya		Non-Functional	The facility is non-functional due to lack non fulfilment of vacancies.
6	Civil Hospital , West Khasi Hills, Nongstoin Meghalaya	West Khasi Hills, Meghalaya		Non-Functional	The facility is non-functional due to lack non fulfilment of vacancies.
7	Dimapur Civil Hospital	Dimapur, Nagaland		Functional	The facility is functional since its installation

8	Singtam District hospital	Sikkim		Partially functional	HDFC has provided 10 beds, but only 4 beds have been temporarily installed as construction is still underway. Despite the limited capacity, the 4 operational beds are occupied, and patients are receiving treatment.
9	SDH Sagara	Shivamogga, Karnataka		Functional	The Facility is functional with active admission of beneficiaries
10	General Hospital, Srinivaspura, Kolar(Dist.)	Kolar, Karnataka		Functional	The Facility is functional with active admission of beneficiaries
11	GH Virajpet	Kodagu		Functional	The Facility is functional with active admission of beneficiaries
12	Indira Gandhi Medical College and Research Institute	Puducherry, Pondicherry		Non-Functional	Inaugurated on 15th Feb, 2024 Currently non-functional

Table 5:Operational Status of ICUs

Figure 2: ICU Facility at different hospitals

Team's interaction with the various hospital staff suggested that in an absence of the ICU, the patients are being referred to other hospitals. The table below showcases the facilities predominantly recommended for referrals.

Location	Inspected hospital	Referred hospital	Distance
Morigaon, Assam	STHG Civil Hospital Morigaon, Assam	Gauhati Medical College and Hospital	80Km
Nagaon, Assam	BP Hospital Nagaon	NMCH	3Km
Sikkim	Singtam District hospital	STNM hospital, Sungava, Gangtok, Sikkim 737101	27Km
Puducherry	Indira Gandhi Medical College and Research Institute	Jawaharlal Institute of Postgraduate Medical Education and Research	3km
West Jaintia Hills, Meghalaya	MCH Hospital Panaliar, Jowai, Meghalaya	Ganesh das Hospital Shillong	60Km
West Khasi Hills, Meghalaya	Civil Hospital , West Khasi Hills, Nongstoin Meghalaya	Civil hospital Shillong	100Km
Thoubal, Manipur	District Hospital Thoubal	JNIMS Imphal East	20-25Km
Imphal east, Manipur	Jawahar Lal Nehru Institute of Medical Science	NA	NA
Dimapur, Nagaland	Dimapur Civil Hospital	Govt. Hospital Madikeri	30Km
Shivamogga, Karnataka	SDH Sagara	Shivamogga District Hospital	30-40Km
Kolar, Karnataka	General Hospital, Srinivaspura, Kolar(Dist.)	SNR Kolar, SDNC Kolar	30Km
Kodagu	GH Virajpet	Madikeri and Mysore District Hospital	30Km and 150Km respectively

Table 6:Referral ICUs

"The STGH hospital is just 2 kilometres away from my village, and the ICU services have been a crucial support without unexpected costs. If I were to receive the same treatment elsewhere, it would have cost me more than Rs. 10,000. Before this facility, I had to seek emergency treatment at GMCH Guwahati, which is 120 kilometres away."

-Ismail Ali
Kachaldkhowan village, Assam

2. Footfall Changes and Patient Flow:

The operational ICUs are equipped with essential critical care equipment, yet they have not experienced a significant rise in-patient admissions due to insufficiently trained staff and human resource shortages. The team was, however, able to ascertain from the qualitative interactions that hospitals such as District Hospital, Thoubal, have observed an increase in patient admissions. Before the intervention (before 2021), around 250 patients were admitted annually, a number that has now surged to 350 per year. In Kodagu, the hospital used to handle around 300 cases annually before the ICU was operational, with a considerable portion necessitating referrals to nearby hospitals. Since the establishment of the ICU, there has been a notable surge in the annual patient count, rising from 300 to 597. Importantly, the hospital now manages to treat 90% of these cases on-site, showcasing enhanced healthcare accessibility and reduced reliance on external referrals.

Location	Change in Footfall
Nagaon, Assam	The facility has accommodated 50 patients since its installation in July 2023, with an average of 5 beds being occupied on a monthly basis.
Morigaon, Assam	There has been no significant rise in footfall due to the shortage of human resources, specialised physicians, and insufficiently trained supporting staff.
Thoubal, Manipur	Each month, an average of 20-25 ICU beds are being utilised.
Imphal east, Manipur	The ICU operates at full capacity with 110 beds, being one of the largest state run government hospitals in the area.
West Jaintia Hills, Meghalaya	The facility is non-functional and thus there has been no patient admissions.
West Khasi Hills, Meghalaya	The facility is non-functional and thus there has been no patient admissions.
Dimapur, Nagaland	Typically, 8 beds are being occupied on a monthly basis.
Sikkim	In the current temporary setup, all 4 operational beds are occupied by patients.
Shivamogga, Karnataka	The hospital admits an average of 10 cases daily, amounting to 300 cases monthly.
Kolar, Karnataka	On a daily basis, the hospital admits an average of 5 cases, totalling 150 cases per month.
Kodagu	On average, the hospital admits approximately 3-5 patients per day. Over the course of one year, the hospital has treated a total of 597 patients. Among these patients, 90% have received treatment within the hospital premises, indicating a significant reduction in referrals.
Puducherry, Pondicherry	The hospital has not yet commenced its operations; it remains non-operational at this time.

Table 7 :Footfall in the Hospitals Post Intervention

3. Training and Staffing

Based on the team's interactions with doctors across all the surveyed hospitals, it became evident that there is an urgent need for specialised and well-trained staff to handle critical ICU cases. The hospitals are currently facing a shortage of qualified personnel, which significantly impacts the functioning of the ICU and the handling of patients.

The feedback received from medical professionals underscores the urgency of addressing this issue. Nurses from Shivamogga, Kolar, and Thoubal have indicated that training sessions for nursing staff are conducted 2-4 times a month. The Medical Superintendent of Sikkim District Hospital conveyed that due to a shortage of trained staff, they have referred 4 nurses for ICU training at STNM Hospital in Gangtok. However, they also emphasised the necessity for more frequent training and increased staff hiring.

Similar challenges were also highlighted by Mr. Chiekroshuyi Tetseo, senior bureaucrat of Nagaland, who conveyed that district hospitals are facing a manpower crunch. He mentioned that there have been requests from doctors regarding the shortage of staff.

Figure 3: Jawaharlal Nehru Institute of Medical Sciences, Porompat, Imphal East

Hospitals are facing challenges in delivering optimal care to patients in critical conditions due to the insufficient number of skilled staff members. This shortage is not only compromising patient outcomes but also placing additional strain on existing healthcare resources. It is imperative to take proactive measures to address this staffing challenge. By investing in training programmes and recruiting qualified personnel, hospitals can ensure they have the necessary human resources to effectively manage ICU cases and deliver high-quality healthcare services to patients in need.

3.3 Efficiency

Emergency Response Time

The provided equipment has significantly improved emergency response times and patient care. With adequate ventilators, defibrillators, and other essential tools, waiting times have been reduced, enabling early treatments and efficient management of emergency cases. The equipment's ability to record vital information allows immediate responses during respiratory failure and other critical situations. Patients are being treated effectively and more quickly, with response times reduced from as much as half an hour to just minutes. This immediate availability of equipment has proven invaluable in saving vital time during emergencies.

Tele-ICU Services

Tele-ICU aims to revolutionise critical care by providing remote monitoring and support to patients in intensive care units. Interactions with hospital staff revealed that tele-ICU services have played a pivotal role in improving patient outcomes, optimising resource utilisation, and extending critical care expertise to underserved areas. Additionally, tele-ICU has enhanced accessibility to specialised medical care, reduced the risk of medical errors, and fostered collaboration among healthcare teams across different locations. The operational tele-ICU services were observed in only three locations. For instance, in Kodagu, Karnataka,

approximately 5-6 patients have received treatment via Tele-ICU services. Similarly, the Jawaharlal Nehru Institute of Medical Sciences in Imphal East, serving as the central hub for ICU services, the largest government facility in the region, has benefited 608 patients from Tele-ICU services. The District Hospital in Thoubal has extended Tele-ICU services to 356 patients. Nevertheless, in other hospitals, the initiation of tele-ICU services has been delayed due to insufficient systems and a shortage of staff.

3.4 Coherence

The initiative to establish ICUs by HDFC aligns with governmental initiatives and frameworks. It actively collaborates with NHMC and the Health & Family Welfare departments, indicating a significant level of government involvement and endorsement. Moreover, while the State Government provided guidance without direct financial participation, its support and direction were crucial for the project's success.

Convergence with national priorities:

1. National Rural Health Mission(NRHM): Improving healthcare services in rural areas, including the establishment and upgradation of healthcare facilities,
2. National Urban Health Mission(NUHM): NUHM aims to improve healthcare infrastructure and services in urban areas, including the provision of critical care facilities like ICUs in government hospitals.
3. Ayushman Bharat: Aims to provide health insurance coverage to economically vulnerable families for secondary and tertiary hospitalisation, including critical care services.

3.5 Impact

Effect on Patient Outcomes and Recovery Rates

The newly formed ICU has drastically improved patient outcomes and recovery rates, leading to better overall health outcomes. These improvements include enhanced critical care provision, reduced morbidity during transportation, and better management strategies.

Figure 4: Critical Care equipment at Various Hospitals

Reduction in Treatment Cost

*The hospitals in the vicinity lack sufficient government hospitals nearby, and those that do exist are situated far away. While some private clinics are available, the data presented in the tables highlights their high costs. Therefore, in hospitals equipped with functional ICUs, it's evident how they've aided in reducing healthcare expenses for patients.

Location	Name of the hospital	Cost incurred	Cost incurred at nearest private facility*
Nagaon, Assam	BP Hospital Nagaon	No Cost. 108 ambulance facility coordinated in advance.	INR 12,000 to 13,000 per day
Thoubal, Manipur	District Hospital Thoubal	Rs. 150 per day	INR 3,000-4,000 per day
Imphal east, Manipur	Jawahar Lal Nehru Institute of Medical Science	No Cost.108 ambulance facility coordinated in advance.	INR 3,000-4,000 per day
Dimapur, Nagaland	Dimapur Civil Hospital	No Cost.108 ambulance facility coordinated in advance.	INR 5,000 to 6,000 per day
Sikkim	Singtam District hospital	No Cost. 108 ambulance facility coordinated in advance.	INR 3,000-4,000 per day
Shivamogga, Karnataka	SDH Sagara	No cost. 108 ambulance facility coordinated in advance.	Private facilities nearby charge 12,000-13,000 per day with ventilator.
Kolar, Karnataka	General Hospital, Srinivaspura, Kolar(Dist.)	No cost, transferred in ambulance free of cost	INR 12,000 to 13,000 per day
Kodagu	GH Virajpet	If BPL card free or else they have to pay Rs.800 for ambulance	INR 2,000 to 3,000 per day

The establishment of ICUs has substantially reduced treatment costs for beneficiaries. According to qualitative discussions with doctors, ICU services are provided free of charge at all hospitals. Patients are only required to cover the cost of ambulance services, which amounts to INR 800. In specific instances, such as in Thoubal, patients are charged INR 150 per day, which is still lower than the fees charged by other hospitals for similar services.

3.6 Sustainability

Engagement with various stakeholders across different locations underscored the critical role of trained personnel in ensuring the sustainability of the project. It was consistently noted across locations that a shortage of adequately trained staff allocated to the ICU wards exists. The presence of skilled personnel can significantly enhance:

1. Service Expansion: Fully operational ICU wards staffed with dedicated professionals can facilitate the delivery of specialised treatments to critically ill patients. Consequently, this can lead to a reduction in mortality rates.

2. Quality of Care: Trained staff members play a pivotal role in maintaining the quality of care provided in ICU wards. Their expertise enables them to effectively monitor patients, administer treatments, and respond to emergencies, thereby ensuring optimal outcomes and patient satisfaction.

Chapter 4

Recommendations and Way Forward

Heading	Current Scenario	Recommendation
Human resource management issues	Delays and shortage in recruiting and training ICU personnel, resulting in operational setback	Develop clear recruitment and training protocols to expedite staff activation.
Adoption and Management of Tele ICU and other Patient records digitally	Difficulty in transitioning to digital ICU management systems, requiring ongoing support.	Facilitate digital adoption: Offer comprehensive training and support programmes for transitioning to digital systems.
Recurrent costs	Hospitals are facing challenges in managing ongoing expenses such as equipment maintenance and waste management.	Simplifying the processes and providing support to expedite resource acquisition while ensuring compliance.
Outreach and awareness gaps	Difficulty arises in building community trust and awareness about ICU services. In some locations, emergency health services still directly take patients to district hospitals, under the assumption that Taluk hospitals lack adequate services and patients would require referrals.	Launch targeted campaigns to educate the community about ICU services and benefits.

Table 8:Recommendations

Chapter 5

Annexures

Equipment checklist: (The below checklist is based on verbal data collection and has not been cross checked with any documents)

GH Virajpet, Kodagu	Total Number of patient treated (since installation of equipment)	Utilisation time of the machine	Down time of the machine	Condition of equipment (Functional/ non-functional/ needs minor repairs/Abandoned)
Ventilator Adult+ Paediatric + Neonatal	6	NA	NA	Functional
ABG with auto analyser (ABG, RFT, LFT, Haemogram, Electrolytes, Lactate, K Bodies)	23	NA	NA	Functional
ECG machine 12 channel	220	10-15mins	NA	Functional
Defibrillator	3	NA	NA	Functional
100 mA portable x-ray	111	5 mins	NA	Functional
Monitors (5 PARA BP-SPO2-ECG-HR TEMP) w stand	597	24hours	NA	Functional
ICU Cots - Adults (with 1 Mattress & 1 pillow for each cot)	597	24hours	NA	Functional
Radiant Warmer	4	NA	NA	Functional
Suction Apparatus	NA	NA	NA	NA
BiPAP	NA	NA	NA	NA

SDH Sagara, Shivamogga	Total Number of patient treated (since installation of equipment)	Utilisation time of the machine	Down time of the machine	Condition of equipment (Functional/ non-functional/ needs minor repairs/Abandoned)
Ventilator Adult+Paediatric+Neonatal	NA	NA	NA	Functional
ABG with auto analyser (ABG, RFT, LFT, Haemogram, Electrolytes, Lactate, K Bodies)	35	90 mins	30 mins	Functional

ECG machine 12 channel	50	30 mins	4 min	Functional
Defibrillator	NA	NA	NA	Functional
100 mA portable x-ray	10	30 mins	6 mins	Functional
Monitors (5 PARA BP-SPO2-ECG-HR TEMP) w stand	20	24 hours	30 mins	Functional
ICU Cots - Adults (with 1 Mattress & 1 pillow for each cot)	25	24 hours	30 mins	Functional
Radiant Warmer	200	24 hours	20 mins	Functional
Suction Apparatus	6	4 hours	8 hours	Functional
BiPAP	NA	NA	NA	Functional

Taluk General Hospital Srinivasa, Kolar	**Total Number of patient treated (since installation of equipment)**	**Utilisation time of the machine**	**Down time of the machine**	**Condition of equipment (Functional/ non functional/ needs minor repairs/Abandoned)**
Ventilator Adult+ Paediatric + Neonatal	4	24 hours	30 mins	Functional
ABG with auto analyser (ABG, RFT, LFT, Haemogram, Electrolytes, Lactate, K Bodies)	30	30 mins	8 hours	Functional
ECG machine 12 channel	50	30 mins	2 hours	Functional
Defibrillator	1	15 mins	10 hours	Functional
100 mA portable x-ray	10	24 hours	30 mins	Functional
Monitors (5 PARA BP-SPO2-ECG-HR TEMP) w stand	20	24 hours	30 mins	Functional
ICU Cots - Adults (with 1 Mattress & 1 pillow for each cot)	20	24 hours	20 mins	Functional
Radiant Warmer	100	24 hours	10 mins	Functional
Suction Apparatus	40	24 hours	8 hour	Functional
BiPAP	5	24 hours	10 hour	Functional

Jawaharlal Nehru Institute of Medical Science, Porompat Imphal East	**Total Number of patient treated (since installation of equipment)**	**Utilisation time of the machine**	**Down time of the machine**	**Condition of equipment (Functional/ non-functional/ needs minor repairs/Abandoned)**
Ventilator Adult+ Paediatric+ Neonatal	200	24hours	NA	Functional
ABG with auto analyser (ABG,	150	24hours	NA	Functional

RFT, LFT, Haemogram, Electrolytes, Lactate, K Bodies)				
ECG machine 12 channel	600	24hours	NA	Functional
Defibrillator	20	24hours	NA	Functional
100 mA portable x-ray	600	24hours	NA	Functional
Monitors (5 PARA BP-SPO2-ECG-HR TEMP) w stand	600	24hours	NA	Functional
ICU Cots - Adults (with 1 Mattress & 1 pillow for each cot)	600	24hours	NA	Functional
Radiant Warmer	350	24hours	NA	Functional
Suction Apparatus	300	24hours	NA	Functional
BiPAP	NA	NA	NA	NA

District Hospital Thombal Khangbok, Manipur	**Total Number of patient treated (since installation of equipment)**	**Utilisation time of the machine**	**Down time of the machine**	**Condition of equipment (Functional/ non-functional/ needs minor repairs/Abandoned)**
Ventilator Adult+ Paediatric+ Neonatal	6	24hours	NA	Functional
ABG with auto analyser (ABG, RFT, LFT, Haemogram, Electrolytes, Lactate, K Bodies)	8	24hours	NA	Functional
ECG machine 12 channel	80	24hours	NA	Functional
Defibrillator	2	24hours	NA	Functional
100 mA portable x-ray	80	24hours	NA	Functional
Monitors (5 PARA BP-SPO2-ECG-HR TEMP) w stand	80	24hours	NA	Functional
ICU Cots - Adults (with 1 Mattress & 1 pillow for each cot)	4	24hours	NA	Functional
Radiant Warmer		24hours	NA	Functional

Suction Apparatus	Not in use	Not in use	Not in use	Not in use
BiPAP	N/A	N/A	N/A	N/A

Dimapur Civil Hospital	Total Number of patient treated (since installation of equipment)	Utilisation time of the machine	Down time of the machine	Condition of equipment (Functional/ non-functional/ needs minor repairs/Abandoned)
Ventilator Adult+ Paediatric + Neonatal	5	NA	NA	Functional
ABG with auto analyser (ABG, RFT, LFT, Haemogram, Electrolytes, Lactate, K Bodies)	15	NA	NA	Functional
ECG machine 12 channel	127	NA	NA	Functional
Defibrillator		NA	NA	
100 mA portable x-ray	350	NA	NA	Functional
Monitors (5 PARA BP-SPO2-ECG-HR TEMP) w stand	630	NA	NA	NA
ICU Cots - Adults (with 1 Mattress & 1 pillow for each cot)	10	NA	NA	NA
Radiant Warmer	NA	NA	NA	NA
Suction Apparatus	NA	NA	NA	NA
BiPAP	NA	NA	NA	NA

Singtam District hospital	Total Number of patient treated (since installation of equipment)	Utilisation time of the machine	Down time of the machine	Condition of equipment (Functional/ non-functional/ needs minor repairs/Abandoned)
Ventilator Adult+ Paediatric + Neonatal	NA	NA	NA	Functional
ABG with auto analyser (ABG, RFT, LFT, Haemogram, Electrolytes,	NA	NA	NA	Functional

Lactate, K Bodies)				
ECG machine 12 channel	136	NA	NA	Functional
Defibrillator	NA	NA	NA	Functional
100 mA portable x-ray		NA	NA	Functional
Monitors (5 PARA BP-SPO2-ECG-HR TEMP) w stand	75	NA	NA	Functional
ICU Cots - Adults (with 1 Mattress & 1 pillow for each cot)	136	NA	NA	Functional
Radiant Warmer	NA	NA	NA	Functional
Suction Apparatus	NA	NA	NA	Functional
BiPAP	NA	NA	NA	NA

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