

Strengthening eSanjeevani Telemedicine services in Jharkhand

Approaches, impact & lessons learned



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eSanjeevani is being deployed in health and wellness centers (HWCs) under the Ayushman Bharat scheme of Government of India (Gol).

Intelehealth is a tech-nonprofit that works to improve access to quality healthcare where there is no doctor through telemedicine. We help governments, NGOs and hospitals with technology and implementation services to set up telemedicine programs that improve health access for hard-to-reach communities.

Transform Rural India Foundation (TRIF) has partnered with National Health Mission Jharkhand to support the efforts Government of Jharkhand in COVID-19 and strengthening the RMNCHA+ services in order to facilitate the reach of specialized healthcare services through masses in rural Jharkhand and isolated communities besides enhancing quality of medical services. Together, TRIF and Intelehealth are providing technical assistance to the National Health Mission, Jharkhand for strengthening the implementation of eSanjeevani in the state.

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Implementation Partners:

Ministry of Health and Family Welfare (MoHFW) National Health Mission, Jharkhand Department of Health, Medical Education & Family Welfare, Government of Jharkhand Center for Development of Advanced Computing (CDAC) Transforming Rural India Foundation (TRIF)

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The Ayushman Bharat - Health and Wellness Centres (AB-HWCs) were launched under the Ayushman Bharat Programme in a bid to move away from selective health care to a more comprehensive range of services spanning preventive, promotive, curative, rehabilitative and palliative care for all ages. The National Health Policy of 2017 envisioned these centres as the foundation of India's health system. These centres deliver a range of comprehensive health care services like maternal and child health, services to address communicable and non-communicable diseases and services for elderly and palliative care. AB-HWCs provide free essential medicines and diagnostic services, teleconsultation, and health promotion including wellness activities like Yoga.

The National Health Mission, Jharkhand is putting its efforts to provide better health outcomes for all, particularly those belonging to marginalized and vulnerable communities. Being the first point of contact for community, the Health and Wellness Centres are the key in achieving this. Among several services to be delivered at the HWCs, tele-medicine is one of the most important aspect. The platform of eSanjeevani has been identified as an effective medium to reach the unreached. During COVID-19, when physically reaching out to the doctors became difficult, need was felt for other alternatives and emergence of eSanjeevani came as the biggest solution.

In the state of Jharkhand, tele-medicine services are being provided in all the districts and it has helped to a great extent in not only reaching the remotest person but also bringing in innovative solutions for improvement in service delivery for better health at the grassroot level.

With the combined effort of the district authorities, doctors, CHOs, ANMs and the development partners eSanjeevani tele-medicine platform is growing strongly in the state. I would like to congratulate Transforming Rural India Foundation (TRIF) and its technical partner Intelehealth for providing technical assistance to NHM, Jharkhand for better implementation of eSanjeevani.

To understand the ground reality and strengthen the services provided by eSanjeevani an assessment was conducted in five districts. The findings and analysis presented in this report depicts the factors that has enabled the strengthening of teleconsultation services in rural Jharkhand in terms of increase in footfall in HWCs, fulfilling patient satisfaction, delivering quality services with reduction in time and expenditure and bringing health service closer to the people. I believe, this insight of the ground implementation, will be helpful in solving ground level issues and ensuring better quality of life for the people of Jharkhand.

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Dr. L. R. Pathak State Nodal Officer, HWC & e-Sanjeevani, Telemedicine Jharkhand, Ranchi

The COVID-19 pandemic shifted the perspective of the world on how it perceived healthcare in many ways. One of the key ways in which there was a paradigm shift was the change in telemedicine laws, especially the pro-active stance taken by the Government of India (GoI) and state governments for leveraging the power of technology to deliver the essential health services to right up to the doorstep of people. The eSanjeevani telemedicine platform is an e-health initiative of Ministry of Health and Family Welfare, GoI. It is a service that strives to provide an alternative to the conventional physical consultations via digital platform.

During the first wave of COVID-19 surge, when the essential health services were disrupted; travel restrictions and the need for social distancing discouraged attendance in healthcare facilities attributed to the fear of contracting infection. Given this scenario, providing healthcare for a large number of populations became crucial and tele-medicine services were emphasized as an alternate way for saving lives. In this background, in April 2020, National Health Mission, Jharkhand under Department of Health and Family Welfare, Government of Jharkhand; Jharkhand State Livelihood Promotion Society (JSLPS), under Department of Rural Development and a consortium of CSOs including Transforming Rural India Foundation (TRIF) came together to conceptualise and implement Jharkhand Integrated Development of Health and Nutrition (JIDHAN) initiative, as an emergency health care response to COVID-19 while creating sustainable long-term capacity for delivering basic services as well as organising such emergency responses in future. As a core strategy to support the efforts of Government of Jharkhand in COVID-19 response and restoring essential health services, activating tele-medicine at the health and Wellness centres through eSanjeevani-HWC and by eSanjeevani-OPD service directly to the patient, was felt to be the need of the hour. As a technical expert Intelehealth was onboarded to extend technological support and technical assistance for rolling out the eSanjeevani services to the last mile.

Since then, TRIF and its technical partner Intelehealth is working with National Health Mission Jharkhand to bring end-to-end solution for activating eSanjeevani services in Jharkhand. At community level with Sahiyya (ASHA) and local women collectives (SHGs) efforts were made to convince people to accept tele-medicine as an alternative for conventional medical consultation system and creating a demand within community. We work together with the Frontline Workers (ANM and Community Health Officer) to activate teleconsultation services at the Health and Wellness Centres (HWCs). The area of work ranges from helping the Frontline Health Workers in creating IDs on the e-Sanjeevani platform, capacity building and handholding support for facilitating teleconsultation. With the district administration we work for onboarding doctors in creating decentralized Hubs. Collaboration has been established with the medical colleges like RIMS, Ranchi, and AIIMS, Deoghar and CIP, Ranchi within the state to provide specialized services. Based on our ground reflections we realised that ensuring availability of drugs to the patient attending tele-consultation is a challenge. Therefore, we worked with NHM, Jharkhand and Health Department for finding solutions. The ground level findings during field visits shared with the district and state level officials as well as the frontline workers helped to improve the reach and guality of services. The consequently generated data has been used and analysed for decision making by competent authorities.

The eSanjeevani AB-HWC model is being implemented with the objective to provide quality health services to a patient residing in rural areas. It is our honour and privilege to be a part of the implementation process of this model to strengthen teleconsultation services in the state of Jharkhand. Our work would not have been possible without the commitment and dedication of the frontline workers, enthusiasm shown by the district officials, guidance and support provided by the officials at NHM Jharkhand.

The study was conducted under the guidance of NHM, Jharkhand to understand the impact made by this collaborative effort. We humbly submit this impact report that has captured the insights between May 2021 to March 2022. We hope that this will enable larger discussions and spur innovations in eSanjeevani and to facilitate comprehensive primary health care services through the telemedicine platform to the remote and unreached populations of Jharkhand and in India.

Shyamal Santra Lead-Public Health Transforming Rural India Foundation (TRIF) Dr Neha Verma, BE, PhD CEO, Cofounder Intelehealth Dr Shilpa Bhatte, MBBS, MD Chief Program Officer Intelehealth

EXECUTIVE SUMMARY

The government of Jharkhand has adopted a web-based comprehensive telemedicine solution – eSanjeevani - to extend the reach of specialized healthcare services to masses in both rural areas and isolated communities. eSanjeevani Jharkhand is supported by two models of implementation – eSanjeevani OPD and eSanjeevani AB-HWC (Ayushman Bharat - Health and Wellness Center).

Intelehealth (IH) as a technical partner of Transforming Rural India Foundation (TRIF) and Jharkhand State Government's Health Department, are the key implementation agencies for eSanjeevani with a focus on strengthening the **eSanjeevani AB-HWC model** with the following activities: 1) Network creation 2) Supply side strengthening 3) Demand side strengthening and 4) Quality assurance

The following report shares the impact of the implementation support extended by the TRIF – Intelehealth team from May 2021 to March 2022. The inputs provided were:

- i) Registration, activation and monitoring of hubs and spokes with teleconsultation analytics
- ii) Capacity building of health providers, CHOs (community health officers) and doctors, on eSanjeevani and allied modules to strengthen the teleconsultation service provision
- iii) Post training support to the health providers technology, clinical and public health
- iv) Provider engagement to motivate and encourage the health providers to initiate and invest in eSanjeevani and increase acceptability of telemedicine
- v) External doctors' support through a public private partnership model as an initial catalyst
- vi) Advocacy, review and timely reporting for robust discussion, brainstorming and decisions taken by the government officials to further strengthen teleconsultation services

Key results:

- Total teleconsultations enabled during the evaluation period of this report was 1,75,490 with a 1000x increase in teleconsultations from **50 teleconsultations per month in May 2021 to more than 50,000 teleconsultations per month (as of June 2022).**
- Overall, we estimate that the presence of the telemedicine facility saved 21.59 km in distance travelled and INR 941.51 on money saved on average per visit per health visit
- Treatment compliance was 96.5% among those with a prescription or medical advice
- 87.61% clients received medicine at the health and wellness center (HWC)
- 60% patients reported having entirely recovered from their health problems, 25% reported partial recovery
- The CHO was the main driver for opting into the teleconsultation with 36.2% clients choosing to do so on advice of the CHO
- The acceptability of providers towards telemedicine was high, Overall score of 4.01 out of 5 among community health officers and 3.9 out of 5among doctors from the system

This report focuses on overall activities and results of the implementation support provided by Intelehealth – TRIF partnership to the government of Jharkhand to strengthen teleconsultation services in Jharkhand. The report presents the inputs, activities, outputs, and outcomes of our implementation strategy to further strengthen eSanjeevani teleconsultations.

A number of existing challenges were identified along with recommendations for strengthening the program overall. The key recommendations moving forward include community demand generation and promoting acceptability of telemedicine through ASHAs, Pachayati Raj Institutions and Civil Society Organizations; resolving shortages of doctors through public-private partnerships; improving digital infrastructure at HWCs such as availability of tablets, laptops and internet connectivity; and monitoring & improving the quality of services delivered over telemedicine. In addition, further health impact and outcome evaluation studies need to be planned to better understand the impact of eSanjeevani. Scope for future work includes to assess the social return on investments, impact of the eSanjeevani telemedicine platform on various public health programs for non-communicable diseases, tuberculosis, nutrition and maternal & child health.

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GLOSSARY

AB-HWC	Ayushman Bharat - Health and Wellness Center
ANM	Auxiliary Nurse Midwife
ASHA	Accredited Social Health Activist
AWW	Anganwadi Worker
BPM	Block Program Manager
CDAC	Centre for Development of Advanced Computing
СНС	Community Health Center
СНО	Community Health Officer
COVID	Corona Virus Disease
DH	District Hospital
DM	Diabetes Mellitus
DPM	District Program Manager
FLW	Frontline Health Workers
HBNC	Home Based Newborn Care
HT	Hypertension
HW2D	Health Worker to Doctor
HWC	Health and Wellness Center
IEC	Information Education and Communication
IH	Intelehealth
INR	Indian National Rupee
MBBS	Bachelor of Medicine Bachelor of Surgery
MIS	Monitoring and Information System
MNCH	Maternal, Neonatal and Child Health
МО	Medical Officer
MOIC	Medical Officer in Charge
NCD	Non-Communicable Disease
NHM	National Health Mission
OBC	Other Backward Class
OPD	Outpatient Department
PEU	Perceived Ease of Use
PHC	Primary Health Center
PIP	Project Implementation Plan
PPP	Public Private Partnership
PU	Perceived Usefulness
SBCC	Social and Behavior Change
SC	Sub-Center
SC	Scheduled Caste
SOP	Standard Operating Protocol
ST	Scheduled Tribe
TRIF	Transforming Rural India Foundation
WHO	World Health Organization

Introduction

Equitable delivery of healthcare services is a major goal for the public health system in India. Health systems in the country continue to struggle in the face of the magnitude and diversity of the population it aims to serve. Even though India is the second-most populous country in the world with a population of more than 120 crores¹, the number of doctors to cater to this population is not equally high. The World Health Organization (WHO) recommends a doctor–population ratio of 1:1000² in India, while the current doctor-population ratio is only 0.62:1000.³ In addition, there is a concentration of healthcare facilities in the cities and towns (including 75% of the population of doctors), away from rural India, where 68.84% of the national population live⁴. Due to this fact, adequate and equitable distribution of healthcare services in rural areas continues to be a challenge.

There are multiple disease burdens - from non-communicable diseases, maternal and child health problems, infectious diseases and re-emerging diseases which continue to plague the Indian health system.^{5,6,7} It is challenging to respond to these burdens because of the nation's limited public health infrastructure and human resources, socio-cultural diversity, and rural-urban divide.^{8,9} Numerous studies have also pointed to the disparities in access, availability, utilization, and quality of health services provided across the country, but more so in rural contexts. The Indian rural health care system is a threetier system comprising Sub-Centers, Primary Health Centers (PHC), and Community Health Centers (CHC). There is a shortfall in health facilities: 18% at the Sub-Centre level, 22% at the PHC level and 30% at the CHC level (as of March 2018)¹⁰. Overall, there is a shortage of specialists working at the CHC level (81.9%). This includes a shortage of surgeons (84.6%), obstetricians & gynecologists (74.7%), physicians (85.7%) and pediatricians (82.6%)¹¹. The health care services and systems in rural India are still developing and have challenges of workforce shortages, absenteeism, poor infrastructure and quality of care. ¹² Despite the National Health Mission and Government's commitment, adequate and affordable healthcare is still a mirage. The healthcare system in rural India faces a chronic shortage of medical professionals which is detrimental to the rural health system in terms of the quality and availability of care for rural people. According to the Government of India's rural health data, roughly 10.4 % of the sanctioned posts of auxiliary nurse midwives, 40.7 % of male health professionals' postings, and 27% of doctor positions at Primary Health Centers (PHCs) remain vacant. Furthermore, healthcare costs are a major source of poverty⁴. The public sector provides healthcare at a low or no cost, but it is viewed as unreliable and of variable quality resulting in a preference for seeking care from the private sector resulting in high out of pocket expenditures for the rural & urban poor.

Health System Scenario in Jharkhand

Jharkhand is the 14th largest state in the country with a population of over 3.2 crore scattered over 24 districts. It is primarily a tribal state, with only 24% of the population living in cities. Around 27% of the total population comprises the indigenous tribes; 91% of whom reside in rural Jharkhand concentrated majorly in Gumla, West Singhbhum, and Lohardaga districts. Approximately 40% of the state's population continues to live under the poverty line which challenges improving the standard of living of the masses and prevents people from accessing proper nutrition, healthcare, and education. As most of the population lives in remote rural areas defined by forested land and hilly terrain, access and availability to quality health facilities remain a challenge despite the presence of the health care delivery system by the government. The rural

¹ <u>http://censusindiagovin</u>

² Density of physicians [Internet]. World Health Organization. <u>https://www.who.int/gho/health_workforce/physicians_density/en/</u>

³ Doctor patient ratio in India [Internet]. 164.100.47.190. 2018. <u>http://164.100.47.190/loksabhaquestions/annex/12/AS86.pdf</u>. ⁴ http://censusindia.gov.in/2011-prov-results/paper2/data_files/india/Rural_Urban_2011.pdf.

⁵ Kasthuri A. Challenges to Healthcare in India - The Five A's. Indian J Community Med. 2018 Jul-Sep;43(3):141-143. doi: 10.4103/ijcm.IJCM 194 18. PMID: 30294075; PMCID: PMC6166510.

⁶ Narain JP. Public Health Challenges in India: Seizing the Opportunities. Indian J Community Med. 2016 Apr-Jun;41(2):85-8. doi: 10.4103/0970-0218.177507. PMID: 27051080; PMCID: PMC4799645.

⁷ K.D. Rao, D.H. Peters Urban health in India: many challenges, few solutions Lancet Glob. Health.

⁸ Combating emerging infectious diseases in India: orchestrating a symphony J. Biosci., 33 (4) (2008)

⁹ Healthcare in India- Vision 2020: Issues & Prospects: Planning Commission of India (2010)

¹⁰ Statistics Division, Ministry of Health & Family Welfare https://data.gov.in/catalog/rural-health-statistics-

^{2018?}filters%5Bfield_catalog_reference%5D=6680151&format=json&offset=0&limit=6&sort%5Bcreated%5D=desc

¹¹ Health Management Information System, Government of India. Highlights.

¹² Health Management Information System, Government of India. Highlights.

communities in Jharkhand face a plethora of communicable and non-communicable diseases, malnutrition, infant and maternal mortality and morbidity, etc.

Furthermore, Jharkhand continues to face an acute shortage of health personnel. Jharkhand has only six doctors per lakh population and 85% of its specialist doctor posts are lying vacant. As per the health system review conducted by the state government in 2020, there is a gap of 3,130 health sub-centers; 769 primary health centers; 87 community health centers in the state as per Indian Public Health Standards. Furthermore, the report states that there are six doctors, 1 lab technician, and around three nurses per lakh of population in Jharkhand. The availability of specialist doctors is even more destitute as out of 994 positions allotted by the state, 860 remain vacant.¹³



State Map of Jharkhand

¹³ https://indianexpress.com/article/india/jharkhand-health-review-flags-doctor-shortage-lack-of-access-7090181/

Health system pyramid



eSanjeevani Jharkhand

Telemedicine is an important tool that can improve the delivery of healthcare services using information and communication technologies for the exchange of valid information for the diagnosis, treatment, and prevention of disease and injuries, and for task-shifting from doctors to other healthcare providers in rural settings.

In the context of Jharkhand, telemedicine presents an opportunity to enhance the access and quality of health services available to providers. By connecting patients to providers through video or audio, it has enabled individuals to benefit from remote consultations – thereby eliminating the need to travel long distances resulting in saving both time and money. The government of Jharkhand has adopted a mobile & web-based comprehensive telemedicine solution called eSanjeevani to extend the reach of specialized healthcare services to masses in both rural areas and isolated communities. Besides enhancing the quality of medical services and addressing issues about uneven distribution and shortage of infrastructural as well as human resources, eSanjeevani also aims to make healthcare services access equitable.

eSanjeevani platform is developed by the Centre for Development of Advanced Computing (C-DAC) and was launched nationally by the Ministry of Health and Family Affairs on 13th April 2020. The Government of Jharkhand launched the platform on 1st May 2020 in order to extend the reach of the delivery of contactless, risk-free and safe health services. It has two models of implementation to make health service consultations available to the general public. The program is supported by two platforms – an OPD application and a health worker to doctor (HW2D) platform – to support remote diagnosis and treatment.

- eSanjeevani OPD Patient-to-Doctor Model android application as well as a browser-based platform. This can be
 used by patients directly to contact the doctor. This platform uses a token and queue-based system and allows
 patients to access free virtual video and audio consultations with doctors.
- eSanjeevani AB-HWC (Ayushman Bharat Health and Wellness Center) It is a Health worker-to-doctor platform, implemented at the Health and Wellness Centers in a Hub and Spoke model. HWC is the Spoke and the CHO has been registered here to consult with doctors based at PHC/CHC/District Hospitals and Medical Colleges. Doctors are onboarded in the Hub who receive the referred patients' cases and provide them with teleconsultations. It is a browser-based platform and can be used through tablets/Smartphones /PCs.

eSanjeevani HWC process flow



eSanjeevani OPD process flow





Implementation support provided by Transforming Rural India foundation (TRIF) – Intelehealth (IH) partnership to Government of Jharkhand

Jharkhand's Health Department introduced eSanjeevani AB-HWC and OPD during the COVID-19 pandemic. At the outset, there were several challenges to the state's implementation of both models. In the initial stages of the state having implemented eSanjeevani OPD - the number of people using the system was less, likely due to the lack of know-how in using smartphones and the application itself. Even though, telemedicine was made to make access to health services better the application was not reaching the most vulnerable. To support the state to take this initiative to the most remote location it was recognized that it is important to set up a model where CHOs, ANMs and SHG members can facilitate teleconsultations on behalf of the clients.

It was identified that despite the state fulfilling its target of creating 772 HWCs by 2021, service delivery at HWCs was yet to be initiated as per envisaged standards. To increase community demand and utilization of services at HWCs, service delivery had to expand beyond the provision of maternal, neonatal and child health services (MNCH) and maternal, infant and young child nutrition (MIYCN) services to include regular OPD, good quality NCD screening and follow-up and availability of Telemedicine to increase patient footfall at HWC. To initiate telemedicine services, it was also important to resolve technical issues in the platform, uplift the technical and managerial capacity of the state, and train CHOs to use the platform to the best of their ability. Furthermore, to gain traction the number of consultations conducted each month had to be increased, which were far short of the state's intended target reach. Some of the main reasons for this were the lack of patient awareness about teleconsultation facilities and insufficient training of CHOs about the platform.

The opportunity cost of not solving these issues included high costs of travel and availing services at hospitals for patients, long waiting times at government and private hospitals for specialist consultations; investments in setting up the telemedicine program would not deliver the expected social return on investment, resulting in sunk costs; and high risk for patients due to the lack of well-functioning telemedicine service - resulting in patients either traveling to OPDs in hospitals and exposing themselves to infection risk during the COVID-19 pandemic. Moreover, if patients come for services but they are not able to connect with a doctor; or if doctors and CHOs are on-boarded but there are not enough patients, there is a risk that both sides may drop out and stop using the platform over time. The value of the system is highest when demand and supply are properly matched. To support NHM and CDAC's common mission and investment in improving health access for patients - Intelehealth was brought in as a technical partner through TRIF to accelerate the implementation and uptake of eSanjeevani across the state.

Intelehealth serves as a key implementation agency, maintaining close coordination and interaction with CHOs, block and district health authorities, and TRIF. It assists through implementation support and assistance by engaging with health providers, government bodies and TRIF to tackle challenges and barriers related to implementation. TRIF and Intelehealth, along with Government of Jharkhand piloted the implementation plan in 5 districts (Ranchi, Gumla, Lohardaga, Simdega and Khunti) – between February 1st and July 30th 2021. Since August 1st, 2021, the scope of work was extended to the entire state.

As of January 1st 2022, Intelehealth in coordination with TRIF has taken the mandate to provide statewide support and provides the following support:

- I. Facility readiness (health and wellness centers HWCs)
 - a) Registration and activation and ongoing monitoring

II. Provider readiness (Community health officers – CHOs and doctors)

- a) Capacity building (Trainings) knowledge and information on eSanjeevani
- b) User support and handholding
- c) Provider engagement
- d) External doctor support

III. Ecosystem readiness

- a) Advocacy (through TRIF) with Government through timely reporting and feedback
- b) Review meetings



Implementation support provided by TRIF – Intelehealth partnership to Government of Jharkhand

Timeline of Activities – Implementation support by Intelehealth -TRIF partnership



An outcome evaluation was conducted to better understand the perceived impact of eSanjeevani telemedicine platform on communities and clients. The pilot was conducted in the five districts of Ranchi, Khunti, Lohardaga, Gumla and Simdega. Thus these districts had received the intervention for the longest time period and the intervention had reached a steady state, hence, the study was conducted in these districts.

This study aimed provide a mid-point evaluation of the progress against the goals of this project:

- Activation of eSanjeevani telemedicine services at Health and Wellness Centers (HWCs), establishment of hubs, spokes and virtual OPDs
- Increasing adoption of telemedicine among health care workers (CHOs) and doctors
- Increasing adoption of telemedicine among patients
- Improving the capacity of the state machinery to better deliver health care services
- Improvement in patient's health
- Reduction in time, money and effort spent to access healthcare

Methodology and Design:

The study adopted a mixed methodology – combining qualitative and quantitative measures. Quantitative data from routine internal monitoring data will be used to assess outcomes and other key indicators related to implementation. Qualitative inquiries using semi-structured schedules will be conducted with purposively sampled groups of providers and clients to assess their acceptability and document their perspectives on the use of the platform and delivery of services. The combination of these methods will be instrumental in unpacking factors affecting the realization of outcomes.

Theory of Change



Aim: To assess the effectiveness of eSanjeevani telemedicine platform from the perspective of the health providers and clients.

Objective 1: To monitor progress in implementation towards

- 1. Improvement in the availability of doctors and medical services in the region
- 2. Improvement in capacity building of health providers in the state
- 3. Increase in health service consultations enabled

Objective 2: To assess the impact of this model on

- 1. Geographic accessibility (distance traveled and time taken to access care) for patients
- 2. Financial accessibility (money spent to access care) for patients
- 3. Quality of health services provided
- 4. Acceptability of telemedicine as a healthcare service model

Objective 3: To identify key insights on adoptions, acceptability, and perception of patients towards telemedicine

Research Question	How has eSanjeevani improved the availability of health providers to the population?	How has eSanjeevani improved access and quality of health services available to the population?	What are the users' (patients & providers) perception regarding telemedicine and the impact of services delivered through telemedicine?
Areas of Interest	 Improved availability of qualified health providers Increased health service consultations enabled Improved adoption among health providers 	 Teleconsultations completed Population reached through IEC activities Increase in types of health issues addressed and doctor consultations through telemedicine Reduction in cost incurred by patients Reduction in distance traveled in seeking care 	 Improved patient satisfaction Barriers and facilitators to adoption and sustained use for patients Barriers and facilitators to adoption and sustained use for providers Usability of the teleconsultation platform for patients & providers
Sampling	 Sub-sample of health providers (Semi-Structured Interviews) Internal Monitoring Data 	 Sub-sample of patients (Semi- Structured Interviews) Internal Monitoring Data 	 Sub-sample of patients (Semi- Structured Interviews) Sub-sample of health providers (Semi-Structured Interviews)
Data Source	 Implementation and monitoring data MIS data Data from eSanjeevani Surveys with health providers 	 MIS data Data from eSanjeevani Survey with patients 	 Surveys with patients Surveys with providers

Study design and selection:

- A. Client data was collected through interviews with **500 clients** using a structured questionnaire:
 - First the five districts were purposively selected (to see the outcomes in the five pilot districts)
 - Within each of the districts, five health and wellness centers (HWCs) were randomly selected with a total of 25 HWCs across the five districts.
 - The inclusion criteria for the selection of the HWCs was a minimum of 30 consultations since the activation of the facility – to ensure that we were able to reach a sufficient sample size to survey enough respondents who went through a teleconsultation.
 - At each facility, twenty respondents were randomly chosen. The sample was further stratified to ensure that we had
 an equal representation of males and females hence at each facility 10 female and 10 male respondents were
 selected.

The proposed sample is scientifically calculated to provide an estimation of key outcomes for the whole target population with 95% confidence level. We propose to use this sample because it will provide us robust estimate of the outcomes with much less resource requirement at the project level.

The sample size for the monitoring and evaluation of the program has been calculated using the following formula:

$$n = \frac{DZ^2P * Q}{E^2}$$
$$n = 461$$

Such that

- n = Sample
- D = Design Effect (1.2)
- Z = The z- score corresponding to confidence interval of 95% (1.96)
- *E* = Maximum Error allowed (0.05)
- P = Proportion of population to be estimated (0.5)
- Q = 1 P(0.5)

Therefore, the minimum sample required was 461 respondents, which was further inflated by approximately 10% to account for non-response.

B. Health provider data

A semi-structured questionnaire was sent to all available community health officers (CHOs) and doctors in the five districts:

- A total of 187 CHOs and 44 doctors were approached, out of which **119 CHOs and 13 doctors** responded
- Five high-performing HWCs (one from each district) and five low-performing HWCs (one from each district) based on a total number of consultations were selected
- At each of these facilities, the CHO, and one male and one female client were selected (based on convenience) for in-depth interviews.

C. Qualitative data

We conducted in-depth interviews with 10 CHOs and 20 clients across 10 health and wellness centers across the five selected districts. To ensure maximum variation in our responses, we purposively selected the best and worst performing facility (in terms of no. of teleconsultations completed in 2021-22) within each district. From each facility, we conducted the interviews with the CHO, and purposively selected one male client and one female client (above the age of 18) for our sample. The selection of clients was purposive to cover multiple consultation types such as hypertension, diabetes, pregnant women, mothers of newborns, fever, body pain, and skin issues. No further interviews were planned, as the qualitative data collected from both clients and CHOs had reached saturation.

Limitations of the study: The study was conducted to ensure equal geographical representation across the five districts. While the sample was calculated to obtain a project-level estimate – it will be unable to provide a district-level estimate. The findings from this study are indicative, but may not be generalizable to the rest of the state. The acceptability survey for health providers could only be analyzed for available health providers - while the objective was to enumerate all CHOs and doctors. Not all CHOs and doctors could participate. Unavailability of the health workers due to absence, prior engagements and instances of local political conflict/riots deterred the team from completing the survey with all providers that have consulted on the eSanjeevani platform which increases the bias of the findings. Lastly, to ensure that we were able to get responses from at least 20 clients for the client follow-up survey, HWCs were selected that had completed at least 30 consultations were selected (to ensure that we had a sufficient sample size – accounting for the possibility of non-response). In doing so, we have missed including the worst performing facilities that have completed fewer than 30 consultations in the past year – which may bias our findings.

Findings from program monitoring data:

I. Health Facility readiness:

Input → Registration and Activation (Spokes and Hubs): Early registration and activation of facilities was vital to ensuring facility readiness and to ensure that eSanjeevani gains the necessary momentum to start teleconsultations. Intelehealth

supported the registration and activation of HWCs across the five pilot districts and as of June 2022, 89.2% of targeted HWCs have been registered and 75.2% have been activated in the five pilot districts.

Overall, 87% targeted spokes are registered and 64% of those are activated which is a huge component in ensuring facility readiness for conducting teleconsultations.

Districts	Districts Targeted Registered Active HWC Spokes Spokes		Targeted Spokes Registered (%)	Registered Spokes activated (%)	Targeted Spokes Activated	
Pilot Districts – IH (5)	399	357	300	89.2%	84.3%	75.2%
Statewide scale up - districts (19)	1389	1137	944	80.1%	84.1%	68%
Total – 24 districts	1788	1494	1244	83.6%	84.2%	69.6%

Outcome → The figure below represents the number of months that the districts have been actively conducting consultations under eSanjeevani. Four out of five pilot districts have been active the longest, providing teleconsultations since May 2021. Furthermore, the majority of districts started consultations after September 2021 in the state-wide deployment phase, as Intelehealths support expanded pan Jharkhand.



Districts conducting consultations for longest number of months since May 2021 eSanjeevani Jharkhand (as of June 2022)

Graph 1: Number of districts actively conducting consultations - 4 out of 5 districts in the pilot phase have been the active longest since May 2021 (from time of intervention through implementation support)

Capacity building sessions for health providers conducted by the Intelehealth and TRIF team









II. Health Provider Readiness:

#	Session	Where	Who	Why	What (Agenda)	Sessions conducted
1	Orientation & Advocacy workshop	Block (in person or online)	CHOs, BPM – Block Program Manager, Doctors (MO/MOIC)	Stakeholders at the block level were not present in the district level meetings	Share current status with stakeholders Share existing challenges with stakeholders ex. Doctor availability, CHO duty allocation Practical aspects of eSanjeevani consultation	Total →8 sessions 3 sessions in person 5 state level online sessions (Jul – Nov 2021)
2	Video conferencing (VC)	Online	Mission Director, State Nodal officer (eSanjeevani), District health officials (program manager, nodal officers, program managers)	To ensure political will and support from the state level to support and motivate district level officials to initiate eSanjeevani consultations	Including state level functionaries and showcase their support to the mandate of fostering eSanjeevani teleconsultations	<mark>5 sessions</mark> (May – Dec 2021)
3	Trainings Induction: Refresher:	District & State (**phygital – in person or digital) 19 virtual - Zoom 18 in person	Community health officers (CHOs) and Doctors	To orient the health providers to the eSanjeevani platform so that they facilitate teleconsultations	Background of telemedicine and eSanjeevani How to create community awareness Role of CHOs and ANMs Demonstration on use of the eSanjeevani platform	District level (17) Induction: 41 batches Refresher: 21 batches (May 2021 – June 2022) State level (2) (May, July 2021)
4	Review meetings/ visits	In-person & Online for state/districts	Health providers (CHOs & Doctors) associated with the eSanjeevani platform	To conduct review of the existing the health providers and provide additional inputs to improve their output	Share current status of the teleconsultations supported by the health providers (month-wise) Identify gaps and address challenges through solution-oriented approach	7 review meetings/visits (May – Dec 2021)
5	Monitoring visits (3-day visit)	Block and district level	Engaging with district level officials and meeting CHOs and doctors (backend doctors)	To better understand the current challenges faced by the CHOs to conduct a teleconsultation	Understand the current challenges faced by the CHOs in enabling a consultation and handholding the frontline workers by connecting them with the concerned backend doctors	7 monitoring visits to the pilot districts (Sep 2021 – March 2022)

Input -> Capacity building: (May 2021 – June 2022) The Intelehealth team and TRIF have conducted and supported the following capacity building sessions:

**Depending on the local COVID-19 guidelines – trainings were conducted online to ensure prevention of infection transmission

Number of training sessions and number of health providers trained by Team Intelehealth (Apr 2021 – May 2022)

- Induction trainings: Intelehealth has trained over 1381 CHOs and 574 doctors at the district level.
- **Refresher trainings: 200 CHOs and 27 doctors** through online state level training (which also had attendance by CHOs across the state)



Graph 2: Number of community health officers (CHOs) trained at district level by Intelehealth (May 2021 - June 2022)



Trainings conducted by Intelehealth for community health officers in 5 pilot districts eSanjeevani Jharkhand, Apr - Dec 2021

Graph 3: Number of trainings conducted by Intelehealth for CHOs in 5 pilot districts of Jharkhand (Apr -Dec 2021)



Dristict-wise 463 doctors were trained by Intelehealth eSanjeevani Jharkhand, May 2021 - June 2022

Graph 4: Number of doctors trained at district level by Intelehealth (May 2021 - June 2022)



Intelehealth trained a total of 111 doctors at 6 Hubs eSanjeevani Jharkhand, May 2021 - June 2022

Graph 5: Number of doctors trained at the Hubs by Intelehealth (May 2021 - June 2022)

Input → Post training support to the health workers for transitioning to the eSanjeevani platform

Post training support and user support has helped CHOs in quickly adjusting to using the platform. In some cases, COVID-19 and vaccination duty has prevented CHOs from attending some of the trainings. Some CHOs struggled to grasp how to do teleconsultations after the initial training, but ongoing feedback from the Intelehealth team, who promptly answered their questions has helped significantly. They specifically require support when the application crashes or they have trouble navigating through the application. Through this ongoing support - most CHOs now find eSanjeevani an easy to use and convenient platform.

149 561	4 user IDs have been created for commu user IDs have been created for doctors	inity health officers (CHOs)
#	Gaps identified	Solutions offered
1	Shortage of doctors	Timely reporting on the ground status to the State Nodal officer (through TRIF) for timely action on deputing doctors
2	Internet connectivity – we observed that the CHOs were not being provided with a dedicated internet connection or devices to conduct a teleconsultation – this is the biggest rate limiting step as the cost is being incurred by the CHO (~300 INR/month)	Trouble shooting on the current sim-card and network operator used in a specific geographic region making required suggestions for optimum network example: Emphasis on identifying a sim card that is best suited to function at the HWC level Information on clearing cache and browser cookies was received from the CHOs through a whatsapp channel by sharing screenshots or through individual sessions with Intelehealth team members
3	Adoption of the platform by the CHOs	Actively reaching out to 5 CHOs atleast per day to review and understand pain points: Current responsibilities and information on the work planned Information on how to best utilize the eSanjeevani platform and constant provider engagement plan as discussed below in detail
4	Engagement of CHOs in COVID-19 duties	Extensive support on mobilizing the CHOs the TRIF District Fellows need to be appreciated (especially in Khunti district): Meetings with civil surgeons and district program managers during district monitoring visits – highlight the need to allocate the CHOs to eSanjeevani consultations, highlight how their COVID-19 duties need to be decreased based on decrease in COVID-19 morbidity

Motivational messages shared with health providers (frontline workers and doctors) via Whatsapp:







Input → Provider Engagement through daily motivational messages using Whatsapp

#	When	Where	Who	Why	What (Agenda)	Sessions conducted
1	Initial phase	Online whatsapp	<i>Early</i> <i>adopters</i> (CHOs, Doctors)	Motivation Appreciation Positive deviance	Appreciation messages Achievements per CHO/Doctor	Based on individual performance and daily
2	Ongoing	Online whatsapp	Doctors	Doctor engagement through positive deviance	Leadership boards highlighting the lead consultations of top performing doctors	Based on individual performance and daily
3	Ongoing	Online Review meeting (Google meet/whatsapp)	CHOs	CHOs having ongoing issues with online consultations	Real time support to identify issues (tech related) and offer solutions	As and when multiple issues were identified for a CHO
4	Specific review	Online – telephonic call	Randomly selected group of 5 daily (CHOs/BPMs/ Doctors)	Relation building with field level stakeholders	Addressing issues and gaps Offering solutions – timely manner	Random selection on a daily basis

Motivational messages shared with health providers (frontline workers and doctors) via Whatsapp:



Input → Backend doctor support through a Public Private Partnership (PPP) model:

Public Private Partnership Model:

To support the health system externally with backend doctors, Intelehealth supported doctors/specialists through a publicprivate partnership model. The external backend doctors were required to initiate teleconsultations on the eSanjeevani platform as availability of back-end doctors were constrained in the system.

These doctors were able to support and add a "push factor" to the initial momentum gained from capacity building and motivation of the community health officers (CHOs) to initiate teleconsultations. This helped gain the CHOs trust as they were confident about backend doctor support – this acted as a catalyst and as momentum increased (number of teleconsultations increased), the political will and advocacy helped the health system to support with its own internal doctors.

Output → Consultations Completed: As of June 2022, a total of 1,75,490 teleconsultations have been conducted for eSanjeevani HWC. 5 doctors from team Intelehealth contributed to 14687 (8.3%) of the total teleconsultations as of June 2022.

Between May 2021 and September 2021, 40-50% of total consultations completed across Jharkhand were from the pilot districts. We see an increase in the proportion of consultations of the remaining districts only after September 2021, once the mandate for Intelehealth expanded to other districts.

This corroborates with the expansion in implementation activities in rest of the districts, which have significantly contributed in ensuring readiness of CHOs to conduct teleconsultation. Capacity building, combined with handholding and troubleshooting and applying learnings from the pilot districts helped build momentum necessary for an exponential increase in teleconsultations across the state.



Graph 5: Total number of teleconsultations conducted across Jharkhand – month-wise data (May 2021- June 2022)



Graph 6: Total number of teleconsultations conducted across Jharkhand – cumulative data (May 2021- June 2022)



Graph 7: Total number of teleconsultations completed per district (May 2021- June 2022)



Proportion of total teleconsultations in focus and scale up districts - eSanjeevani Jharkhand May 2021 - June 2022

Graph 8: Proportion of total teleconsultation focus districts and scale up districts (May 2021 to Jun 2022)



Graph 9: Month on month proportion of teleconsultations in pilot districts and scale up districts (May 2021 – Jun 2022)

In the initial months of the project, majority of the consultations were being completed in the five districts of Ranchi, Gumla, Lohardaga, Simdega and Khunti where implementation by Intelehealth was focused. As the implementation strategies were scaled to the remaining districts, there is a gradual increase in consultations from other districts. Graph 8 and Graph 9 describe the change in proportion of teleconsultations as the project matured over the course of one year.

Findings from the primary study:

- A. Client follow-up survey: The quantitative survey was conducted among the 500 clients who used the eSanjeevani HWC platform for the following parameters:
- 1. Repeat usage: The eSanjeevani platform had been used by 68% of respondents once, of which 19% had used it twice, and only 12% had used it more than twice.
- 2. Income: Users of the eSanjeevani telemedicine services reported the following annual incomes,
 - 55%, (n=277) below Rs. 30,000 per annum
 - 27% (n=135) between Rs. 30,000 to 50,000 per annum
 - 14% (n=69) more than Rs. 50,000 per annum
- 3. Primary occupation of respondents:
 - Daily wage labor (35%, n=177), Seasonal labor (22%, n=111), Agricultural wage labor (20%, n=100)

It was important to note that a total of 404 clients (~81%) were employed in the informal sector and **453** (~91%) belonged to households below the poverty line¹⁴, indicating a high proportion of individuals from economically vulnerable groups using the service.



- Caste: Predominantly, clients belonged to other backward class (OBC 45%, n=227) and Scheduled Tribe (ST 43%, n=218). Of the surveyed clients, SC 5.2% (n=26) belonged to the scheduled caste, 5.6% (n=28) belonged to General Category, and 1 respondent refused to answer the question.
- 5. Socio-demographic profile of clients is consistent with the population trends as Jharkhand's rural population is predominantly tribal. The bulk of individuals belonging to scheduled tribes live in Simdega (72%) Gumla (70%) West Singhbhum (66%) and Lohardaga (56%) districts, according to district-level data. In the districts of Lohardaga and Paschim Singhbhum
- 6. Socio-economic profile of the clients that have used the telemedicine platform. 45.4% (n=227) of the respondents were between the age of 35-40 years, 29.2% (n=146) were between the ages of



¹⁴ Calculated based on issue of BPL card by the state government

and 35 years and only 9.4%(n=47) were over 60 years old. 167 of the 500 (33%) clients surveyed could not read or write, and just 17% (85) had finished high school and middle school.

- B. Telemedicine symptoms addressed: Findings from the qualitative interviews with clients show that teleconsultation is preferred for health issues requiring primary level care and advice on noncommunicable diseases (NCDs).
 - Most common complaints were cough, cold, body/joint pain, and follow-up for Hypertension (HT) and Diabetes Mellitus (DM).
 - When asked about their experience, clients shared that they underwent examination at HWC first, where the CHO recorded the client's medical history and documented health parameters such as blood pressure, glucose level and weight.
 - Consultations with doctors either resulted in a prescription for medicine, nutrition counseling (especially for Hypertension and Diabetes) or follow-up with the CHO to monitor "sugar" levels and blood pressure
 - Many respondents shared that the doctors were able to explain the health problem in detail and the time spent during the consultation was satisfactory. The presence of the CHO helped in clarifying any doubts regarding their treatment. Based on the consultation, many of the clients were able to receive the required medicines at the HWC and some also received follow-up visits.

In-depth interviews with CHOs helped them share that they believe that surgical interventions can be addressed via teleconsultation especially in getting immediate referrals if required. Health issues such as bodyache, headache, fever, skin infections, diarrhea, Hypertension, Diabetes, and gynecological problems can be treated easily through teleconsultation. According to CHOs, video consultation improves the quality of interaction and enables doctors to observe and understand the patients' needs. **CHOs role as a mediator during the consultation** is to help doctors and clients overcome language barriers and counsel the clients after the consultation through subsequent follow-up visits.

- C. End outcome of teleconsultation visit: As reported by the respondents,
- 1. A full prescription was provided to 87% respondents while about 7.6% (n=38) had a scheduled follow-up visit. Among those that received a prescription, ~88%(n=383) of the clients were able to receive their medication at the HWC. In such cases, clients had to rely on purchasing the medicines from pharmacies.
- 2. Treatment compliance was 96.5% among those with a prescription or medical advice. However, referral compliance was relatively low. Out of the 500 clients, 437 cases were provided with an inperson referral to government doctors → 258 out of the 437 individuals referred actually went for an in-person consultation. High referral rate could be standard protocol adhered to by the doctors (by training) and hence capacity building and legal support on "when and why" to provide necessary referrals is required for health care professionals as they transit to telemedicine.



3. As per patient-reported outcomes:

302 clients (60%) reported having entirely recovered from their health problems

- 127 clients (~25%) reported partial recovery with some symptoms still persisting
- 54 out of 500 clients developed further complications, while 7 reported not having recovered at all A majority of the clients, despite opting for teleconsultation, continue to rely on other health providers (private doctors and alternative medical practitioners) for medical recourse. Overall, 54% (n=270) of the 500 clients interviewed consulted an additional health provider in spite of completing a teleconsultation. We did not find any correlation between reported health improvement and intention to consult another health provider as ~53% (n=160) of completely recovered individuals, ~73% (n=93) of partially recovered individuals, and ~74% (n=40) of clients who developed further complications were already consulting with another provider.

Continued reliance and confidence on private providers and barriers in access to government providers could explain the low referral compliance rate. Barriers were mostly pertaining to access and affordability (explained in detail in the qualitative interviews section).

Approximately 65% (n=162) of male respondents and 56% (n=140) of female respondents stated they had entirely recovered from the illness for which they had contacted the health provider. Additionally, demographic characteristics like gender and caste were cross-tabulated to determine if there were any distinct trends, however, no statistical association was found. Among those who were completely recovered, 75% did not consult any other health provider apart from telemedicine. 34% of respondents sought additional advice, out of the 25% who claimed to have partially recovered with some concerns still persisting.

Symptom/s recovered		Consult	ed any o	ther heal	th provide	r
	No (N)	No (%)	Yes (N)	Yes (%)	Total (N)	Total
Completely recovered	172	75%	130	48%	302	61%
Somewhat recovered – persisting issues	35	15%	92	34%	127	25%
Developed further complication	14	6%	40	15%	54	11%
Can't say	4	2%	6	2%	10	2%
Not recovered at all	5	2%	2	1%	7	1%

- **D.** Reasons for choosing telemedicine: CHOs are the primary drivers for increasing the community demand for telemedicine:
 - 36%(n=180) of respondents chose telemedicine based on the CHOs advice
 - 23%(n=115) came in anticipating a good quality of treatment and/or medical advice for their health issue and
 - 10%(n=50) on the advice of their family/friends.



Reasons for choosing telemedicine

Graph 10: Reasons given by the clients interviewed for choosing telemedicine for consultations

- E. Client privacy and confidentiality is perceived to be an advantage for opting for teleconsultations:
 - 83% of respondents believe their privacy was maintained during their teleconsultation
 - 39% of the patients were happy that the health providers did not ask any personal questions related to their place of stay, religion, or caste
 - 18% of the respondents prefer telemedicine as the conversations were not recorded and only information regarding their health problems was documented
 - 10% preferred to use telemedicine because of high trust in the doctors and their CHO

Teleconsultations initiated by the CHO with government doctors and backend doctors (Intelehealth)























Domains	Information from in depth client interviews – What gaps is eSanjeevani addressing as perceived by clients?
Access to care	 eSanjeevani is convenient, offers good quality treatment in the community for free, usually within 3kms – which helps reduce the time and cost spent on traveling. <i>"Yes, the online health service is very useful, traveling to get treatment is very difficult for us." - Client, Simdega</i> (Average distance to district hospitals is 15-100 kms, average time taken few hours to a day, with no guarantee of meeting a doctor at the facility. Facilities are crowded and require multiple lines for consultation, diagnostics, drugs and referral) <i>"It (eSanjeevani HWC) is near to home and I can come here easily. Now no need to go here and there. Sometimes I did not have money then I could not go to take the treatment." – Client, Gumla</i>
Gender lens on health care access	 Women clients show a greater disparity in accessing healthcare: Reliance of a male family member to visit a health facility. If male members were busy at work, women had to wait till they were back or had to travel alone. "My husband is a tailor. If there is any function or festive time then he is busy with tailoring and in that case, he could not go with me for treatment." – Client, Gumla Household responsibilities took priority for women and facility visits were planned around it. For women with children, teleconsultation at their HWC is advantageous as traveling with a child to faraway facilities is a challenge. Navigating the health system is difficult for women than men - the female respondents shared that they prefer telemedicine since they are not attended to properly in hospitals, they are subjected to harassment and in absence of any company they have to return with a family member (often a male member) to get tests done or collect medicines. "If I go there (hospital) and I don't have a mobile then I will get lost as it is a big hospital." – Client, Khunti
Affordable (Cost)	 All clients we interviewed have shared that availing health services bears a significant financial burden. We find that respondents not only have to account for medical costs but also the costs associated with travel, stay and loss of their daily wages: Consultation fees in private vary from 50 -1000 INR and the cost of medicine varies from 1000-3000 rupees Traveling costs can range from 50-500 INR for public transport and 1500-2000 INR a day for private vehicles. Transportation is only available in morning or evening in most rural areas. Clients have to also account for food (50-100 INR a meal) and stay if they have to spend the night near the facility (mostly to conduct tests, follow-up with the same doctor, or if the treatment demands it)

	 The cost for diagnostic tests can vary from 5000-to 6000 INR. Clients also spend an average of 5000 rupees for treatment and consultation, which increases in case multiple visits are required The cost of individual accompanying clients for treatment can range from 1500-2000 INR – including the daily wage lost
	"When we go for treatment anywhere then you will have to go with at least Rs.1000-2000. First of all, private doctor takes consultant fee Rs.500 that is saved here (HWC)." – Client, Ranchi
	Tribal population (specifically) finds it difficult to access healthcare due to financial conditions. "No money, no doctor" is the situation of households". Due to lack of money, people may avoid reaching out to a health provider which only leads to the disease or sickness becoming more severe. Clients shared that more often than not, they have to borrow money for visits to health facilities. Affordability may also have an implication on reliance on quacks, as most clients consult with quacks due to a lack of money to buy modern medicines or because they cannot afford treatment from a government or a private practitioner because of all the above-mentioned costs.
	In rural settings quacks, rural medical practitioners (RMPs), few local doctors and charitable hospitals are available however, the quality of treatment is questionable. For "non serious" conditions, local quacks were the first line of treatment and in case the situation worsened they approach private doctors.
	"Once I went to the district hospital. The queue was long and my number did not come, so I got back without any treatment. So, I was taking treatment from jhola-chhap doctors in the village. When I took medicine from them then pain was relieved but again pain has started." – Client
Available	Specialist doctors are not available at the PHC or CHC and they have to go to a private clinics or district hospitals for specialist consultations. Clients preferred private practitioners for pediatric consultations due to better quality of treatment for children At private hospitals, time spent for receiving consultation was significant but doctors are always available. The availability of government doctors was uncertain as they are few, and clients have had to travel the next day for the visit if the doctor was unavailable or unable to consult them due to long waiting lines. Thus, the client loses their daily wages. The government doctors do not conduct home visits for emergency cases. The absence of diagnostic facilities nearby is also a concern for patients delaying diagnosis and treatment.
	"The whole day passed but we did not get an appointment then my son got irritated and said, it is better to get treatment in private. Here my whole day was wasted but nobody took me to private doctor" – Client, Ranchi
Gender lens of healthcare availability	Lack of ultrasound facilities and gynecologists was so acute that most women would not seek healthcare For specific care required for women, they had to travel to other districts/private hospitals as access continues to be a greater issue for women than men and their reliance on quacks, and rural practitioners is greater. Women also had to rely on a male companion for travel.

	"If any pregnant woman is there then there is no facility of ultrasound." – Client, Gumla				
	Ongoing challenge of a lack of availability of female health providers , due to which clients were hesitant in sharing women's health issues with male health providers. They feel more comfortable sharing these issues with CHOs as they perceive them to be more understanding and feel comfortable sharing their problems.				
	Appropriateness of eSanjeevani services is highlighted by the increase in patient's knowledge of care; patient compliance with care regimens especially when medicines are provided with the prescription; difference in morbidity/ mortality among specific clinical areas – these are specific to primary care issues and management of non-communicable diseases (Diabetes & Hypertension).				
	"Yes, they gave me medicines on Monday. They have also written medicines on the slip. After taking medicines from Monday, I am feeling somewhat better. Now pain of nerves is reduced. BP is also less."Client, Simdega				
Appropriate	Most importantly, the care provided was safe, effective, patient-centered and offered with more dignity as perceived by the clients as telemedicine removed the biases around caste, class and to some extent gender with CHO presence.				
	"Didi (CHO) is very caring and is very humble towards every patient. She explains about the treatment. As she is a woman, we can ask about the problems specifically related to women." – Client, Khunti				
	This domain has been elaborated for both clients and providers in detail in the next table:				
Acceptable	 Patient experience for the domains of a) Client satisfaction and promoter score b) Client provider interaction c) Area of improvement 				
	 Provider acceptability uses the dimensions for the Telemedicine acceptance model (TAM) 				

Patient Acceptability:

Patient experience (Domains)	Information from in depth interviews
Client Provider Interaction	Clients shared that they were pleased with the health provider's behavior at the HWC and over the teleconsultation. CHO and doctors were perceived to listen to their problems and pay more attention compared to an in-person visit. They shared that the doctors are very patient and talk in detail about their problems and health concerns, which leaves little room for confusion. This has been perceived to be helpful for the clients to ensure treatment compliance and take necessary steps to safeguard their health even after recovery. Clients also shared that interaction with the CHO has helped improve their knowledge about various health problems that may be affecting their communities – and the HWC has become the primary source of receiving health-related information. During the pandemic, CHO, ANM and ASHA provided information on good hygiene practices, vaccination information and COVID-19 precautions in the community through home visits which has helped build trust in the services they provide
Area of improvement	Drugs: A cyclical shortage or unavailability of certain medicines requires clients to purchase the medicine from pharmacies. The indentation for medicines is not timely fulfilled and bottlenecks in the supply chain led to delay in procurement because of which by the time medicines reach HWC they are close to the date of expiry. Clients have also complained about government not supplying the medicines and sometimes medicines are not available for up to 2 months. Few clients complained that there are no pain relief medications or cough syrup at the HWC. One of the clients said that expensive medicines are not available at HWC, so the expenditure on medicine post a consultation has still not been reduced
Respondents were asked to evaluate how satisfied they were with the telemedicine platform	On a scale from 1 (indicating their lowest level of satisfaction) to 5 (indicating their highest level of satisfaction): Questions included were as follows: Length of time waiting for consultation Ease of getting an appointment Explanation of the client's condition by the provider Explanation of treatment by the provider Resolution of questions and doubts doctor during a teleconsultation Whether they were treated with respect or not Quality of interaction with the provider Time spent by the doctor on the teleconsultation Privacy during the teleconsultation Skilfulness of the provider



Patient Satisfaction: Additionally, we also asked the respondents how likely they were to use the service in the future and recommend eSanjeevani to relatives and friends. We find, that the mean patient satisfaction score was **3.29 out of 5**.

Hence the **average likelihood of recommending** eSanjeevani to relatives and friends was **4.2**, and mean score for intention to use in the future was **4.6**.

There was a **lot of emphasis** on the teleconsultation received respectfully and sensitively and also the privacy with which the patients received the services. This was especially of significance with female patients who were able to receive health care without the need of a male companion.

Characteristics	All participants (N =129)		Communi officers (C 11	ity health HOs) (N = 6)	Doctors (N= 13)	
	Ν	%	Ν	%	Ν	%
Age						
20 – 35 years	104	80.62	101	78.29	3	2.33
36 – 60 years	25	19.38	15	11.63	10	7.75
Highest educational degree						
BAMS	-	-	-	-	-	-
BHMS	-	-	-	-	-	-
BSc nursing	21	14.73	21	18.10	-	-
CHO training	11	8.53	11	9.48	-	-
GNM	83	64.34	83	71.55	-	-
MBBS	13	10.08	-	-	13	100
MSc nursing	1	0.78	1	0.86	-	-

Provider Acceptability: Provider Acceptability towards the platform



CHC Angara_Ranchi



CHC Angara_Ranchi-1



CHC Ormanjhi_Practice by CHO



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CHC Ratu_Ranchi



CHC Sonahatu_2..



CHC Sonahatu_4



CHC Sonahatu_5



CHC Sonahatu_Practice by CHO

Theoretical dimensions: The suggested theoretical framework is based on Chau and Hu's telemedicine acceptance model and has three dimensions: individual context, technological context, and organizational context. Individual context includes the variables **Attitude**, which can be defined as an individual's perception of the positive or negative consequences of adopting the technology, and **Compatibility**, which refers to the degree of correspondence between innovation and potential adopters' existing values, past experiences, and needs. The model's second dimension, technological context, comprises the variables **Perceived Ease-of-Use (PEU)**, **Perceived Usefulness (PU)**, and **Habit** from Davis's Technology Acceptance Model (TAM). In terms of the organizational context, we have included the variables **Subjective Norm and Facilitators** in our theoretical model. Subjective Norm measures an individual's belief that individuals who are significant to him or her would approve of a given activity. The variable **Facilitators** relates to an individual's belief that an organizational and technological infrastructure exists to enable the platform's usage.

Provider Acceptability	Information from structured survey (13 doctors and 116 community health officers)					
The first section inquired about the respondents' demographic characteristics; the second section contained questions concerning the respondents acceptance of technological advancements; these questions are arranged into 8 different dimensions. In the last portion, respondents were asked to rate how satisfied they were with their usage of the eSanjeevani platform. Out of 202 health providers, 129 participated in the survey (63.9%). Among the respondents, 80.6% (n=104) were under 35 years old and 19.38% (n=25) were between the ages of 35 and 60. Respondents had an average experience of 6.3 years in clinical practice.						
Community health officers (CHOs)	Acceptability toward the eSanjeevani platform was found to be high among community health officers (CHO). The overall mean score for the acceptability survey was 4.01 on a 5-point Likert scale. For the construct of Individual Context, the mean score for attitude was 4.19 and mean score for compatibility was 4.07. Within the construct of technological context -we find that the mean scores by CHOs for perceived ease of use and perceived usefulness were 4.14 and 4.15 respectively, and the mean rating for the domain of habit was 4.29. The mean score for individual belief in technology and organization infrastructure existence was lowest at 3.92, while for organizational context the mean score for intention to use and subjective norm were 4.18 and 4.01 respectively.					
Doctors (MBBS)	Acceptability among doctors' platforms is relatively lower for the same constructs, however, however still scoring on the higher side. The average score for perceived usefulness, compatibility to use the platform, subjective norm, facilitator and intention to use was 3.9 on a 5-point Likert scale. The mean scores for Attitude and compatibility towards the platform were 4.13 and 3.49 respectively. For technological context the mean scores for Habit, PEU and PU were 4.05,4 and 3.97 respectively. eSanjeevani as a facilitator was scored 4.55, and intention to use and subjective norm were scored 4.04 and 3.88 respectively.					

Acceptability among Community health officers (CHOs):

Chau & Hu's Telemedicin e	Individual context		Technological context			Organizational context		Individual belief in Tech & Org infrastructure existence
Acceptance model - Dimensions	Attitude	Compatibility	Habit	PEU – perceived ease of use	PU – perceived usefulness	Intention	Subjective norm	Facilitator
Mean	4.19	4.07	4.29	4.14	4.15	4.18	4.01	3.92
SD	0.08	0.30	0.04	0.15	0.08	0.89	0.14	0.39

Acceptability among doctors:

Chau & Hu's Telemedicin e	Indi	vidual context	Technological context		Organizational context		Individual belief in Tech & Org infrastructure existence	
Acceptance model - Dimensions	Attitude	Compatibility	Habit	PEU – perceived ease of use	PU – perceived usefulness	Intention	Subjective norm	Facilitator
Mean	4.13	3.49	4.05	4.00	3.97	4.04	3.88	4.55

SD	0.22	0.38	0.04	0.26	0.14	0.18	0.38	0.55



Advantages of using the eSanjeevani:

When asked about the advantages of using a telemedicine platform, the following responses were received from the community members who had used the eSanjeevani platform for teleconsultations:



Patient perspective:

20% of the providers found eSanjeevani to be time-saving, 15% felt it improved access to a doctor's consultation, and 13% found it to be cost-effective and reduced the distance traveled for the clients. Other advantages cited in the benefit of the platform were that it made client management and tracking simpler and provided a good quality of consultation. According to the CHOs interviewed, teleconsultation should become a norm so that patients do not have to travel to health facilities.

Provider perspective:

Community health officers (CHOs): We find that CHOs were motivated to continue the uptake of telemedicine even after the

COVID-19 pandemic. According to CHOs, clients are perceived to be satisfied with the consultations due to ease of access, convenience and affordability – which further drives community demand through word of mouth.

Overall advantage:

- During a COVID-19 wave, during the rise in infection rate and lockdown situations, the eSanjeevani platform enabled the rural communities access to healthcare close to their homes
- Prevented overcrowding at the health facilities which helped decrease community transmission as well as infection transmission amongst healthcare workers and community members or vice versa
- Reduced the burden of the OPD at the CHC/District hospital level
- Reduced distance traveled by patients to seek quality healthcare
- Reduced out-of-pocket expenses incurred by patients while traveling to district or tertiary-level hospitals
- · Saved time spend on travel and accessing medical services for the patient
- Saved loss of wages incurred by the patient and their families, especially in the case of a female patient
- Overall increase in patient footfall at the health and wellness center

Distance saved by patients: Through the primary data collection from patient interviews, we document the distance to different levels of health facilities from the respondent's home in order to ascertain the distance they would have had to travel; in the event, they have to avail of an in-person consultation provided in the table below.

Facility	Average distance to the facility (N=500)	Total distance traveled (round trip)
Community health center	8.6 kms	17.2 kms
Private clinic with MBBS Doctor	7.5 kms	15 kms
District hospital	18.5 kms	37 kms
Specialist hospital private (Tertiary Facility)	18 kms	36 kms

We find that distance traveled to Health and wellness centers for all our respondents was within 1 km – with travel times ranging from 5 to 20 minutes. Respondents that visited the HWC to avail of a teleconsultation traveled by foot or their personal vehicle (generally a two-wheeler). For the sake of further analysis, we have ignored the distance to HWC on account of it being relatively negligible.

Further, as the table above illustrates, compared to teleconsultation, on average clients would have to travel 18.5 kms to the nearest district hospital, 18 kms to the nearest private specialist hospital (tertiary facility), more than 8 kms to the nearest Community Health Center and 7.5 km to the nearest private doctor's clinic to get a consultation. Across all facilities, the presence of a telemedicine center can save the clients, at an average, between 15-37 kms in distance traveled to and from the facility.

Estimating distance saved

Based on data obtained from the eSanjeevani platform, between April 2021 and March 2022, we find that 76.8% of total consultations were made to non-specialists and 23.2% of total consultations were made for specialist cases. For ease of calculation, we will be assuming that the alternative to teleconsultation would have been an in-person consultation at government facilities i.e. non-specialist cases would receive a consultation at the CHC, and specialist cases would receive a consultation at the DH. Thus, for these 500 respondents, we assume that 384 would then have visited a CHC and the remaining 116 would have visited a district hospital. For an average distance traveled to public health facilities:

Average distance traveled_{phf} = (Average distance traveled for consultation at CHC x estimated % of non-specialist cases) + (Average distance traveled to DH x estimated % of specialist cases)

Average distance traveled_{phf} = 21.8 km

Across the 500 respondents, we estimate that presence of an eSanjeevani HWC saved 21.8 km on average per patient in visiting public health facilities.

For the average distance traveled (overall – including visits to public health facilities and private practitioners/facilities), we also take into account the proportion of the population visiting public health facilities vis-à-vis private health facilities. It is estimated that 30.7% of the population visits public health facilities to consult health providers¹⁵. The average distance traveled is then estimated by,

Average distance traveled₀ = [% of non-specialist cases (% of cases visiting public health facility Distance travelled to and from CHC + % of cases visiting private provider x distance traveled to and from private provider)+ % of specialist cases(% of cases visiting public health facility distance traveled to and from DH + % of cases visiting private provider x distance traveled to and from DH + % of cases visiting private provider x distance traveled to and from DH + % of cases visiting private provider x distance traveled to and from DH + % of cases visiting private provider x distance traveled to and from DH + % of cases visiting private provider x distance traveled to and from DH + % of cases visiting private provider x distance traveled to and from DH + % of cases visiting private provider x distance traveled to and from DH + % of cases visiting private provider x distance traveled to and from DH + % of cases visiting private provider x distance traveled to and from DH + % of cases visiting private provider x distance traveled to and from DH + % of cases visiting private provider x distance traveled to and from DH + % of cases visiting private provider x distance traveled to and from the private facility)

Average distance traveled_o= 21.59 km

Overall, we estimate that the presence of a telemedicine facility saved 21.59 km on average per visit.

¹⁵ <u>https://main.mohfw.gov.in/sites/default/files/HealthandFamilyWelfarestatisticsinIndia201920.pdf</u>

Money saved by patients:

In the qualitative interviews, we enquired with 20 respondents (10 male and 10 female) about the costs associated with availing of an in-person consultation. We find that apart from the consultation fees, respondents had to incur costs towards travel, food (at least one meal), medicines and equipment (including costs borne towards syringes, IV, band-aids, etc.) and any additional tests prescribed – which meant increased travel costs as not all facilities have provisions for X-Ray, ultrasound, blood work etc. and additional cost of travel and food for accompanying person. Most importantly, the trade-off for availing an in-person consultation meant that respondents had to forego a day's work. The opportunity cost for consultation included the wages lost for the day.

All clients we interviewed have shared that availing of health services bears a significant financial burden. We find that respondents not only have to account for medical costs but also the costs associated with travel, stay, and forgoing their daily wage. Respondents shared that while the consultation is free in government facilities the consultation fees in private clinics and facilities vary from 50-200/- INR for clinics and 300-1000/- INR in private hospitals depending on whether the visit is for a general physician consultation or specialist consultation. The cost of medicine and equipment used also varies from 1000-3000/- INR. Though costs of medicine and equipment should be free at government facilities, due to shortages in these facilities most patients are expected to purchase required medicines from local pharmacies. Furthermore, traveling costs can range anywhere from 50-500/- INR for public transport while hiring a private vehicle can cost 1500-2000/- INR a day. In addition, clients have to also account for food (approximately 100 rupees a meal) and stay if they have to spend the night near the facility (mostly to conduct tests, follow-up with the same doctor, or if the treatment demands it). The cost for diagnostic tests can vary from 3000 - 6000/- INR. Apart from diagnosis client spends 5000/- INR for treatment and consultation and can increase in case multiple visits are required. The cost of individual accompanying clients for treatment can range from 1500-2000/- INR including the daily wage lost.

The tribal population finds it difficult to access healthcare due to financial conditions. **"No money, no doctor is the situation of households".** Due to lack of money, people may avoid reaching out to a health provider which only leads to the disease or sickness becoming more severe. Clients shared that more often than not, they have to borrow money for visits to health facilities. Affordability may also have an implication on reliance on quacks, as most clients consult with quacks due to a lack of money to buy modern medicines or because they can't afford treatment.

In comparison, the costs associated with availing of a teleconsultation at HWC are minimal. The consultation itself is free, and since the facility is nearby there is no cost towards transportation, no need to forego the daily wage or need for an accompanying individual. Most HWCs have medicines available which are dispensed freely – but even the HWCs are affected by cyclical shortages and sometimes the clients have to purchase medicines from outside. To draw a comparison, we will be considering the average costs for an in-person consultation at District hospitals, Community Health centers, private clinics, and private specialist hospitals.

Qualitative findings suggest that on average in-person general physician consultation can cost from 1500 – 6000/- INR, while specialist consultations can range from 2000 – 7000/- INR if we are to include cost of travel, stay, medicines, diagnostic tests, etc. Due to the lack of female doctors, female respondents shared that they would more likely visit private facilities and private clinics where the presence of a female doctor was guaranteed. We find that women also had to regularly have additional tests such as blood work, and ultrasound is done while male respondents rarely discussed the need to conduct additional tests. While men travel alone, female respondents shared that they were always accompanied by a family member or relatives/neighbors to the facility.

Estimating Money Saved by Patients

Based on the sample of 20 interviews we estimate the costs associated with receiving an in-person health consultation. For this estimation, we will be making a few assumptions.

1. 76.2% will require GP care and rest specialist (based on the proportion of consultations for non-specialist and specialist cases as per consultation history for eSanjeevani Jharkhand HWC for the year 2021-22)

2. 30.7% of the cases will be resolved at public health facilities and the rest at private health facilities¹⁶

¹⁶ <u>https://main.mohfw.gov.in/sites/default/files/HealthandFamilyWelfarestatisticsinIndia201920.pdf</u>

3. Female patients would need to double the travel costs- as they will be accompanied by a companion (61.6% of consultations in eSanjeevani are by female clients)

4. Assuming clients have to forego their wages for the day, estimating average daily wages lost of Rs.300 based on the demographic characteristics of the population being chiefly daily wage laborers (35%, n=177), seasonal laborers (22%, n=111), or those employed in the agricultural sector (20%, n=100)

5. 87.8% of patients have lost wages (assuming 12.2% unemployment rate in rural Jharkhand)¹⁷.

6. Not including costs toward medicine, diagnostic tests and equipment borne by the client.

The table below describes the costs of each type of consultation and the estimated average money saved.

For each of the health consultation category, we estimate the average total spending as

Average total spends =

F = Estimate % of female clients

M = Estimated % of male clients

 E_1 = Estimate % of employed individuals

 E_2 = Estimate % of unemployed individuals

T_i = Average spends on Travel, food, and stay

C_i = Consultation fees

LW = Forgone wage for 1 day

- TC_i = Costs for travel companion
- Where i = Health Consultation type

Average total spends = $[F \times (E_1 \times (T_i + C_i + LW + TC_i) + E_2 \times (T_i + C_i + TC_i) + M \times (E_1 \times (T_i + C_i + LW) + E_2 \times (T_i + C_i)]$

Health Consultation	Average spends (Travel food and stay) (INR)	Average spends (Consultation) (INR)	Average spends (Lost wages) (INR)	Travel food and stay cost companion (INR)	Average total spends (INR)
GP Consultation					
(CHC) (<i>i=1</i>)	150	0	300	150	505.8
GP Consultation					
(Private Clinic) (i=2)	150	100	300	150	605.8
Specialist consultation (DH) (<i>i=3)</i>	550	0	300	550	1152.2
Specialist consultation (Specialist Hospital					
Pvt.) (<i>i=4</i>)	1100	500	300	1100	2541
In-person care overall	335.91	135.27	300.00	335.91	941.51

On average presence of an eSanjeevani center saves INR 505.8 for non-specialist consultations compared to in-person visits at CHC, and INR 605.8 compared to in-person visits with a private practitioner for each client. For specialist consultations, it saves INR 1152.2 for in-person consultations to a tertiary public health facility and INR 2541 compared to an in-person consultation at a private tertiary facility.

Overall, we estimate that the presence of a telemedicine facility saved INR 941.51 per health visit.

¹⁷ according to the Centre for Monitoring Indian Economy (CMI)











Challenges for eSanjeevani:

The health providers cited multiple challenges that need to be resolved to improve the delivery of health services through eSanjeevani:

Technical difficulty in client registration 2, 1.7% Login issues 2, 1.7% Disrupted by other repsonsibilities 2, 1.7% Have to use personal phone/ SIM card 2, 1,7% Lack of incentives for teleconsultations 2, 1.7% Doctors don't examine properly 2, 1.7% Doctors disconnect or decline calls 6, 5.2% No challenges faced 6, 5.2% 13, 11.2% Shortage of medicines Unable to connect to doctors 24. 20.7% Shortage of doctors 38, 32.8% Time Consuming 50, 43.1% Internet Connectivity Issues 63, 54.3%

Challenges faced by the CHO while using the platform

While performing teleconsultation most of CHOs shared that they face several technical issues while conducting a teleconsultation. **Unavailability of internet and poor network** connectivity have been cited as the most frequent disrupters for the teleconsultation to be successfully completed – **63 CHOs (54.3%)** reported this as a major challenge. There are call failures due to network instability. Connection issues lead to a longer waiting time for CHO as well as the client. Few CHOs have also complained that due to poor network, the platform is unable to save consultation details and data for the client is lost when the consultation is not completed by the doctor. CHOs are also not paid for the internet connection (~300 INR/month)

Even if the network is strong, often there is a long waiting time to connect with the doctor. To get connected to a doctor specifically during video consultation there is a need for a stronger network- which is difficult in many HWCs. CHOs have to often go outside the HWC or to the roof to complete consultation. Due to poor connectivity and unavailability of remote doctors, there are instances when the client is told to go back home, and the CHO completes the consultation on her own and informs the client later.

CHO's find it tough to manage three to four patients in a day since they are preoccupied with other responsibilities, such as OPD, community testing (during COVID-19), community visits and vaccination duty. One of CHOs also shared that if there is a delivery then teleconsultations for that day have to be stopped since there are no alternate staff available and she has to accompany the pregnant woman to the health facility.

Sometimes the doctor prescribes medicines that are not available in the facility, which makes it difficult for CHOs to provide that in the HWC. There are some patients with skin diseases so if a doctor prescribes a medicine for a single patient for the particular disease, CHOs cannot indent a medicine for just 1 case.

Challenges for the providers (CHOs):

- 1) Lack of community demand and behavior change towards eSanjeevani teleconsultations:
- PRIs, ANMs and ASHAs, Anganwadi workers to be responsible for community demand generation
 - 2) Lack of digital infrastructure to enable effective teleconsultations:
 - Data (internet connectivity): 54% of respondents indicated lack of internet connectivity to be the leading challenge for providers conducting teleconsultations
 - Details (patients case history): 43% of respondents who stated that entering patient details and connecting for consultation can be time-consuming
 - **Doctors:** The availability of doctors on the platform remains a major barrier in providing services, as 33% of respondents cited the shortage of doctors as the greatest challenge they face during teleconsultations.

Challenges for providers (Doctors):

- Case history is not adequately recorded by the CHOs or the details are incomplete and hence the consultation becomes time-consuming
- Overburdened with cases Through a PPP model the state needs to plan this allocation for backend doctors in the state program implementation plan (PIP). Already a shortage of doctors and hence adoption of telemedicine to provide consultations is poor amongst doctors due to already existing patient load at the health facility
- Create a dedicated cadre of telemedicine doctors within the government system
- SBCC on messaging for eSanjeevani teleconsultations amongst providers

Challenges for patients:

- Challenges with internet access and a scarcity of physicians both contribute to the lengthy wait time experienced by consumers during teleconsultations. Technological hindrances such as the inability to connect with physicians, and infrastructural obstacles, such as a lack of medicines, continue to be difficult for the providers.
- Despite the challenges encountered on a daily basis during teleconsultations, providers scored the reliability and performance section of the questionnaire highly (on a scale from 1 to 5, with 1 being poor and 5 being excellent.) It is evident that the majority of respondents are satisfied with the platform, as **patients have rated an average score** of 3.8 out of 5 for the platform's usability, interaction quality, reliability, and willingness to use it. When asked whether they would continue to utilize the platform for teleconsultations, the **average net promoter score** for providers was 4.2 out of 5.

Recommendations:

Demand side sustainability recommendations:

- A. Community demand generation through the following activities within the system:
 - Home visits by frontline health workers (FLHWs) ASHAs and Anganwadi workers to collaborate at the grassroots to create awareness about eSanjeevani while conducting home visits to identify cases and refer them for teleconsultation to CHO
 - Inclusion of Panchayati Raj Institutions (PRIs), traditional tribal leaders and SHGs to include the eSanjeevani agenda in Gram Sabha meetings and audit at the village level
 - Local civil society organizations (CSOs) engaged in creating community awareness and demand for eSanjeevani patient to doctor app (OPD)

B. Social and Behavior Change Communication (SBCC)

- **Develop IEC resources and communication material** on "About eSanjeevani" for the health service providers and community. Awareness can be raised by championing success stories and organizing events to promote telemedicine service
- Conduct mass level campaign at block and district level on eSanjeevani using various IEC tools, like poster, wallwriting, miking, etc
- Promote services available at HWC to increase footfall and increase uptake of telemedicine through **direct messaging by FLWs**.
- To increase avenues for interaction between CHOs and clients beyond OPD at HWCs to identify clients who could benefit from telemedicine.
- Develop posters clearly outlining weekly schedule for different specialist consultation such as gynaecologist consultation on Tuesday, pulmonologist consultation on Thursday to signal availability of health services to general population.
- Digital Literacy special focus on our clients' digital literacy training so that the use of patient to doctor model and utilization of the app will be improved. Empowered patients and improved awareness regarding the app usage through SBCC can add to demand generation efforts.

Supply Side recommendations - to improve delivery of health services under eSanjeevani

- A. Resolving for shortage of doctors on the platform and improving the availability of currently active doctors
 - Establishing a cadre of doctors for telemedicine either through permanent deputation or designating quota (on a shift basis) for pre-existing doctors
 - Create caveat for a budget in PIP to engage doctors through a PPP model by onboarding doctors with private practice or enrolling volunteer doctors
 - Engagement of fresh graduates or those doing rural practice/internship can also be designated on eSanjeevani for fixed hours
 - Financial and non-financial incentives for existing doctors can be introduced to conduct teleconsultations

B. Continued engagement with health providers and investing in their capacity building

- Capacity building through continued medical education of doctors both in government service as well as intraining to apprise them of the telemedicine portal to ensure early engagement and continued usage by the doctors.
- Developing training modules for capacity building of CHOs and Doctors specifically for clinical, legal, and technical training to update them on the latest versions and changes made to the platform. Training can further include prescription writing, and medico-legal aspects of telemedicine for doctors and taking comprehensive medical history (including documenting vitals) for CHOs.

C. Improving Infrastructure at HWC Level and in communities

 Need to invest more in upgrading infrastructure at health facilities – including but not limited to – improved availability of electricity, availability of internet connection- Wi-fi or mobile, waiting area for patients, availability of printers to print prescriptions and consultation report. A separate device (laptop or a tablet) is required for teleconsultations, currently, most doctors are using their mobile phones for teleconsultations.

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- The state should focus on **improving penetration of internet services across rural areas** by extending wired connections to HWCs, or using cellular signal amplifiers/ boosters at facilities.
- **Providing local purchasing budget to CHOs** to upgrade and maintain infrastructure but also to make medicines available during period of shortage.

D. Improving Quality of Services

- Establishing a quality assurance mechanism through monitoring and medical audits for the teleconsultations
 provided to the clients to ensure patient trust
- Strengthening the continuum of care cycle with MNCH, NCD and communicable diseases through telemedicine. Steps should be taken to integrating current government schemes on the telemedicine platform – such as ANCs and HBNCs can be combined with doctor consultation etc. to demonstrate practical use cases to clients.
- Focus on improving monitoring and triage of telehealth patients, further detailing the telemedicine activity on patient record system and developing an MIS and evaluation framework for program improvements.
- **Developing Standard Operating Protocols** for follow-up to teleconsultation to increase repeat usage and track recovery of clients. There is a need to establish a telemedicine pathway that lays down clearly referrals criteria, follow-up process, and tracking recovery of clients.



We Deliver Quality Healthcare Where There Is No Doctor

