

BRINGING UNIVERSAL PRIMARY HEALTHCARE TO BUXAR AGILE HEALTH CARE & REHABILITATION SERVICES PRIVATE LTD. PROPOSAL FOR SETTING UP 1 DIGITAL DISPENSARIES ON PILOT BASIS AS PROOF OF CONCEPT IN ALWAR

An integrated solution combining telemedicine with brick & mortar style dispensaries

OVERVIEW

Alwar district is one of the districts in Rajasthan located 150 kms south of Delhi and 150 kms north of Jaipur. It is a hub of tourism with several forts, lakes, heritage havelis and nature reserves including Bhangarh Fort and the Sariska Tiger reserve.

As of 2011 India census, District Alwar had a rural population of 3,019,728 of which Rural Population comprised 80%. The Government Healthcare infrastructure comprises of 762 Sub Centres, 120 PHCs and 36 CHC. There is one District Hospital. The average out of pocket expenses per person for single OPD episode is Rs 574 which is mainly spent on Medicines and Tests.

This proposal aims to help solve one problem – that is to bring universal primary care to the district and find linkages to secondary & tertiary healthcare wherever available. The idea is to set up and run 2 Digital Dispensaries on a Pilot basis in Buxar District. The proposal aims to leverage the strengths that are existing in the ecosystem without trying to supplant them and to achieve this within the funds that are available.

The Objective

- Need #1: Ensuring Universal Healthcare Access by targeting atleast 1 OPD with medication per person within 5 km radius of over 90% of population within a one-year period.
- Need #2: Providing minimum set of investigations within the same area to ensure prompt diagnosis. This will include Malaria, Dengue, Typhoid, HIV, detection, haemoglobin, blood sugar, BP, urine analysis, ECG, sPO2, pregnancy detection.
- Need #3: Creating linkages with existing secondary & tertiary healthcare facilities nearby including Municipal Hospital and others.
- Assisting in delivering and fulfilling the objectives of the National Health Mission

The Aims & Objectives

- Goal #1: Set up 1 Digital Dispensary in Alwar on a pilot basis.
- Goal #2: Integrate the technology solution with a medical KPO and select & train sufficient manpower for these DDs. Integrate existing secondary & tertiary facilities in public & private to create an integrated healthcare system.
- Goal #3: Ensure publicity & community outreach for these activities so that the goal of 1 OPD/person is achieved.

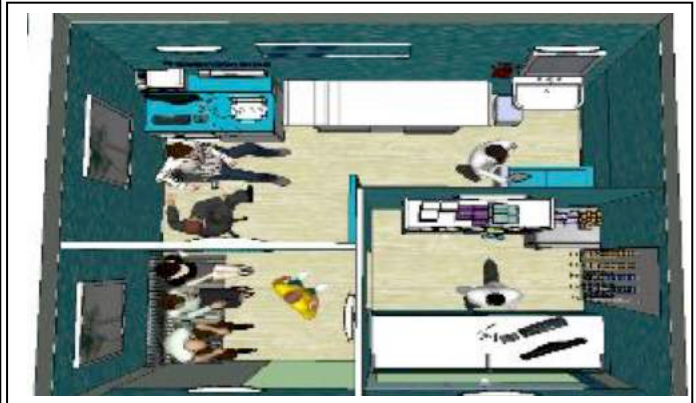
The Solution

- Digital Dispensaries will be set up in rooms of an area of minimum 300 sq. ft. The center will have
 - Integrated Telemedicine Solution with real time video conferencing, clinical decision support system, e-Prescription, Electronic Medical Records with Medical Device Data Integration and monitoring and analytics. This would have the ability to measure BP, Temperature, spo2, do ECG, video laryngoscopy, otoscopy, Dermascopy and conduct immunological tests through RDKs and Biochemistry tests. It would integrate an X-Ray film scanner. Printing of prescription and provision of power back up and internet connectivity with redundancy.
 - Clinical Decision Support System means a system that is capable of supporting preferential diagnosis, recommending and interpreting investigation, recommending protocols and integrating pharmacopeia with drugs safety check
 - Integrated automated medicine dispenser will be provided to ensure seamless dispensing of medicines from the e-prescription. The dispenser will have inbuilt refrigeration facility.
 - Furniture & Fixtures as necessary
 - Painting & Branding
 - Manpower comprising of at least one trained GNM Nurse for the telemedicine side and one ANM Nurse. These centers should deliver primary care through virtual OPD with tests and medications to people.
 - One Electronic medicine dispenser capable of disbursing prescription-based medicines including tablets, capsules and liquids, upto 120 SKUs supported.
- These centers will be linked through a dedicated MPLS to the Medical KPO through STUN &TURN servers for relay connecting to LitmusDX framework on a webRTC platform through Node.js servers.
- Manpower comprising of at least one trained GNM Nurse for the telemedicine side and one ANM Nurse & two field Health Advisors for outreach. The first two will be salaried and two will be on honorarium basis.

The Digital Dispensary will look like the following:



Digital Dispensary



THE ORGANIZATION

AGILE HEALTH CARE & REHABILITATION SERVICES PRIVATE LIMITED is providing rehabilitation services towards maintenance of health by opting preventive health care methods to make someone socially, economically & mentally productive. Agile also provides educational & medical services regarding health & rehabilitation. These services include for purposes of rehabilitation & health care the health foods, mental rehabilitation, vocational rehabilitation, physical rehabilitation health clubs etc. economical rehabilitation, social rehabilitation, environmental rehabilitations & so on.

Keeping in view with the advancement in Healthcare and the usage of modern technology in providing Primary Healthcare to large number of Citizens, especially in the underserved areas., Agile is into the business of providing Comprehensive Quality Primary Healthcare in Rural and Urban areas at a very affordable cost cheaper than any existing healthcare provider. Agile has set up 74 Digital Dispensaries in the state of Bihar and West Bengal on a private provider model.

The Promoters of Agile Healthcare are all professionals from various fields of Medicine, Management and Finance who bring together cumulative experience of over 150 years.

Team

- Dr Vishal Upadhyay, MBBS, D.Orth., MRCS, FEBOT, FRCS (Tr & Orth.) U.K.
- Wing Cdr Vikas Sharma – Armed Forces, Human Resources, Disciplinarian
- Dr Roopa Sharma, MBBS, MS Ophthalmology
- Prof Dr. Shipra Kunwar, MBBS, MS (Obs & Gynae), FRCOG UK. Head of Department in Medical College.
- Dr Veena Paliwal, MBBS, MS (Obs & Gynae), FRCOG UK. Head of Department in Tertiary Hospital Oman.
- Mrs Shaifali Sharma, MBA Human Resources & Finance
- Mr Anuj Upadhyay, BTech, MSC Computer Science UK

Rationale

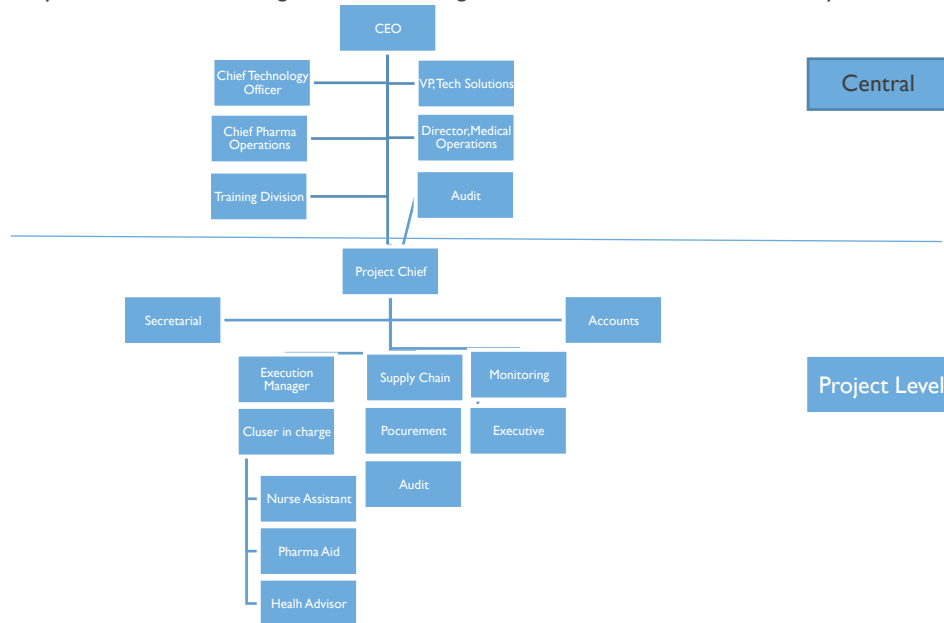
- It is very difficult to get doctors specially Specialists to Primary Healthcare setups esp. as doctors are a scarce resource. The cost to people in coming to other large cities, Secondary and Tertiary healthcare setups for treatment is also not viable, therefore a grassroots based telemedicine solution is the most appropriate solution.
- Timely diagnosis and treatment is the best strategy for reducing Catastrophic Out of Pocket Expenses. For this each functional health point has to be within 2 kms of the residence of people.
- These centers can refer those who need hospitalization to the existing Secondary and Tertiary healthcare facilities.
- AGILE has expertise in all the components of this project and has experience in working in rural and semi-urban areas



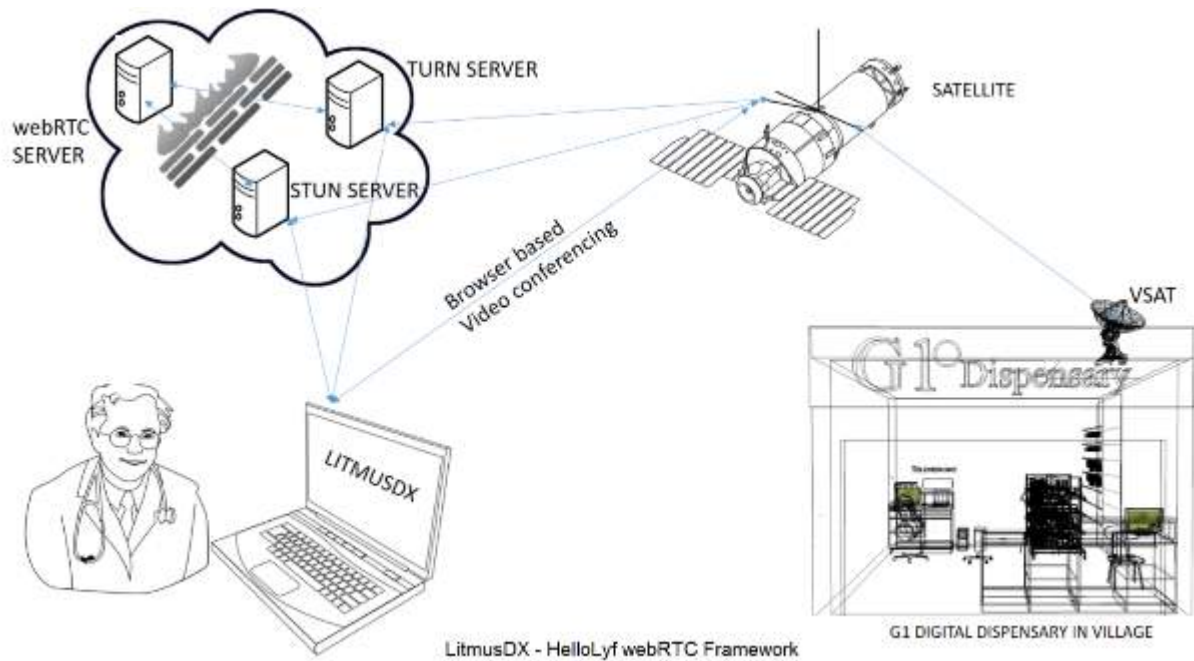
Execution Strategy

Our execution strategy incorporates proven methodologies, extremely qualified personnel, and a highly responsive approach to managing deliverables. Following is a description of our project methods, including how the project will be developed, a proposed timeline of events, and reasons for why we suggest developing the project as described.

There would be a team set up on a dedicated basis for this Digital Dispensary Project. The Project team will identify the locations, select & train manpower, install equipments, establish the network, and run the dispensaries. Overall, around 2 people will be deployed – carefully selected on skills background and training. Out of these over 2 would be locally resourced.



Technical/Project Approach



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AGILE's telemedicine framework uses webRTC, a revolutionary new standard first defined in 2011 and was first used in the world in 2013. webRTC is a browser to browser P2P communication standard supported by Chrome, Chromium, Mozilla Firefox and Opera browsers. Microsoft has also declared support in its upcoming version of Edge browser. webRTC is more network efficient as it is browser to browser. The relay and IP addressing is done through STUN and TURN servers. AGILE uses this to communicate between patients and doctors. Doctors see the video in another application called LitmusDx – the first end to end Clinical Decision Support System.



1. LitmusDX allows patient quieting & registration. Last records of a patient can be brought up. LitmusDX allows doctors to quickly enter symptoms
2. Easy intuitive pane structure allows quick entry of entire clinical data
3. Symptom semantic engine allows noise in patients perception, language issues to be cancelled to do a better differential diagnosis
4. The DD engine asks more questions to help the doctor reach a correct diagnosis quickly
5. Investigation master interprets test results
6. STP gives Evidence Based Protocols fr most diseases
7. Medication Engine calculates dosages and shows dosages
8. Drug Safety module shows Adverse Drug Reactions, Contraindications Drug, Food & Alcohol Interactions
9. E-Prescription is mailed and stored
10. EMR is created from ePrescriptions automatically

Project Deliverables

Following is a complete list of all project deliverables:

Deliverable	Description
Acquiring Locations	In premises Eyes Hospital Vish Prabha Netralaya
Setting up of Digital Dispensaries	AGILE would set it up with all equipment's, consumables & furniture & fixtures
Medical KPO	AGILE would set it up or expand its current Kolkata based KPO
Manpower selection & Training	Training Division would deliver the entire team after training
Primary Care Delivery with Video Consultations, Medicines & Tests	To be measured on numbers/month along with customer feedback

Supplied Material

The following are to be supplied by Vish Prabha Netralaya For AGILE HEALTH CARE & REHABILITATION SERVICES PRIVATE Ltd. to meet project milestones, this material must be supplied on schedule. The due dates included in the following table represent our best guess based on current proposed project dates:

Materials to be supplied by Vish Prabha Netralaya	Due Date*
Location for setting up digital Dispensary.	As per agreed timeline.

EXPECTED RESULTS

We expect our proposed solution to Member Parliament Buxar and Hon'ble Minister State Health and Family Welfare, Govt. of India requirements to provide the following results:

Resource Benefits

- Extended availability and utilisation of Dispensary Services from 8 am to 8 pm.
- Availability of Specialist consultations at the Dispensary through Telemedicine
- Availability of Investigation facility at Digital Dispensary
- Declogging of Secondary and Tertiary Care referral centres for Primary Healthcare by its provision in Digital Dispensary level

Financial Benefits

- Lowest cost per OPD – Rs 250/-per person with medications, with tests costs of primary care per episode
- Diagnosis of diseases – Early detection & treatment of diseases will reduce the overall healthcare expenditure

Technical Benefits

- Universal Primary Care and Preventive care.
- Use of Generic Medicines and help fulfill the Goals of National Health Mission.
- Diagnosing & epidemiology
- Creation of EMRs and measurement of health impact in a resource constrained environment.

PRICING

The following table details the pricing (One Centers at Chandigarh) for delivery of the services outlined in this proposal.

SI No	Capital Cost	Unit	Price (in INR) per unit	Total (in INR)
1	Laptop with Camera & Headphone or Equivalent and Medical Equipments or Equivalent	1	10,00,000	10,00,000
2	Initial Medicine stock	1	1,00,000	1,00,000
3	Power Solution	1	50,000	50,000
4	Furniture & Fixtures (incl interiors)	1	1,50,000	1,50,000
5	License Cost (Pharmacy POS + webRTC)	1	1,00,000	1,00,000
6	Installation & Delivery	1	50,000	50,000
7	Capacity building of Staff (2 Staffs to be deployed)	2	10,000	20,000
8	Transportation Cost	1	30,000	30,000
9	Annual Insurance	1	25,000	25,000
Total Capital Costs (GST will be extra)				15,25,000
Services Cost <OPD> Per Month				
11	Manpower + Doctors Consultation + Routine Lab investigation + Medicine (for 5 days)	Assuming 30 Consults / Day @ Rs. 250/-	250	1,95,000
12	Internet rental cost	1	10,000	10,000
13	Electricity Expenditure	1	5,000	5,000
14	Miscellaneous Expenditure	1	10,000	10,000
Total Opex /month				2,20,000

GST will be extra

Capital Cost	15,25,000
Services Cost <OPD> for 12 Months	26,40,000
Total	41,65,000

QUALIFICATIONS

AGILE HEALTH CARE & REHABILITATION SERVICES PRIVATE Ltd. is continually proven to be an industry leader for rural healthcare. It has partnered with Glocal Healthcare Services Private Ltd as a joint venture for the provision of Digital Dispensaries. Through this partnership Agile acquires partnership credentials of following existing achievements:

- Only Corporate chain of hospitals with rural spread
- India's largest healthcare skilling system with over 40,000 people trained last year
- Technology advantage

