

Project Profile

Telemedicine



Gujarat CSR Authority

Project Profile - Telemedicine

Project Rationale

The National Health Mission of Gujarat's programme implementation plan (PIP) 2016-17 clearly stated that a "systems approach"¹ to health has to be one of the key enablers in the development and advancement of health services in the State. It also states that 'strengthening the services' and 'convergence, coordination and regulation', are few of the primary needs. The approach includes diagnostic care, partnership with private service providers to supplement governmental efforts in underserved and vulnerable areas, as a strategic intervention. Reliable, affordable and accessible diagnostic measures in partnerships with private sector are areas which need to be explored to ensure that health care is available and accessible to all the sections of the society.

Table 1 reflects the gap in the existing health infrastructure within Gujarat in the rural areas. This clearly states that due to shortage of human resource at the public health facilities, the delivery of healthcare services to patients in the rural remote districts are a major area of concern. This issue becomes more evident and the severity better known when the district specific rural health status is analysed.

Table 1: Health infrastructure in Gujarat²

Particulars	Required	In position	Shortfall
Sub-centre	9,156	7,274	1,882
Primary Health Centre	1,433	1,158	275
Community Health Centre	358	318	40
Health worker (Female)/ANM at Sub Centres & PHCs	8,432	6,431	2,001
Health Worker (Male) at Sub Centres	7,274	4,874	2,400
Health Assistant (Female)/LHV at PHCs	1,158	875	283
Health Assistant (Male) at PHCs	1,158	758	400
Doctor at PHCs	1,158	778	380
Obstetricians & Gynaecologists at CHCs	318	9	309
Paediatricians at CHCs	318	3	315
Total specialists at CHCs	1,272	76	1,196
Radiographers at CHCs	318	168	150
Pharmacist at PHCs & CHCs	1,476	1,428	48
Laboratory Technicians at PHCs & CHCs	1,476	1,365	111
Nursing Staff at PHCs & CHCs	3,384	2,705	679

Technologies like Telemedicine and Teleclinics are few such opportunities, which allow information communication and technology platform for delivery of health services and can help reach a wider coverage of people in need of the health services much more efficiently. Current infrastructure and future investments along with technologies like Teleclinics can lead to enhanced utilisation of resources, improved access to healthcare for remote areas and higher demand for health care services.

¹ <http://nrhm.gov.in/index.php/nrhm-in-state/state-program-implementation-plans-pips/gujarat.html> pg. 19

² *ibid*

Objectives of the project:

The objectives of establishing Teleclinics for basic diagnostic healthcare for the rural population are as follows:

1. delivering affordable and accessible quality medical health care at remote areas by setting up Telemedicine centers
2. easy access to healthcare at doorsteps with advanced technologically enabled solution to help reach a wider coverage of rural people in need of the health services with increased efficiency and thereby connect to medical infrastructure in urban areas and across geographies
3. to create a centralised management information systems (MIS) data base to record medical records of patients and track their test details regularly. Further, monitor the progressive status of the patients and to generate analysis for further programme implementation
4. strengthen the public private partnerships towards healthcare service delivery by supplementing government efforts in undeserved and vulnerable areas within the districts
5. improvement of health status of the rural communities over time, due to on-time prognosis, treatment and referral

Expected Benefits

The support provided by companies would result in tangible and intangible benefits for sponsor company as outlined below:

Tangible Benefits	Intangibles
<ul style="list-style-type: none">❖ Develop a patient database with updated health status❖ Community support & appreciation❖ Social license to operate, through cooperative community engagement❖ High levels of employee satisfaction through social responsibility towards healthcare❖ Recognition through awards	<ul style="list-style-type: none">❖ Enhanced reputation by way of supporting projects benefitting communities at the 'bottom of the pyramid'❖ Social branding❖ Enhanced credibility within community and sector❖ Contribute towards the universal healthcare coverage goal of the National Health Mission

Opportunities for CSR intervention

Considering the challenge of access to basic healthcare as being mostly non-existent and costly in rural areas, few Telemedicine companies have set up Rural Health Centers (RHCs) with necessary screening instruments towards remote diagnostics enabled/equipped with a technology platform of Teleclinics. It allows for centralized monitoring of key metrics such as patient vitals, daily checks and management of patient records etc., and also supports seamless integration and communication with urban doctors for specialized treatment and consultation. Some operate a network of Teleclinics across Gujarat in the districts of Ahmedabad, Morbi, Anand, Chotta Udaipur, Dang, Kutch and Porbandar in conjunction with CSR partners, NGOs, and other government bodies.

Funding requirements for setting up the Teleclinic intervention in the districts of Gujarat are for one time set up of the Teleclinic, CAPEX or rental of kits, OPEX cost, deployment of individuals in the field for implementation, doctors' consultation and reporting. The detailed requirements are provided as follows:

- creation of a central infrastructural and technical support set up-
 - Teleclinic set up- internet, other opex costs
 - kits for screening
 - capacity building for use of ICT platform
 - linkages with panel of doctors
 - advanced referral linkages, government and other district stakeholder linkages for service delivery
 - development of an effective MIS for recording the health status of patients (creating an information repository)
 - setting up of pathology diagnostic center
 - advanced kits (if decided to include in basic screening package)
- conducting community mobilisation and awareness on the tele-clinics
- provision of adequate training to the village health workers / entrepreneurs as last mile delivery agents

Potential project area

The potential project areas, where the Teleclinics could be introduced within the state would be the villages which are vulnerable in terms of the remote accessibility and have high public health facility gaps. Those districts need to be chosen as priority based on local need assessment. Universal coverage of the health care should be the guiding factor in choosing to operate in the district.

Target group

Socio economically backward sections within the districts of the age group of 30-45 years male and female population would be the proposed target beneficiaries.

Project implementation

The implementation can be done in the following way:

Companies affiliated with GCSRA can hire services on a 'per patient' basis to screen the target village population, where they intend to spend their CSR funds. The average capacity of Telemedicine team per kit with 3 people needs to be 50 people screening per day for feasible implementation, considering financial costs involved. Company can rent the kits through GCSRA. GCSRA would act as the advisory and monitoring agency for the entire project and ensure all compliance requirements are fulfilled by the implementing agency including reporting. GCSRA would issue a CSR compliance certificate to the corporate.

Corporate can even buy kits directly from Telemedicine company and collaborate with them for technical/operational expertise and then set up multiple screening at multiple places, and pay Telemedicine company for doctors screening and data management.

The detailed implementation plan for the diagnostic healthcare Teleclinic is provided below.

A. Implementation

Technical feasibility

Teleclinics shall help bridge the gap between rural areas where clients reside and the quality health care they need, which is otherwise only available in larger towns and cities. Using the latest advances in satellite

and internet technologies, reliable power backup and customized software, Teleclinics enable remote diagnosis and audio-visual communication between rural patients and qualified city doctors at a Centralised Medical Facility. It is a step towards building the preventive health care ecosystem and have the following features:

- each clinic is established and run by a local village health worker /entrepreneur in the village. The Teleclinic could be set up in the form of a mobile Teleclinic where the village health worker/entrepreneur moves with the kits to reach out to patients.
- deploying vitals monitoring kits, Prenatal, Neonatal, Diabetes Check, primitive pathology test
- the Telemedicine Company assists the Telemedicine clinic entrepreneurs by providing training, marketing, and technological support
- setting up mobile, patient monitoring station to measure vitals to help doctors at remote location to guide in a right direction

Marketing feasibility

- A steady flow of paying patients is assured through referrals by village health workers/entrepreneurs in the surrounding villages. The entrepreneurs are expected to make a substantial investment and take entrepreneurial risks to encourage a high level of commitment
- Patients who require surgical or inpatient care involving specialized procedures and healthcare services that cannot be delivered via Teleclinics are referred to the nearest hospital which provides such care.
- The village health worker / entrepreneur is provided with a kit that includes the basic diagnostic kits for the check-up of community beneficiaries. They also are provided with an internet enabled tablet / a laptop for connecting to the central data base and soliciting doctor support as and when needed. Based on the patient results, diagnostic consultation support is provided by the doctors to the remote areas electronically rather than physically travelling to the city/town-based clinics. The vital kit includes basic diagnostic healthcare check-up for disease identification, recording information on past health, current symptoms, etc. for the below mentioned tests:

Table 2: Types of diagnostic health test

Type of health issue	Type of test
Identification of Infectious Disease (CBC, RBC, Malaria, HbSAg)	PATHOLOGY TEST
Anemia (Hb)	
Diabetes (Blood, Urine Sugar)	
Blood Group Identification, HIV	
Identification of Kidney Disease – Stone (Urine)	
Jaundice (Urine, HbSAg)	
Pregnancy test (Urine)	
Lipid Profile	
HB1AC	
Eye Check-up (Cataract, Glaucoma, Retinopathy)	
Blood Pressure, Pulse, SpO2, ECG	HEART ISSUES
Lungs, Screening for COPD & TB via Spirometer	LUNG AND ASTHAMATIC SCREENING
Intra Oral Dental Check, Ulcer	CANCER SCREENING
BP,PULSE, FETAL PULSE ,HB	PRENATAL SCREENING

Under this model, the locally available health workers / entrepreneurs who already live in the village are to be trained to act as the company's direct local health agent. These local agents would receive training in delivering basic diagnostic services, and then provide awareness to the people in their respective regions. While working locally, village health workers would then refer patients requiring more sophisticated or advanced treatment to other partners in the network, and also earn an incentive for each referral, thus creating a financial viability into the model.

Table 3: Different operational models

Tele-clinic check up	Operation Model
Vitals- BP, Pulse, 12 Lead ECG, SPO2, Spirometer, Temperature & Diabetic Check	<ul style="list-style-type: none"> Implementing Agency would deploy all the Kits at Primary Center or Clinics Set up by Organization
Prenatal- BP, Fetal Pulse, Temperature, Haemoglobin, Height, Weight	<ul style="list-style-type: none"> Technician Training on Field or Deploy Technician at Health Clinics
Neonatal- Respiratory Rate, Height, Weight, Bilirubin Check and temperature	<ul style="list-style-type: none"> Operate the portal and KPO center for Diagnostics
Ophthalmology Check- Anterior, Posterior Check, BP, Glucose, Cataract	<ul style="list-style-type: none"> On-board a Village / Center on behalf of the Organization
Basic Pathology Test- Blood Sample	

Process of implementation:

- Infrastructural and financial support for setting up the Teleclinic*
 - set up of the mobile clinic and the telemedicine kit by the company
 - local health worker/ entrepreneur trained to work with the kits and screen the patient
 - creates awareness about health check-up facility in the village
 - registration of patients
 - connects doctor in Medical Knowledge Process Unit over voice call when required
- Maintenance and Support (if any required) provided by the Telemedicine company*
 - identify a local person who is then trained for IT / Software and Medical Kits Maintenance/Support when required.
 - provide patient follow up support training to village health worker /entrepreneur on the following:
 - post identification of disease, referral and collaboration with nearest Trust hospital / government hospital towards In Patient Department (IPD) registration at the hospital for advanced specialised care
 - follow up service on the status of the patient
 - updating the records for the patients in centralised MIS system
- Financial model is as follows (refer estimated financial costs) stated by the below chargeable transactions:*
 - screening charges are paid by the patient of a nominal amount of Rs.50/- to the village health worker / entrepreneur
 - miscellaneous cost is paid to the Operating agency by the corporate to monitor the work, execute necessary payments, and operate & arrange accessories like gels and other items for the screening

- doctors' fees and cost of ICT Infrastructure is paid to the telemedicine company/technical partner to operate by the corporate
- maintenance and support cost per month is paid to the technician locally on a 'incidence' basis

List of success indicators

Project Outputs

- Creation of 1-2 village health workers per village over the project period
- Increase in accessibility of beneficiaries' health check-up through village health workers (from baseline levels) over the project period
- Number of critical cases identified for referrals to specialised care over the project period
- Creation of a medical record of the patients

Desired Outcomes

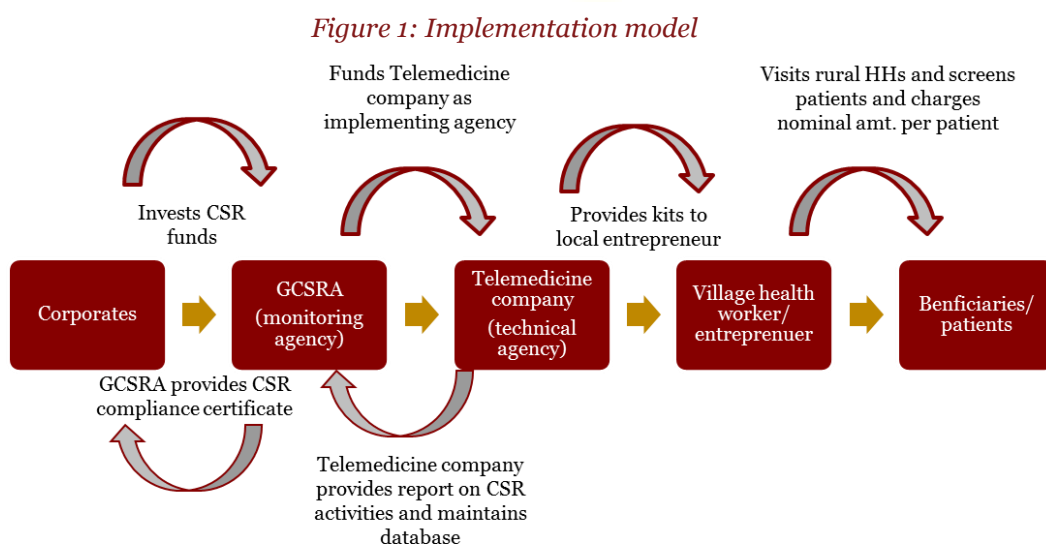
- Improvements in health status for beneficiaries recorded during follow up visits over the project period
- Faster, efficient and cost effective model of disease diagnosis and treatment (reduction in transportation & logistics from a beneficiary perspective)

Potential Impact

- Creation of a cadre of locally relevant & financially sustainable service providers (entrepreneurs, service & maintenance personnel)
- Availability of and access to affordable & quality medical care at the doorstep of the rural household, leading to an improvement of health status of the rural communities

B. Implementing agency

The Project shall be implemented by GCSRA as a monitoring agency, with support from Telemedicine companies (having expertise in setting up Teleclinics within rural communities) being tasked with the responsibility of grassroot implementation (**Figure 1**). The GCSRA/Telemedicine company shall work in collaboration with Corporates and local NGOs in setting up Health Camps at Regular Intervals.



Roles and responsibilities

- **GCSRA:** advisory and monitoring agency of the CSR activities i.e. strategic plan for the project, coordination between donors, technical service providers, monitoring & evaluation, documentation and (physical/financial) reporting for the Project, issues compliance certificate for the CSR activities.
- **Telemedicine Company:** technical support and/ or implementation support and training of the health professionals, maintenance and updation of health database and reporting of CSR activities under the project.
- **Corporates:** funding the initiative

C. Partnerships

NGOs/Civil Society: NGOs working in the respective districts in the health sector

D. Anticipated benefits from the project

- Increase in awareness among the rural communities on the need for basic diagnostic check-up and thereby increase in regular and timely health check-up practice
- Increase in accessing basic diagnostic health check up by rural beneficiaries due to doorstep service availability
- Early diagnosis on critical care need of the beneficiaries for advanced health care ensuring early detection and treatment
- Improvement in the health status of male, female, children and senior citizens among the beneficiary households
- Increase in incomes of village health workers by x%, due to additional income through the implementation of the mobile teleclinic model

Workplan

#	Activity Description	Y1, Q1	Y1, Q2	Y1, Q3	Y1, Q4	Y2, Q1	Y2, Q2	Y2, Q3	Y2, Q4
1	Situational assessment of the project villages (developing a baseline)								
2	Entry point interventions - Community sensitization and mobilisation (on teleclinic model)								
3	Setting up of the Teleclinic								
4	Creation of a cadre of village health workers/ entrepreneurs								
5	Capacity building support to the village health workers/ entrepreneurs								
6	Screening and follow up of patients								
7	Referrals and linkages for specialised care								
8	Recording health records of each patient								
9	Monitoring of CSR activities by GCSRA								

#	Activity Description	Y1, Q1	Y1, Q2	Y1, Q3	Y1, Q4	Y2, Q1	Y2, Q2	Y2, Q3	Y2, Q4
10	Reporting								
11	Impact Assessment								

Estimated Financial Costs

The estimated financial costs for screening 500 and 1000 beneficiaries is provided below with basic and complete blood check-up costing. The costs also include 4% administration costs to be paid to GCSRA as an overall agency for monitoring and managing the project:

Table 4: Estimated budget (with basic blood check-up)

Particulars	For 500 patients	For 1000 patients
Operational Screening Charges	25,000	50,000
Miscellaneous(ECG Gel , Other Materials Needed)	5,000	10,000
ICT Infrastructure, Data Records Management	10,000	20,000
Doctors Reporting	60,000	120,000
Marketing and Logistics	5,000	10,000
Blood Check (Basic)	1,00,000	2,00,000
Miscellaneous Cost (Logistics and Positioning of team)*	30,000	60,000
Kits rental	80,000	1,60,000
Costing with rental of kits	3,15,000	6,30,000
GCSRA Administrative costs	4.00%	4.00%
Total costing with rental of kits#	3,27,600	6,55,200
Kits bought	10,00,000	10,00,000
Pathology centre set up	5,00,000	5,00,000
Total costing of project if kits are bought**	16,05,000	17,10,000

Inclusive of GCSRA's administrative cost

** Exclusive of GCSRA's administrative cost

* Other miscellaneous cost covers travel / fuel, stay, food, maintenance of vehicles etc. If company already has a trained team deployed or pays for them then cost would be 0

Note: Additional health package kits and increasing the number of patients for screening would incur additional charges

Table 5: Estimated budget (Complete blood check-up)

Particulars	For 500 patients	For 1000 patients
Operational Screening Charges	25,000	50,000
Miscellaneous(ECG Gel , Other Materials Needed)	5,000	10,000
ICT Infrastructure, Data Records Management	10,000	20,000
Doctors Reporting	60,000	120,000

Particulars	For 500 patients	For 1000 patients
Marketing and Logistics	5,000	10,000
Blood Check (Complete)	3,00,000	6,00,000
Miscellaneous Cost (Logistics and Positioning of team)*	30,000	60,000
Kits rental	80,000	1,60,000
Costing with rental of kits	5,15,000	10,30,000
GCSRA Administrative costs	4.00%	4.00%
Total costing with rental of kits#	5,35,600	10,71,200
Kits bought	10,00,000	10,00,000
Pathology centre set up	5,00,000	5,00,000
Total costing of project if kits are bought**	19,05,000	23,10,000

Inclusive of GCSRA's administrative cost

** Exclusive of GCSRA's administrative cost

* Other miscellaneous cost covers travel / fuel, stay, food, maintenance of vehicles etc. If company already has a trained team deployed or pays for them then cost would be 0

Note: Additional health package kits and increasing the number of patients for screening would incur additional charges

The rural beneficiaries would be charged a nominal amount (not more than Rs 50 per consultation) by the village health worker/ entrepreneur.

Budget requirement for setting up Teleclinics are as follows (Table 6):

- for dedicated set up : a one-time cost towards the medical devices along with Teleclinics platform to be deployed
- costing for basic screening to be performed covering the tests along with the doctors consultation

Table 6: Financial requirement

Organization Setup	Operator Agency
<ul style="list-style-type: none"> • One time Set up fee • CAPEX or Rental Mode as planned • OPEX cost paid to the Operator 	<ul style="list-style-type: none"> • Deploy Individuals in Field • Doctor's KPO and Reporting

Monitoring

- GCSRA will act as the advisory and monitoring agency for the CSR project implementation and ensure compliance as per requirements
- GCSRA will issue CSR compliance certificate to company against the investment made
- Based upon the progress of the year, GCSRA will provide support to the company to develop a success framework, under which, performance indicators shall be defined and the baseline levels as well as targets defined over a 2-5 year horizon, on an annual basis.
- Once defined, the targets can then be broken down into half-yearly input-output-outcome targets, with impact criteria defined over 2 years on the health status of the districts post the project implementation.
- GCSRA will also conduct evaluation and impact assessment of the projects

Reporting

The implementing agency i.e. the Telemedicine company would be responsible for the following:

- ensure regular updation of patient records in the health database and generate progress reports for GCSRA and company as per agreed timelines
- ensure reporting on CSR activities to GCSRA on quarterly, six monthly and annual basis as against the funds disbursed to them

GCSRA would be responsible for reporting on the overall CSR activity management and annual compliance and issue a compliance certificate on the same to the company.

