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GAIL (India) Limited

Impact Assessment Report on Support for strengthening of district hospital services in Khunti Sadar Hospital, Dist. Khunti, Jharkhand (FY 19-20)

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1.1 Executive Summary

Being home to one-sixth of the world's population, India has the potential to provide for major impetus required to achieve the 2030 Agenda. India has accelerated its journey to becoming a global leader in thought and action ever since it has attained independence. To further achieve multi-dimensional holistic development in the nation, the government has been focusing on a "whole- of- society" approach[1], engaging with sub- national and local governments, civil society organizations, underserved population, and the private sector. Further, India's alignment with the national development agenda, as exemplified by the slogan "*Sabka Saath Sabka Vikaas*" (collective efforts for inclusive growth), demonstrates the country's dedication to the Sustainable Development Goals (SDGs).

Through economic growth and empowerment, the nation has successfully lifted more than 271 million people out of multidimensional poverty[2]. Inequalities in housing, nutrition, child health, education, sanitation, drinking water, and electricity have all decreased as a result of improved access and reduction in poverty[3]. Through a cross country drive set off by the Clean India Campaign and the National Nutrition Mission, India accomplished 100 percent rural sanitation and sharp decrease in stunting among children and maternal death rates[4].

Nonetheless, there is still a significant amount of work to be done on the national front in various areas. India must accelerate and maintain its upward trajectory on key human development indicators in order to unlock its enormous economic potential in the future and strive for inclusive progress. Development, in its true essence, is holistically achieved when all the people are included in the process.

Stronger primary health care is essential to achieve the health-related Sustainable Development Goals (SDGs) and universal health coverage. It contributes to the attainment of other goals beyond the health goal (SDG3), including those on poverty, hunger, education, gender equality, clean water and sanitation, work, and economic growth, reducing inequality and climate action.

Strengthening primary health care[5] and the attainment of universal health coverage[6] are both important current global health policy initiatives. Primary health care is essential and affordable care that is accessible to everyone in the community, and includes health promotion, disease prevention, health maintenance, education and rehabilitation[7]. The concept of universal health coverage, as noted in the United Nations' 2015 Sustainable Development Goals, is an aspiration to provide all people with access to essential high-quality health services and to safe, effective, and affordable medicines and vaccines, while ensuring financial risk protection by providing care regardless of a person's ability to pay for it[8]. The World Bank, the Bill and Melinda Gates Foundation and the World Health Organization (WHO) have referred to primary health care as a "black box" for

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[1] Voluntary National Review: 2020. Link
[2] Sashakt Bharat- Sabal Bharat (Empowered and Resilient India)- Voluntary National Disclosure :2020
[3] Sashakt Bharat- Sabal Bharat (Empowered and Resilient India)- Voluntary National Disclosure :2020
[4] Swach Bharat- Swasth Bharat (Clean and Healthy India)- Voluntary National Review: 2020.
[5] The World Health Report 2008 — primary health care (now more than ever). Geneva: World Health Organization; 2008. Available: www.who.int/whr/2008/en/
[6] Universal health coverage. Sustainable Developmental Goal 3: Health. Geneva: World Health Organization; 2017. Available: http://www.who.int/universal_health_coverage/en/ (accessed 2017 May 1).
[7] Kidd M, editor. The contribution of family medicine to improving health systems: a guidebook from the World Organization of family doctors. 2nd ed London (UK), New York: Radcliffe Publishing; 2013
[8] Jha A, Godlee F, Abbasi K. Delivering on the promise of universal health coverage. BMJ 2016;353:i2216.

policymakers[9] - complex, mysterious, and difficult to understand. Many health care policymakers and funders have a poor understanding of primary health care, finding it difficult to quantify and assess its contributions to health systems.

Figure 1: Showing public health centre

The current public health system lacks basic infrastructure facilities and is now overburdened by the pandemic. The Primary Health Care Centres (PHCs), the epicenter of the rural health delivery system, provide integrated curative and preventive healthcare. However, the infrastructure is woefully inadequate to provide the desired quality of healthcare. This is an area where corporates could make a significant impact through their CSR efforts by helping to rejuvenate these PHCs through upgradation with the latest technology and equipment and is ensuring that the staff on site is adequately trained to use these technologies[10].

GAIL (India) Limited, being a socially responsible public sector unit, recognizes the necessity of addressing the above-mentioned issue and contributed towards providing access to affordable and timely healthcare through strengthening of District Hospital services in Khunti, Sadar hospital, Jharkhand. The project's goal was to purchase essential equipment for strengthening of medical services in Sadar hospital, district Kunti, Jharkhand in order to provide basic healthcare services and other facilities related to awareness, medications, and remedies to the community members.

To evaluate the impact of the project and understand the perception of the stakeholders, GAIL (India) Limited empaneled KPMG to conduct an impact assessment study. Along with stakeholder consultations, review of documents and data provided by the team was undertaken to understand the objective and coverage of the project. After the desk review, key performance indicators were identified and finalized, in consultation with the programme team. For this study, OECD- DAC (Organization for Economic Co-operation and Development - Development Assistance Committee) framework was used for developing the research tools (questionnaires for qualitative surveys) and evaluating the impact created.

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[9] Measuring PHC: the measurement gap. Primary Health Care Performance Initiative; 2015. Available:
phcperformanceinitiative.org/about-us/measuring-phc (accessed 2017 May 1).
[10] https://www.csrmandate.org/strengthening-the-rural-healthcare-infrastructure-in-india-equipment-and-skill-upgradation/

The completion rate was 100% for the project and as per the discussion with the SPOCs from district office, the project catered to 100% needs of the community members from the nearby areas in the district.

The overall impact of the project because of the CSR initiative taken by GAIL towards strengthening of District hospital, PHC, CHC and district centre was access to quality healthcare facilities by the community members living around or in nearby areas of Khunti, improved quality of healthcare facilities in the nearby district hospital, timely detection of diseases and treatment and reduction in high risk pregnancy considering anemia is a huge problem in the district both among women, adolescent girls and children.

1.2 Introduction

1.2.1 CSR at GAIL

GAIL (India) Limited, conferred with the status of Maharatna in 2013, is India's leading natural gas company with diversified interests across the natural gas value chain of trading, transmission, LPMG production, LNG- regasification, petrochemicals, city gas, etc. It owns and operates a network of around 14617 km of natural gas pipelines spread across the length and breadth of country. GAIL firmly believes that meeting people's needs, enhancing communities, and safeguarding the environment will ultimately determine how long progress can be sustained.

Pursuant to the provisions of the Companies Act, 2013 and rules made thereunder including the statutory modifications/ amendments from time to time as notified by the Government of India, GAIL (India) Limited earmarks two percent of its average net profit of the preceding three financial years towards achieving its CSR objectives through implementation of meaningful and sustainable CSR programmes.

1.2.2 GAIL CSR Vision

GAIL, through its CSR initiatives, will continue to enhance value creation in the society and in the community in which it operates, through its services, conduct & initiatives, so as to promote sustained growth for the society and community, in fulfillment its role as a Socially Responsible Corporate, with environmental concern.

1.2.3 GAIL CSR Objectives

- Ensure an increased commitment at all levels in the organization, to operate its business in an economically, socially & environmentally sustainable manner, while recognizing the interests of all its stakeholders.

- To directly or indirectly take up programmes that benefit the communities in & around its work centres and results, over a period of time, in enhancing the quality of life & economic well-being of the local populace.

- To generate, through its CSR initiatives, goodwill, and pride for GAIL among stakeholders and help reinforce a positive & socially responsible image of GAIL as a corporate entity.

1.2.4 About the project/program

Universal health coverage (UHC) is about ensuring that people have access to the healthcare they need without suffering financial hardship. It is a key of ending extreme poverty and increasing equity and shared prosperity, and it is also the driving force behind all the health and nutrition investments. UHC allows countries to make the most of their strongest asset: human capital. Supporting health represents a foundational investment in human capital and in economic growth—without good health, children are unable to go to school and adults are unable to go to work. It is one of the global

economy's largest sectors and provides 50 million jobs, with the majority held by women[11].

Health is also an essential part of the Sustainable Development Goals (SDGs). For example, SDG 3.8 target aims to "achieve universal health coverage, including financial risk protection, access to quality essential health care services, and access to safe, effective, quality, and affordable essential medicines and vaccines for all." In addition, SDG 1, which calls to "end poverty in all its forms everywhere" could be in threat without UHC, as almost 90 million people are overburdened by health expenses every year[12].

The Right to Health is one of a set of internationally agreed human rights standards. This means achieving the right to health is both central to, and dependent upon, the realization of other human rights, to food, housing, work, education, information, and participation.

The Right to Health, as with other rights, includes both freedoms and entitlements:

- Freedoms include the right to control one's health and body (for example, sexual and reproductive rights) and to be free from interference (for example, free from torture and non-consensual medical treatment and experimentation).

- Entitlements include the right to a system of health protection that gives everyone an equal opportunity to enjoy the highest attainable level of health.

Healthcare industry comprises hospitals, medical devices, clinical trials, outsourcing, telemedicine, medical tourism, health insurance and medical equipment. The Indian healthcare sector is growing at a brisk pace due to its strengthening coverage, services, and increasing expenditure by public as well private players.

Health infrastructure in India is an important indicator for understanding the country's health care policy and welfare mechanism. It signifies an investment priority with regards to the creation of health care facilities. Infrastructure is a prerequisite for delivering any services. Health care system in India is a mix of many sectors public, private, indigenous system of medicine and voluntary agencies. The following figure highlights the healthcare infrastructure in India:

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[11] https://www.worldbank.org/en/topic/universalhealthcoverage
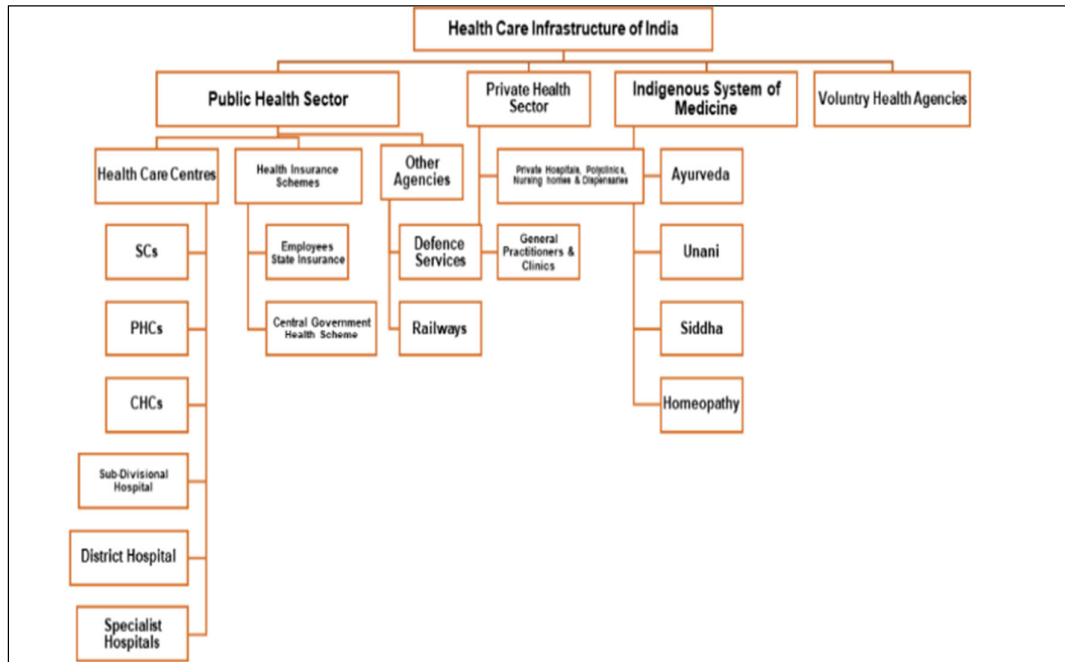[12] https://www.worldbank.org/en/topic/universalhealthcoverage

Figure 2: Healthcare infrastructure in India

India's healthcare delivery system is categorized into two major components - public and private. The government i.e., public healthcare system comprises limited secondary and tertiary care institutions in key cities and focuses on providing basic healthcare facilities in the form of Primary Healthcare Centres (PHCs) in rural areas. The private sector provides a majority of secondary, tertiary, and quaternary care institutions with major concentration in metros, tier-I and tier-II cities.

India took a long time almost three and half decades after independence to announce its first National Health Policy (NHP) in 1983 in which a holistic (Primary health care) approach was adopted to ensure health for all through provisioning of Sub Centres (SCs), Primary Health Centres (PHCs), Community Health Centres (CHCs), district/civil hospitals and medical institutions. The SC is the first and the most peripheral point of contact between the primary health care system and community. Above SC are PHC that is the first contact point between village community and the medical officer. The PHCs are envisaged to provide an integrated curative and preventive health care to the rural population with emphasis on preventive and promotive aspects of healthcare.

The activities of PHC include curative, preventive, promotive and family welfare services. Above PHC are CHC. they are being established and maintained by state government under MNP/BMS programme. Above CHCs comes sub-divisional hospitals (SDH), District hospitals, super-specialist hospitals[13].

Despite so many hospitals, clinics, dispensaries and health centres both in public and private sectors and even NGOs and charitable institutions in health care, India"s health care services failed to provide a satisfactory level of health care to its 1.3 billion population. Every year in India new public health challenges are emerging due to

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[13] [(PDF) Health Infrastructure in India: Need for Reallocation and Regulation (researchgate.net)](https://researchgate.net)

demographic and epidemiological transitions, environment degradation, emerging infectious diseases and anti-microbial resistance. India's health care infrastructure however, is unable to respond these new challenges as the delivery system is not functioning optimally and it is not based on the current needs of the community.

The main problems of Indian Healthcare infrastructure are related to shortage of healthcare staff and equipment. Though Indian Government, both central and state have created a vast network of health care infrastructure in India but it is insufficient to provide proper health care to common people in a cost-effective manner. The government Rural Health Survey reveal that only 55.6% of CHCs have functional X-ray machines while only 18% of specialists required (surgeon, physician, gynecologist and pediatrician) are in place. According to rural Health Statistics in March 2018 only 8% subcenters, 12% PHCs and 13% CHCs met Indian Public Health Standards[14].

Additionally, healthcare infrastructure is heavily skewed in favor of urban areas. The evidence show that private health care market occupies a large share of hospitals (75%), hospital beds (50.7%) and medical institutions (54.3%) largely located in urban areas. There is high variation in the availability of health care facilities across the states and within the state. In a few states such as Kerala, Tamil Nadu and Delhi public health facilities play their intended role of being the first point of care and proactively delivering essential services while in some states like Uttar Pradesh, Bihar, Jharkhand primary health care is not available to masses, and they are highly dependent on private sector with their own expenditure. These states also suffer from lack of doctors and nurses[15].

Due to the above-mentioned challenges, India's rank in the Human Development Index Report 2018 (130 out of 189 countries) issued by the UNDP.

In order to meet the above listed challenges in the healthcare system of India, the Government of India through its various ministries such as the Ministry of Health and Family Welfare (MoHFW), Ministry of AYUSH (Ayurveda, Yoga, Naturopathy, Unani, Siddha, Sowa-Rigpa and Homoeopathy), Department of Pharmaceuticals, and others, has been running a number of healthcare schemes and programmes like National Health Mission, eSanjeevani OPD, Pradhan Mantri Bhartiya Janaushadhi Pariyojana (PMBJP) etc., aimed at all segments of the population[16].

These schemes and programmes, according to the government aim to make healthcare affordable and accessible to all, in line with Sustainable Development Goal (SDG) 3 – 'Good Health and Well-Being' for all. Along with this, these schemes and programmes are measures intended to decrease the out-of-pocket expenses of the people on health. According to the National Sample Survey Organisation (NSSO), 2016, in rural areas in India, about 67.8 percent of household's report income or savings as a major source of finance for meeting expenses related to hospitalization. The figure is higher in urban India, with 74.9 percent of the households majorly relying on income or savings for such expenses[17].

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[14] (PDF) Health Infrastructure in India: Need for Reallocation and Regulation (researchgate.net)
[15] (PDF) Health Infrastructure in India: Need for Reallocation and Regulation (researchgate.net)
[16] https://swachhindia.ndtv.com/all-about-the-government-healthcare-schemes-that-aim-for-health-for-all-67983/
[17] https://swachhindia.ndtv.com/all-about-the-government-healthcare-schemes-that-aim-for-health-for-all-67983/

In the backdrop of National Health Mission, India has observed substantial increase in the health institutions, especially in the rural areas. Between 2005-2019, 1619 new PHCs, 1989 CHCs, 11385 Subcenters were established in rural areas[18].

It must be noted that basis the government health policy, there must be one health sub centre per a population of 3000 to 5000, at least one public health centre for a population between 20,000 and 30,000 and at least one community health centre per a population between 80,000 and 120,000. According to the National Health Mission Rural Health Statistics 2018-2019, Jharkhand has 3,848 Sub-Centres and Health and Wellness Centre-Sub Centres (SCs and HWC-SCs), 298 Primary Health Centres + Health and Wellness Centre-Primary Health Centres (PHCs and HWC-PHCs) and 171 Community Health Centres (CHCs).[19]

To support the Government schemes and to enhance India's healthcare infrastructure, especially for the economically weaker sections of the society and t0improve access to affordable and timely healthcare, GAIL (India) Limited, in alignment with its CSR ambitions, collaborated with Khunti District Administration in 2019 to develop and implement project for strengthening of district hospital services in Khunti Sadar Hospital, Khunti district, Jharkhand. The project's objective was to strengthen district hospital services in terms of addition to equipment of District Hospital to improve service delivery and improve its ability to provide preventive, promotive and curative treatment at free of cost.

District Hospital, Khunti with support from GAIL India is striving constantly towards becoming Indian Public Health Standards (IPHS) compliant to deliver better services to its beneficiaries. The provision of medical equipments as part of strengthening of hospital services will help the hospital to take some significant steps in the points mentioned above and provide better preventive, promotive and curative medical practices at the district level.

The project was implemented between the period September 19, 2019 to March 31, 2020., Following are the list of equipment along with their quantity provided at the PHCs:

S.No.	Equipment Name	Quantity Provided
1	Electrocardiogram Twelve Channel	6
2	Multipara Patient Monitor	12
3	Fetal Doppler	110
4	3-Fold With Curtains	31
5	Dressing Trolley	30
6	Instrument Trolley	31
7	ICU Bed Motorised 7 Function	10
8	3 D Digital Trolley Based Ultrasound Machine	2
9	Bishasic Difibrillator Monitor	1
10	CR System for X-ray Machine	4
11	Fetal Doppler	20
12	Infrared vein viewer	10
13	Anesthesia station Semi-Automatic	1
14	3-Fold with Curtains	20

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[18] Final RHS 2018-19_0.pdf (mohfw.gov.in)
[19] https://main.mohfw.gov.in/sites/default/files/Final%20RHS%202018-19_0.pdf

15	Dressing Trolley	6
16	Instrument Trolley	8
17	ICU Bed Motorized 7 Function	4

Table 1: Showing medical equipments provided by GAIL to the District hospitals/CHCs

Importance of few of the medical equipments to the healthcare professionals has been summarized below:

1. Electrocardiogram Twelve Channel

The ECG machine facilitates timely checkup for patients in rural areas suffering from heart ailments. In usual scenario, people in rural areas are forced to travel to hospitals situated at the taluka for ECG check-ups. Since hospitals in the rural areas witness huge inflow of patients, there is a possibility that patients may end up conducting tests in private hospitals which creates a financial burden for them due to the high cost involved, hence providing ECG machines to the PHCs enables the patients to get services free of cost or at minimal rates.

Through the financial support provided by GAIL, two ECG machines were provided at district hospitals (DH) while four machines were provided at Community Health Centres (CHCs) in Torpa, Karra, Muruh and Arki.

Figure 3: ECG Machine

2. Multipara Patient Monitor

Patient monitoring systems are any set of systems and/or processes that enable healthcare providers to monitor a patient's health. These patient monitoring systems monitor multiple critical physiological vital signs like respiration rate, electro cardiograph, blood pressure etc.

With the help of the machine, the physician at the District Head Quarters Hospital can monitor and evaluate the patient's health condition and provide necessary treatment. Based on the evaluation, the patient is transferred from PHC to District Head Quarters Hospital. In the proposed system, the simulated output reveals the effectiveness of the system.

Figure 4: Multi Para Monitor in Khunti Sadar Hospital

Through the financial support provided by GAIL, 12 Multi Para monitors were installed at district hospitals (DH).

3. Fetal Doppler

Fetal Doppler is an at-home medical device which is used to hear a child's heartbeat during the pre-natal stage. It has a probe which is moved over the pregnant woman's stomach and the heartbeat of the baby can be heard through headphones connected to the device.

Figure 5: Fetal doppler

Through the financial support provided by GAIL, 2 fetal dopplers were provided at district health centres, 108 at HSC's and 20 at 4 CHCs in Torpa, Karra, Muruh and Arki.

4. ICU Bed Motorized 7 Function

ICU Beds are special hospital beds designed for ICUs to take care of critical patients. NET brand ICU Beds combine smart ergonomics with advanced technology and intuitive operation. ICU beds, thus, provide both safety and comfort to the patients and caregivers alike.

Figure 6: ICU bed provided at District Hospital and district health centres

With the support received from GAIL, 4 beds were provided at emergency ward in the district hospital while 10 beds were provided at district health centres.

8. CR System for X-ray machine

CR System for XRay machine that provides printouts of XRay's was helpful for patients in case they wanted to take second opinion or go to bigger private hospital to get timely treatment.

Through the support provided by GAIL, 1 CR systems was provided at Khunti Sadar hospital while 3 were provided at the CHCs in Torpa, Karrarki, and Muruh.

9. Infrared vein viewer

Infrared vein finder is used to try to increase the ability of healthcare providers to see veins. They use near-infrared light reflection to create a map of the veins. The received imagery is then either displayed on a screen or projected back onto the patient's skin.

Through the support provided by GAIL, 10 vein finders were provided at the district hospitals.

Figure 7: Infrared vein viewer

10. Anesthesia station Semi-Automatic

An anesthesia machine is a medical device typically used to administer inhalation anesthesia

Figure 8: Anesthesia station provided at District Hospital

Through the support provided by GAIL, 1 station was provided at the district hospital.

The following table highlights the equipment that were provided at the CHC level:

S.No.	Particulars	Quantity Provided
1	ANM KITS	216
2	Home base Newborn care (HBNC)SAHIYA KITS	814
3	Digital Blood Pressure Monitor	216
4	Digital Hemoglobin Meter with 100 strips & Lancent	216

Table 2: Showing kits and other medical equipments provided to CHCs

Figure 9 and 10: Kits distribution at CHCs

ANM kits are remote diagnostic kits focusing on reducing malnutrition and non-communicable disease rates in rural/semi-urban areas. Remote Diagnostic Kit is an easy to use and portable diagnostic kit which enables screening and monitoring at the sub center level. This kit enables ASHA/Aanganwadi worker to use it with minimal training.

1.2.5 About the Implementing Agency

Kunti District Administration under Jharkhand Government has its principal registered office at Khunti, Jharkhand. The responsibility of general administration of the District lies with the Deputy Commissioner. He is the Executive Head and has a three-fold role:

- Deputy Commissioner
- District Collector
- District Magistrate

The Deputy Commissioner is the head of District administration. He also acts as the Collector in case of Revenue matters, as District Development Commissioner in case of District Developmental works, as District Magistrate in case of maintenance of Law and Order and General Administration, as District Election Officer in case of elections to be conducted at the district level.

1.3 Methodology and Approach

GAIL has been implementing successful CSR initiatives based on community needs. A third-party evaluation of the results attained is essential given the dynamic nature of the social development programmes deployed. This impact assessment aims to explain what has been done well and what can be done moving forward. It will not only assist in determining the significance of the project, including the efficiency of project design and interventions, sustainability of results, and impact of the intervention on the target community, but it will also provide guidance for expanding or replicating the successful initiatives while redesigning or ending the projects/initiatives that were unable to have the intended impact.

The impact assessment is intended to provide key insights on the following questions:
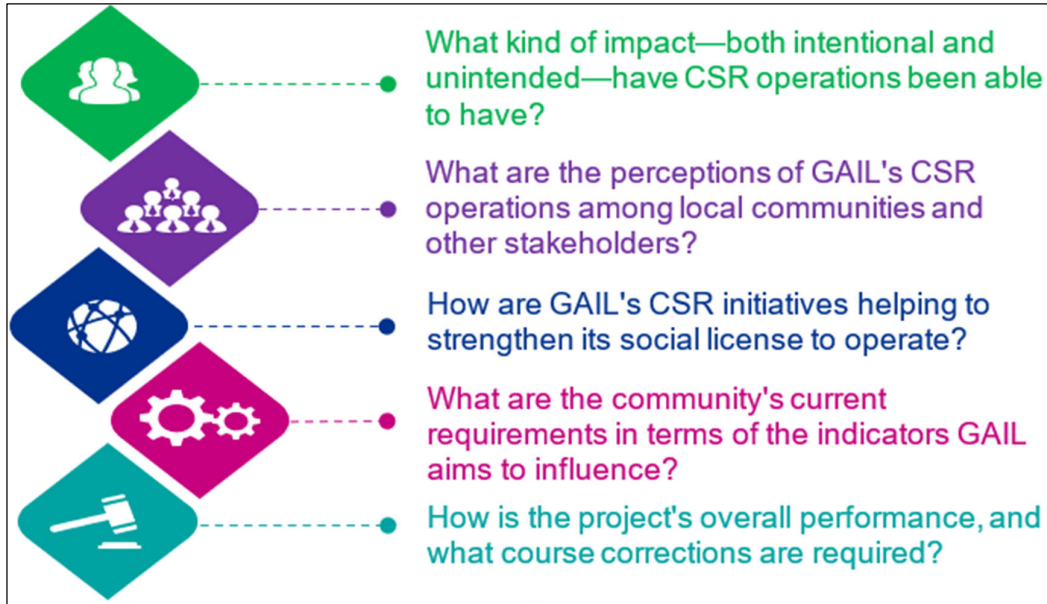
Figure 11: Research questions

The study was conducted through a combination of qualitative and quantitative data collection techniques. These include in-depth interviews and focus group discussions with beneficiaries and key stakeholders, as well as secondary research in the multiple thematic areas for a baseline perspective.

1.3.1 OECD DAC: Evaluation Criteria

Given the fundamental approach for conducting an impact study, the OECD-DAC (Development Assistance Committee) Evaluation Network's framework is well regarded for assessing the efficacy of development programmes. In response to the need for a method through which bilateral development agencies could monitor the financing supplied to multilateral organisations for various development initiatives, the DAC Evaluation Network developed a set of evaluation criteria for measuring the performance of any development project (UNICEF, 2012).

In 1991, the OECD Development Assistance Committee (DAC) devised the criteria for assessing international development cooperation. They are now widely used beyond the DAC and have established themselves as a cornerstone of evaluation methodology. These standards have routinely been used for international donors, including UN agencies (OECD, 2020).

The OECD DAC Network has identified six evaluation criteria and two principles for their application: relevance, coherence, effectiveness, efficiency, impact, and sustainability. These criteria are meant to help facilitate evaluations. They were revised in 2019 to improve the accuracy and utility of assessment and to strengthen evaluation's contribution to sustainable development (OECD, 2020).
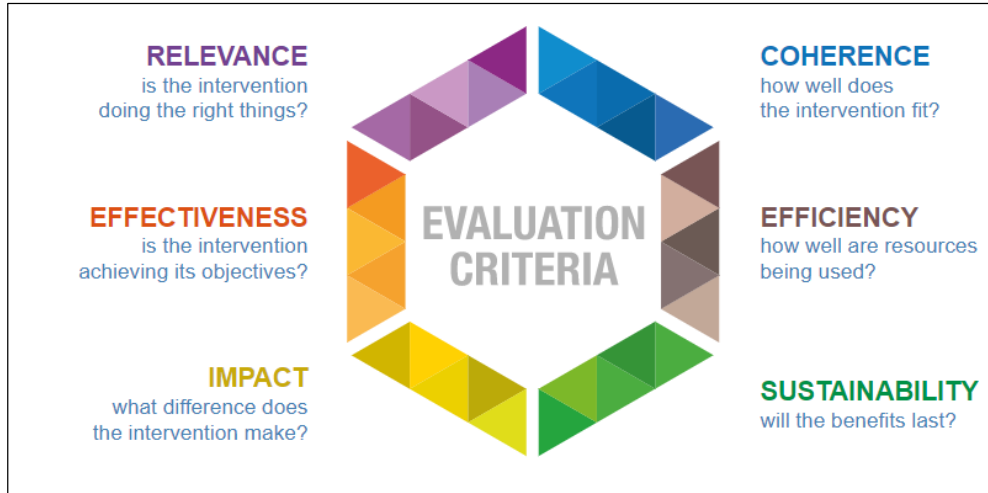
1.3.2   Geographical Scope

The impact assessment for this project covered 1 state and 1 district.

	State	Districts
Under GAIL's CSR initiative	Jharkhand	Khunti

Table 3: Geographical Scope

1.3.3   Data Collection and Analysis

Data collection was conducted virtually through interaction with the SPOC from district office in Khunti in order to gain in-depth understanding about the project and also to gain an understanding of the support provided in the district hospital, PHCs and CHCs.

1.3.4   Stakeholder Map

Stakeholders play an imperative role in project implementation on the ground. Stakeholder involvement can offer insightful information that aids in making critical decisions for the organisation. They can aid in designing improved guidelines, processes, and systems, as well as future communications and plans. Institutions and stakeholders taking part in the exercise include:

Project	Type of Stakeholder	Number of stakeholders
Support for strengthening of district hospital services in Khunti Sadar Hospital, Dist. Khunti, Jharkhand (FY 19-20)	District office staff*	2
	GAIL CSR Project SPoC	1

*Beneficiary interaction could not be conducted due to their lack of availability during virtual interactions

Table 4: Stakeholders involved in the sampling

KPMG

1.3.5 Impact Map

Thematic Area	Location	Project Name	Implementing Agency	Overall Objective	Key Activities	Key Outputs	Key Outcomes	Impact
Healthcare, Promoting preventive healthcare & sanitation [item no (i) schedule VII of Companies Act 2013]	Khunti, Jharkhand	**Project 16**: Support for strengthening of district hospital services in Khunti Sadar Hospital, Dist. Khunti, Jharkhand (FY 19-20)	Khunti District Administration	• To provide comprehensive secondary health care (specialist and referral services) to the community through the District Hospital in Khunti. • To achieve and maintain an acceptable standard of quality of care • To make the services more responsive and sensitive to the needs of the people of the district and the hospitals/centres from where the cases are referred to the district hospitals	• Developing a District Early Intervention Centre (DIEC) in the District Hospital premises • Introducing some equipment, namely, X-ray equipment, defibrillator, Colour Doppler Ultrasound System, Colour Doppler Ultrasound System, CR System, Multi Parameter Patient Monitor, Anaesthesia Workstation, CTG machine	• No of villages covered • No of beneficiaries covered • No of equipments provided	• Improved access to quality healthcare services to the community members in the district hospital • Improved quality of healthcare facilities and services in the district hospital • Timely detection of diseases and affordable treatment • Reduction in high-risk pregnancy	• This healthcare initiative of GAIL enables strengthening of government health system by means of supporting a district hospital and CHCs. The supported health centre enables communities to avail general healthcare, specialized treatment, and laboratory services.

Table 5: Impact map from the project

1.4   Scoring Matrix

A scoring guideline was designed where OECD DAC parameters were scored and bundled basis our understanding of GAIL Khunti Sadar project and availability of information. Weights were assigned to the bundled OECD DAC parameters. Also, a parameter on Branding was included to understand the community's awareness on the project. Various components within the parameters have been assigned scores. Weights and scores have been used to compute the overall score for 1 district.

The following scoring matrix was developed to rate the performance of the project in district Jharkhand:

OECD Parameters	Indicators	Weightage	Combined Weightage
Relevance	Need assessment report	20%	W1: 40%
	Relevance to target beneficiaries	50%	
	Alignment with SDGs	30%	
Coherence	Alignment with national policies	50%	
	Alignment with GAIL CSR policy	50%	
Efficiency	Timeline Adherence: Project Completion	40%	W2: 40%
	Adherence: Budget	40%	
	Duplication of project	20%	
Effectiveness	Target achievement (planned vs actuals)	100%	
Impact	Access to quality healthcare services to the community members	25%	
	Improved quality of healthcare facilities and services in the district hospital	25%	
	Timely detection of diseases and treatment	25%	
	Reduction of high-risk pregnancy	25%	
Sustainability	Presence of sustainability mechanism / exit strategy	50%	W3: 10%
	Proper maintenance of the medical devices	50%	
Branding	GAIL Branding/visibility	100%	W4: 10%
Score= W1*Average (Relevance, Coherence) + W2*Average (Efficiency, Effectiveness, Impact) + W3* (Sustainability) + W4* (Branding)			

Table 6: Scoring matrix

1.5 Impact Assessment

1.5.1 Relevance of Intervention

Relevance is a measure of how much the intervention objectives and design respond to the needs, beliefs, and priorities of the beneficiaries and continue to do so even if circumstances change.

Relevance measures how effectively a programme is aligned with the goals and policies of the Government in which it is implemented. It also aims to know if the programme is relevant to the needs of the beneficiaries. The program's relevance is understood in this context in terms of community needs as well as linkages to existing Government operations.

Due to the vast population residing in rural areas as well as due to inadequacy of healthcare facilities in such areas, people often do not have access to affordable and timely healthcare services. According to the World Health Organization's Global Health Expenditure database, India's out-of-pocket expenditure as a percentage of total health expenditure was 54.78% in 2019.[20] This reduces the quality of life for people living in rural areas. Such remote communities also lack the infrastructure to support the availability of healthcare in their villages, as well as medicines.

Furthermore, people in such disadvantaged communities are often unaware of a variety of common illnesses such as diabetes, hypertension, fungal infections, water-borne diseases, etc. These challenges place a significant burden on the country's existing healthcare system, necessitating an increase in both initiative and investment to improve healthcare outreach to the most remote parts of the country.

The aim of the project was to provide medical equipment to District Hospital Khunti and CHCs/PHCs for the community members to have access to various healthcare facilities especially the underprivileged groups with little to no access to the existing public health care system. The role of the hospital and community health centre is to provide basic healthcare services as well as other services related to awareness, medicines, and cures.

This project's implementation aided in reducing the pressure on already-established health-care systems and providing a cost-effective approach to healthcare.

During the beneficiary interaction, it was highlighted that due to provision of these medical equipment, quality of life of the community members had improved. For example, the use of CR System for XRay machine that provides printouts of XRays is helpful for patients in case they want to go for a second opinion to a bigger private hospital to get timely treatment. Additionally, anemia being a huge problem in the community could also be resolved to a significant extent by timely detection of iron levels through provision of Digital Hemoglobin Meter with 100 strips & Lancent at the CHCs.

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[20] https://data.worldbank.org/indicator/SH.XPD.OOPC.CH.ZS

Figure 13: ANM kits being distributed at CHCs

1.5.2 Coherence of Intervention

Coherence refers to the compatibility of the intervention with other interventions in a country, sector, or institution.

It measures the extent to which other interventions (particularly policies) support or undermine the intervention, and vice versa.

I. Alignment of the programme with National Priorities - Sustainable Development Goals (SDGs)

The Sustainable Development Goals (SDGs), commonly recognized as the global goals, were established in 2015 by all United Nations members with the purpose of eradicating poverty, protecting the environment, and ensuring that everyone lives in peace and prosperity by 2030. India was a significant contributor to the development of the SDGs and is committed to achieving them by 2030.

SDG Goal	Target	Sub-targets[21]	Relevance
GOAL 3	***Good Health and Well-Being***	*3.8 Achieve universal health coverage, including financial risk protection, access to*	The programme aimed to improve access to healthcare facilities and generate

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[21] https://sustainabledevelopment.un.org/topics/sustainabledevelopmentgoals

| | | quality essential health-care services and access to safe, effective, quality and affordable essential medicines and vaccines for all | awareness on key health issues in the community. |

Table 7: Coherence with SDG Goals

II. Coherence with national priorities:

The project is further aligned with the national and state government goals, policies, and initiatives, as listed below:

Project	Description	Coherence
National Health Mission	Under National Health Mission (NHM), Financial support is provided to States to strengthen the public health system including upgradation of existing or construction of new infrastructure.	In line with this policy, the project aims to strengthen the district hospitals/CHCs by providing funds for procurement of medical equipments/ANM kits.
Ayushman Bharat	Health and Wellness Centres (HWC) and Pradhan Mantri Jan Arogya Yojana (PM-JAY) are parts of this scheme. 150000 HWCs have been created in order to ensure better healthcare for the people. These HWCs are transformed versions of earlier initiatives like Sub Centres and Primary Health Centres.	In line with this policy, the project aims to provide affordable healthcare support to all community members in the Khunti district. The equipments provided at the district hospital and distribution of ANM kits has helped in providing quality healthcare services to the people nearer to their homes.

Table 7: Coherence with national priorities

1.5.3 Effectiveness of Intervention

Effectiveness is defined as an assessment of the factors influencing progress toward outcomes for each stakeholder as well as validation of the robustness of systems and processes.

It aids in ensuring that the implementation and monitoring processes are sturdy in order to achieve the greatest possible social impact. The efficacy of the programme is established by examining how well the program's activities were carried out as well as the efficiency with which the program's systems and processes were implemented.

The project's goal was to provide free of coast coaching along with boarding and lodging to economically underprivileged students so they can gain admission into the country's top engineering institutes. Therefore, to successfully attain these outcomes, the project adopted the following measures:

I.   **Identification of the problem**: The primary goal of the project was to improve the quality of healthcare being provided at the district hospital as well as at the local PHC and CHC by providing necessary health equipment in district hospital Khunti for community members to have access to basic healthcare facilities, create awareness, provide timely diagnosis,

and treatment of the health concerns. To be able to deliver the best results identified for the communities and stakeholders involved, the issue was identified by GAIL, and the project was effectively developed accordingly.

II. **Process driven implementation strategy:** The project employed a process-driven implementation strategy that includes fundamental market research to ensure a context-specific initiative, standardized activities with a set timeframe to assure quality, and pre-determined KPIs to ensure consistency.

III. **Qualified implementation team:** GAIL along with the implementing partner, i.e., Khunti district administration team were instrumental in providing a qualified team with previous expertise to overlook the execution of the project. This contributed to the preservation of implementation quality and provided prompt assistance to the intended beneficiaries.

IV. **Targeted beneficiary mobilization:** The aim of the project was to provide people living in isolated communities with access to basic healthcare facilities. The healthcare equipment provided at the hospital fulfilled the goal of delivering healthcare to those who do not have convenient access to healthcare institutions for a variety of reasons such as distance, financial support, awareness, etc. The project was successful in achieving its objectives because it was able to provide the necessary outreach of healthcare services to the intended beneficiaries, i.e., remote and disadvantaged communities, and it was also successful in raising awareness about healthcare issues, diagnosing and curing various illnesses, and distributing Auxiliary Nurse and Midwife kits to the families in the community.

1.5.4   Efficiency of Intervention

The efficiency criterion seeks to determine whether the project was completed in a cost-effective and timely way.

The purpose is to establish whether the inputs—funds, knowledge, time, etc.—were effectively employed to create the intervention outcomes. This evaluation criterion attempts to determine whether the programme was completed on schedule and within budget.

The project has been efficiently implemented in the target districts with the support of key stakeholders.

I.   *Timeliness of delivery or implementation of project interventions*
The programme was implemented within the given time period by Khunti District Administration with support from GAIL CSR team in the target districts.

II.   *Cost efficiency of project activities*
Interaction with the GAIL CSR and SPOCs from district office staff in Kunti also revealed that there was no budget overflow and that all the activities were successfully carried out within the allotted budget. Payment milestones were clearly defined as such, and interventions were implemented in the districts in consultation with the key stakeholders.

III.   *Duplication/ overlap of project activities*
Duplication of effort arises when similar interventions are needlessly undertaken within the same community/ location due to poor knowledge management and inadequate coordination of projects, thereby resulting in fund and resource

inefficiency. In this case, it was discovered that no similar activity was being carried out in the district. As a result, community members from different parts of the district were coming to Khunti Sadar Hospital to avail healthcare services which earlier weren't accessible to them. This project contributed to expanding the reach of the intervention and avoiding duplication or overlap of project activities in the target districts.

1.5.5   Sustainability of Intervention

Sustainability assesses how well the programme secures the long-term viability of its outcomes and influence.

The continuation of a positive effect after development or aid has stopped is referred to as sustainability. This evaluation criterion contains key elements concerning the likelihood of continuous long-term benefits and risk tolerance. To achieve sustainability, a governing framework, financial model, and operating system must be established.

The project was successfully completed by the implementing agency, i.e., Khunti District Administration in a timely and cost-effective manner. GAIL has provided financial assistance for procuring medical equipment along with ANM kits, Sahiya kits, torch, BP machine and Digital Hemoglobin Meter with 100 strips & Lancent for distribution in the community. Further, the implementing agency has also organized camps and followed up with community members with the help of ASHAs, to ensure the continued positive impact of the intervention in the target communities.

1.5.6   Branding of the Intervention

From the images shared by the district office it was observed that GAIL's branding, or logo was not visible on the walls of the CHCs or in the hospital. However, as confirmed by hospital SPoC during inauguration ceremony the logo was seen by the people of the community and government officials, hospital staff, doctors and village community members are aware that health equipments have been provided by GAIL. Hence, 100% score has been given to the branding portion.

1.5.7   Impact of Intervention

Impact has been measured in terms of the proportion of respondents who reported having a significant change in their lives due to the initiation of the project.

The goal of measuring the impact is to determine the project's primary or secondary long-term impacts. This could be direct or indirect, intentional, or unintentional. The unintended consequences of an intervention can be favourable or harmful.

The Sustainable Development Goals (SDGs) reaffirm a global commitment to achieve universal health coverage (UHC) by 2030. This means that all people and communities, everywhere in the world, should have access to the high-quality health services they need – promotive, preventive, curative, rehabilitative, or palliative – without facing financial hardship. In India, although the National Rural Health Mission (NRHM), launched in 2005 has made significant progress in the healthcare infrastructure (mainly in physical infrastructure) in rural areas and has impacted the lives of rural masses to

some extent[22] there is still a long way to go in terms of considerable attention that is needed towards improving the accessibility and availability of health facilities as well as delivery of quality services in the rural areas.

Khunti district is the heartland of tribal culture, philosophy, and traditions. The terrain of this district is hilly and hard to reach. There is lack of modern amenities like electricity and clean drinking water with poor education standards and scarce medical facility. The road connectivity of the districts is extremely poor[23]. Khunti is one of the aspirational districts characterized by debilitating infrastructure and poor delivery of public services. The condition of STs and SCs is not very good, and they are still struggling for their basic rights and dignified life. They are excluded from mainstream of development paradigm and basic facilities required for dignified life which perpetuate their problems and ultimately their exclusion continued in-spite of many efforts[24]. The district is in remotest part of the country where Sickle cell disease (SCD) is widespread. The other common diseases that people (also known as tribals) suffer from are malaria, mouth ulcer, diarrhoea, cough, cold etc[25].

GAIL's CSR initiative has helped in resolving the health issues to a significant extent by creating impact in the lives of the community members in Khunti district. The overall impact can be summarized in the following ways -

1. Access to quality healthcare services to the community members –

Rural communities in India face a severe shortage of access to healthcare services. There is little public spending on healthcare. Additionally, the private healthcare industry primarily serves urban settings[26]. While there is a significant healthcare personnel shortage throughout India, it is particularly problematic in rural areas.[27] Because of this issue, those in rural areas seeking healthcare services often travel distances of up to 100 km to access them[28]. Due to the lack of awareness about health issues and shortage in accessing healthcare services in nearby PHCs/CHCs people prefer going to quacks for treatment commonly known as Nadi babas. High rates of poverty are prohibitive to accessing healthcare for many rural communities; nearly 90% of the population is not covered by insurance, and most costs are paid out of pocket or by taking out loans[29].

In rural communities, there are significant disparities in important health indicators such as high rates of infant mortality, malnutrition, maternal mortality, low rates of vaccination, and low life expectancy. Insufficiencies in public healthcare services have driven people across socio-economic strata to private healthcare facilities leading to issues of affordability challenges. In 2012, 61% of rural patients and 69% of urban patients chose private in-patient service providers, up from 40% reported in a 1986-87 government survey[30].

[22] http://jkhighereducation.nic.in/jkki/issue1/17.pdf
[23] c78368b6-0de3-42ac-a9bd-c0407f7cc5ad.pdf (tribal.gov.in)
[24] https://khunti.nic.in/about-district/
[25] https://pdf.usaid.gov/pdf_docs/pnadz706.pdf
[26] https://ballardbrief.byu.edu/issue-briefs/healthcare-access-in-rural-communities-in-india#:~:text=Approximately%2086%25%20of%20medical%20visits,paid%20out%2Dof%2Dpocket.
[27] https://ballardbrief.byu.edu/issue-briefs/healthcare-access-in-rural-communities-in-india#:~:text=Approximately%2086%25%20of%20medical%20visits,paid%20out%2Dof%2Dpocket.
[28] https://ballardbrief.byu.edu/issue-briefs/healthcare-access-in-rural-communities-in-india#:~:text=Approximately%2086%25%20of%20medical%20visits,paid%20out%2Dof%2Dpocket.
[29] https://ballardbrief.byu.edu/issue-briefs/healthcare-access-in-rural-communities-in-india#:~:text=Approximately%2086%25%20of%20medical%20visits,paid%20out%2Dof%2Dpocket.
[30] https://economictimes.indiatimes.com/news/economy/indicators/rural-indias-access-to-healthcare-patchy-study/articleshow/21227645.cms

![KPMG logo]

Since the cost of treatment at private healthcare facilities is at least 2 to 9 times higher than at public facilities, it leads to the affordability challenges. Poor patients receiving outpatient care for chronic conditions at a private facility spent on an average 44% of their monthly household expenditure per treatment, against 23% for those using a public facility[31]. The ratio of private spending on health care relative to public spending is second highest in India and considering that one-third of Jharkhand citizens is below the poverty line, the burden of out-of-pocket payments is catastrophic on those already below the poverty line and those on the brink of it[32].
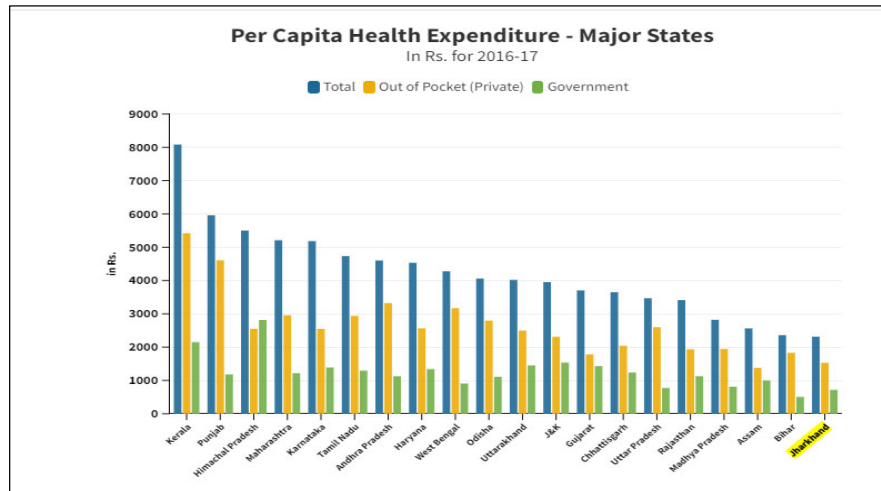

Figure 14: Showing per capita health expenditure

GAIL with the help of district hospitals, district centres, CHCs, PHCs has provided medical equipments which uses modern technology to automate processes. The facilities now available at these centres have helped in catering to healthcare sector and social sector, for connecting with the remote communities to provide last mile solutions. By improving the systems and functions at the hospitals/centres GAIL through this project has impacted thousands of lives residing in remotest area of Khunti.

The facilities available due to these medical equipments has benefitted the community in following ways –

- Making the community aware of their rights to demand good quality of care,
- Bringing accountability by highlighting lapses in the health delivery process, and,
- Increasing uptake of appropriate health services at the right venue.

2. Improved quality of healthcare facilities in the district hospital-

Accessibility of healthcare institutions is a critical factor for achieving the health-related SDGs and universal health coverage[33]. It contributes to the attainment of other goals beyond the health goal (SDG3), including those on poverty, hunger, education, gender

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[31] https://economictimes.indiatimes.com/news/economy/indicators/rural-indias-access-to-healthcare-patchy-study/articleshow/21227645.cms
[32] https://factly.in/data-what-is-the-status-of-government-private-expenditure-on-healthcare-in-the-states/
[33] Primary health care in India (who.int)

equality, clean water and sanitation, work and economic growth, reducing inequality, and climate action[34].

Even when health centres are proximate to communities, rural populations tend to underutilize essential health care[35]. The National Health Accounts (NHA) estimates released in March 2021 mentioned that patients bear a big chunk of health expenses, as high as 61% of the total health expenditure, by themselves in India. For this, Pradhan Mantri Swasthya Suraksha Yojana (PMSSY) has aimed at correcting the imbalances in the availability of affordable healthcare facilities in the different parts of the country in general, and augmenting facilities for quality medical education in the under-served States in particular[36].

Access to health care institutions and facilities impacts every aspect of a human being. Access to health care institutions and facilities leads to better health outcome of a communities, yet rural communities face various challenges in accessing the facilities.
It must be noted that basis the government health policy, there must be one health sub centre per a population of 3000 to 5000, at least one public health centre for a population between 20,000 and 30,000 and at least one community health centre per a population between 80,000 and 120,000. Further, Rural Health Statistics 2021 released by the Health Ministry showed that across rural and urban areas, there is a 7% shortfall of doctors at Primary Health Centres and a 57% shortfall of doctors at Community Health Centres[37].

District hospitals are a valuable resource in providing secondary level of healthcare, which includes comprehensive preventive, promotive and curative services. Currently, there are more than 800 district hospitals across the country providing crucial services to the population[38]. In view of a large fund allocation for district hospitals under the National Health Mission (NHM), as well as their critical role in health care provision.

The NSS reports on the key indicators of social consumption of health in India[39] throw light on the care-seeking behaviour of the Indian population. Figure 10 shows the distribution of hospital services accessed in the outpatient and inpatient departments with respect to type of demography (rural/urban) and service provider (public/private). The epidemiological transition of disease burden and the country's commitment towards achieving Universal Health Coverage (UHC) has witnessed rapid growth in the health care sector.

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[34] Primary health care in India (who.int)
[35] Rural Health (cdc.gov)
[36] Pradhan Mantri Swasthya Suraksha Yojana (PMSSY) | National Health Portal of India (nhp.gov.in)
[37] Economic Survey 2021: Punjab among top 5 states with worst unemployment, but among five best in access to basic necessities | India News,The Indian Express
[38] https://www.niti.gov.in/sites/default/files/2021-09/District_Hospital_Report_for_digital_publication.pdf
[39] NSSO, Key Indicators of Social Consumption in India: Health, NSS 71st (2014) and 75th (2017–18) rounds, Ministry of Statistics and Programme Implementation

Share of ailments treated in the outpatient department by sector and demography					Share of ailments treated in the inpatient department by sector and demography				
	Rural		Urban			Rural		Urban	
	2014	2017–18	2014	2017–18		2014	2017–18	2014	2017–18
Public facilities	28.30%	32.50%	21.20%	26.20%	Public facilities	42.00%	45.70%	32.00%	35.30%
Private facilities	71.70%	67.50%	78.80%	73.80%	Private facilities	58.00%	54.30%	68.00%	64.70%

Source: NSS 71st and 75th rounds, NSSO, Ministry of Statistics and Programme Implementation

Figure 15: Showing distribution of hospital services

A total of 810 district hospitals across India provide critical services to the population[40]. Each district hospital is linked with public hospitals/ health centres such as the community health centre (CHC), the primary health centre (PHC), and the sub-centre (SC). As per the Indian Public Health Standards (IPHS), district hospitals are mandated to provide comprehensive secondary health care (specialist and referral services) to the community; achieve and maintain an acceptable standard of quality of care; and make services more responsive and sensitive to the needs of the people of the district and the hospitals/centres from where the cases are referred.

Key elements governing the functioning of district hospitals:

- **Affordability:** Provide effective, affordable health care services (curative including specialist services, preventive, and promotive) for a defined population.

- **Accessibility:** At least one district hospital for every district providing advanced secondary care.

- **Extensive coverage:** Service coverage encompassing both urban (district headquarter town) and the rural population in the district.

- **Broad scope:** Provide wide-ranging technical and administrative support and education and training for primary health care.

- **Substantial infrastructure:** The district hospital, having beds ranging from 100 to 1200, provides out and inpatient critical services including surgical interventions such as caesarean sections; care for sick newborns, infants, and children; management of NCDs and infectious diseases; and blood storage facility on a 24-hour basis[41].

- **Contribution to society**: District hospitals have a lot to contribute towards meeting the country's global and national goals and targets, including the SDGs, and thus improving health outcomes.

GAIL as part of this CSR project has collaborated with District Administration, Khunti to strengthen Khunti Sadar's hospital healthcare services by providing them with necessary health equipments which can thus help in achieving the key elements highlighted above.

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[40] As on 31st March 2020, Rural Health Statistics, 2019–20
[41] https://www.niti.gov.in/sites/default/files/2021-09/District_Hospital_Report_for_digital_publication.pdf

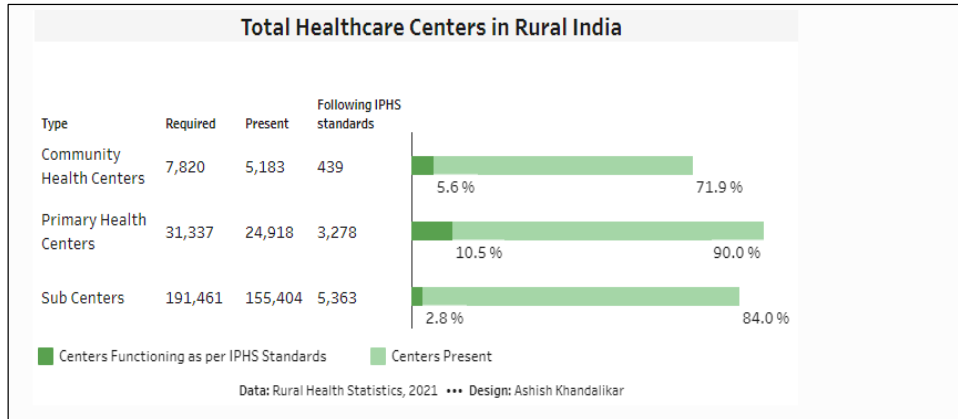### 3. Timely detection of diseases and treatment –

Figure 16: Showing Indian healthcare centers in rural india

According to the Rural Health statistics 2021-22, there is a shortage of 83.2% of surgeons, 74.2% of obstetricians and gynecologists, 79.1% of physicians and 81.6% of pediatricians. Additionally, less than half the PHC (45%) function on a 24×7 basis, among 5,480 functioning CHCs, only 541 have all four specialists. SC, PHC and CHC facilities are overburdened across the board, with SCs currently looking after more than 5,000 people, PHCs catering to 36,049 people and CHCs to 164,027 people[42]. This has led to human resource shortage (like auxiliary nurse midwives – ANM) and eventually difficulty to access adequate and quality healthcare[43].

According to the National Health Profile (NHP) 2019, there are only 5 government hospitals per 100,000 population in rural India, compared to 3.5 in urban areas[44].

In line with the above issues, GAIL has come up with a strategy in collaboration with District Administration, Khunti and has supported in strengthening of the nearby district hospitals, district centres, CHCs and PHCs by providing them with the medical equipments and ANM kits which is cost effective and accessible. It has helped the nearby community members (especially women and children) to avail facilities at the comfort of their homes or by visiting the centres for getting proper checkups done, timely detection of diseases followed by treatment.

Khunti being an aspirational district, such interventions in the Health sector can help in kickstarting a new wave of development according to the Niti Aayog[45]. For the same, the following equipments were provided to the district hospital, district centres, CHCs and PHCs in Kunti district, Jharkhand:

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[42] https://www.insightsonindia.com/2023/01/21/poor-infrastructure-staff-crunch-continues-to-plague-healthcare-in-rural-india-centre/
[43] https://www.insightsonindia.com/2023/01/21/poor-infrastructure-staff-crunch-continues-to-plague-healthcare-in-rural-india-centre/
[44] https://www.insightsonindia.com/2023/01/21/poor-infrastructure-staff-crunch-continues-to-plague-healthcare-in-rural-india-centre/
[45] https://www.niti.gov.in/sites/default/files/2022-09/Best-Practices-from-Aspirational-Districts-Volume-1.pdf

S.No.	Equipment Name	Quantity Provided
1	Electrocardiogram Twelve Channel	6
2	Multipara Patient Monitor	12
3	Fetal Doppler	110
4	3 Fold With Curtains	31
5	Dressing Trolley	30
6	Instrument Trolley	31
7	ICU Bed Motorized 7 Function	10
8	3 D Digital Trolley Based Ultrasound Machine	2
9	Biphasic Defibrillator Monitor	1
10	CR System for X-ray Machine	4
11	Fetal Doppler	20
12	Infrared vein viewer	10
13	Anesthesia station Semi-Automatic	1
14	3-Fold with Curtains	20
15	Dressing Trolley	6
16	Instrument Trolley	8
17	ICU Bed Motorized 7 Function	4

Table 8: Showing medical equipments provided by GAIL to the District hospitals/CHCs

Figure 17: Showing ECG machine

For instance, the Electrocardiogram (ECG) Twelve Channel machine facilitates timely checkup for patients in rural areas suffering from heart ailments. In usual scenario, people in rural forced to travel to taluka places for ECG check-ups. Since the rural hospitals witness huge rush, there is a possibility that patients end up conducting tests in private hospitals which is a costly affair, hence providing ECG machines to the PHCs enables the patients to get services through the government.
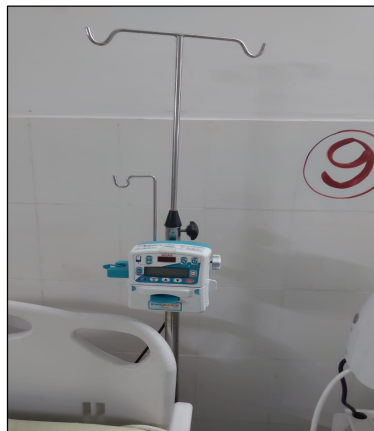

Figure 18: Showing infrared vein viewer

While the infrared vein finder can help in increasing the ability of healthcare providers to see veins. They use near-infrared light reflection to create a map of the veins. The received imagery is then either displayed on a screen or projected back onto the patient's skin. This again will save time to people to get their blood tests done easily and for getting timely detection of their health issues.

4. Reduction in high-risk pregnancy –

Anemia is a major public health problem affecting both the developed as well as the developing countries. According to World Health Organization, prevalence of anemia among pregnant women in developed countries is about 14%, whereas it is still as high as 51% in the developing world[46].

It also continues to be one of the major public health challenges in India where more than half of the women in the reproductive age group i.e., 15 years to 49 years are anemic[47]. Anaemia continues to affect women and children across different age groups and gender. According to the recent National Family Health Survey 5 (NFHS-5):

● 57% of women aged 15-49 years were anemic
● 59.1% of adolescent women aged 15-19 years were anemic
● 52% of pregnant women and 67.5% of children aged 6-59 months were anemic[48]

The national survey highlights an increase in the prevalence of anaemia among women and children when compared to the last survey done in 2015-2016. The percentage of women between the ages 15 and 49 years who are anemic has increased to 57 percent now, from 53.1 percent in 2015-2016. Similarly, all women between the ages 15 to 19 years reported a 5 percent increase in the incidence of anaemia when compared to 2015-2016.

Anaemia not only results in loss of productivity due to reduced work capacity but could also lead to cognitive impairment which is often irreversible. In addition to this, it could also lead to increased susceptibility to infections, increased school drop-out rates among adolescents, and reduced physical fitness. Anaemia is also associated with stillbirth, miscarriages, and maternal mortality. India currently records 103 maternal deaths per 100,000 live births.
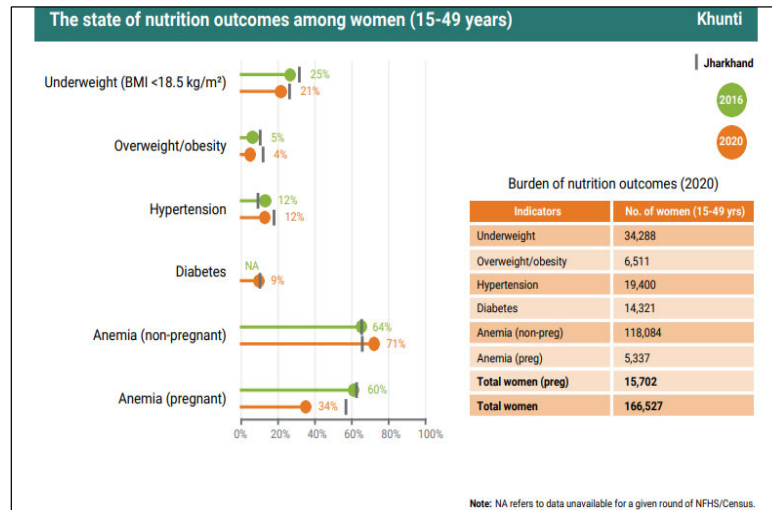

Figure 19: Showing anemia as problem among women (Pregnant as well as non-pregnant) in Khunti district

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[46] Prevalence of anaemia among pregnant women in rural India: a longitudinal observational study | International Journal of Reproduction, Contraception, Obstetrics and Gynecology (ijrcog.org)
[47] Opinion: Anaemia Is Not Just A Rural Phenomena, Its Prevalence In Urban Slums Needs Attention| News (ndtv.com)
[48] Opinion: Anaemia Is Not Just A Rural Phenomena, Its Prevalence In Urban Slums Needs Attention| News (ndtv.com)

The above image clearly depicts anemia being one of the major problems in Khunti district of Jharkhand, both among children of less than 5 years of age as well as adolescent girls and women between age groups of 15 to 49 years.

Anemia Mukt Bharat (AMB), a recently launched (2018) National Health Strategy in India has laid six interventions to focus on various causes affecting anemia in the country. One of the interventions is to use digital hemoglobinometers (DH) as point-of-care tests (POCT) to estimate Hb status. Identification of anemia, especially in mild and moderate anemia remains undetected through clinical signs, thus use of DH in case of detection of anemia is more accurate and precise[49].

In response to the above issues, GAIL in collaboration with District Administration, Jharkhand has provided the CHCs in Khunti district with ANM kits. The Hemoglobin meter provided in the ANM kits can help in resolving this issue to a significant extent. Hemoglobin meters are used for measuring hemoglobin and hematocrit levels in the whole blood and is most accurate home-use measuring device which helps in displaying results in lesser time frame by comfort of their homes.

Figure 20: Showing ANM kits being provided at the CHCs

1.6   Overall rating of the project

The scoring matrix was used to evaluate and score performance of the Project Arogya. The following table provides the overall rating across the defined parameters:

Location	Relevance	Coherence	Efficiency	Effectiveness	Impact	Branding	Sustainability	Total Score
Jharkhand	100%	100%	100%	100%	100%	100%	50%	**95%**

Table 9: Overall scoring of project

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[49] Cureus | Feasibility of Real-Time Monitoring for Anemia Using Mobile Application Linked With Point-of-Care Testing Device

The GAIL project implemented in Jharkhand scored an **average of 95%**. The project was aligned to GAIL's CSR policy and SDGs and were relevant to the needs of the community. The project was efficiently executed across the selected district within the allocated budget and timelines. The completion rate was 100% for the project and as per the discussion with the SPOCs from district office, the project catered to 100% needs of the community members from the nearby areas in the district. Sustainability of the project is rated at 50% as during the interaction with SPOCs from district office or through the documents shared under exit strategy i.e., repair work to be done if medical instrument fails to work or doesn't work in future properly is not mentioned.

The total score of the project is 95% due to which this project can be rated as **"Highly Impactful"** in nature.

1.7   Conclusion and Way Forward

India is a signatory to Article 25 of the Universal Declaration of Human Rights (1948) that grants the right to a standard of living adequate for good health and well-being of humans including food, clothing, housing and medical care and necessary social services. On the same line, Article 21 of the Indian constitution guarantees Right to Health as a fundamental right to life.

However, the Indian health sector faces several challenges like inadequate access to medical services, lack of preventive care, shortage of professionals, and paucity of resources. Social deprivation, especially in the areas of health and education, trumps economic progress and, ultimately, quality of life. The disadvantaged groups in society require special attention because they not only have less access and suffer inequality, but they also have the worst health results nationwide.

The project 's aim was to improve the existing medical services available in the district hospital along with provision of better treatment/ referral facilities. This significantly impacts the performance of doctors and enhances the diagnosis carried out at the district hospital as it improves the accuracy of testing.

Since COVID pandemic, telehealth has become an imperative part of the health system. Telehealth is defined as the delivery of health care services at a distance through the use of technology. It can include everything from conducting medical visits over the computer, to monitoring patients' vital signs remotely. Its definition is broader than that of telemedicine, which only includes the remote delivery of health care. Telehealth also includes capacity building of service providers on technological solutions as well as use of standardized and uniform knowledge products to train them virtually for continued cross-learnings even when physical trainings are not permissible.

Using technology to deliver health care has several advantages, including cost savings, convenience, and the ability to provide care to people with mobility limitations, or those in rural areas who don't have access to a local doctor or clinic. However, to further maximize the impact and enhance the project outcomes, Telehealth care is one of the suggested solutions which could be looked at as it will help in following ways:

➢ Helps in solving Transport limitations which is one of the main causes for lack of proper healthcare in rural areas.

➢ Helps in building up economic stability in the area.

- ➢ The use of technology and advanced communication equipment promises a much more assured diagnosis and treatment of critical and chronic diseases.

- ➢ Strengthens doctor patient engagement and improves frequencies of consultation due to reduced waiting time.

- ➢ Immediate analysis of blood reports and imaging data by radiologists and doctors increases the chances of receiving quick medical attention.

- ➢ Access to healthcare experts across the globe increases and chances of getting a second opinion improves immensely.

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