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# RURAL HEALTHCARE AMBUPOD '360'

HYBRID TELEMEDICINE AND PHYSICAL SERVICES AT VILLAGES

LYNK AMBUPOD PVT LTD

Bengaluru

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## EXECUTIVE SUMMARY

**T**he AmbuPod healthcare system (AmbuPod) is a quality-based, telemedicine enabled healthcare system capable of providing end-to-end, primary, preventive, chronic, palliative, screening and ambulance services in an Out Patient (OPD) environment. It can be quickly deployed and scaled in urban or rural sectors and is capable of ensuring daily services to groups of villages or mohallas. Being a versatile healthcare OPD platform, it can be modified and customized extensively to serve client specific purposes. It's bundled telemedicine applications are Telemedicine Practice Guidelines 2020 (TPG 2020) compliant and interoperable with other applications via JSON or HL7 V2.x secure pipes\*. The AmbuPod system is a cutting edge offering of LYNK AmbuPod Pvt Ltd (LYNK), a Government of India (GoI) certified Start-Up (2017). LYNK is one of the few start-ups in India to be awarded an Income Tax free status for 7 years, thanks to its patent (pending) innovation the AmbuPod.

This document provides details of the clinical services that can be provided along with details of the infrastructure, manpower required for setting up the said services, along with approximate timelines#.

This is an initial proposal and is subject to change, depending on further discussions.

\*Requires the connecting partner to be able to securely provide and accept data in a standard JSON, delimited text or HL7 V2.x format

# Timelines will change depending on timings provided by the client for activities that it would be responsible for.

## INTRODUCTION

The AmbuPod Healthcare system consists of the following components:

1. The AmbuPod vehicle
2. AmbuPod vehicle customizations (on request)
3. The bundled medical equipment
4. Add-on (optional and on request) medical equipment
5. Medical consumables
6. Add-on (optional and on request) medical consumables
7. Medical tests
8. Add-on (optional and on request) medical tests
9. Medical test consumables for 6 and 7
10. IT hardware
11. Telemedicine hub and spoke applications
12. Software customizations
13. Transportation, Training and Implementation
14. Maintenance
15. Manpower and backend support (as per request)

Each of the above shall be discussed in detail.

We shall also mention LYNK and client responsibilities.

## THE AMBUPOD VEHICLE

The AmbuPod is a lightweight three-wheeler vehicle that is diesel or electric powered. It is designed to carry one lying/semi-lying patient and two seated adults in the rear and one driver in front.

The electric version is eco-friendly with a zero-carbon foot print. A single charge of between 6 to 8 hours will allow it to cover a maximum of 60 KMs. Change in the battery type/size can increase its mileage to as much as 120 KMs. Charging time can be reduced by changing the type of battery.

The diesel version is designed on a commercial chassis and provides around 30-35KMs per litre. It has a tank capacity of around 7 to 10 litres (depending on the chassis selected) and a top speed of 60 KMPH. It is larger in size and can store more equipment. Its price is around 30% higher than the electric model. The actual models (electric or diesel) will look different from the photo below as we need to conform to the RTO requirements in different states. The capabilities will, however, remain the same.

- **The AmbuPod® AmbuClinic**
- A complete clinic and ambulance
- Diagnostic tests and equipment
- Basic emergency equipment and drugs
- Primary care medicines
- Emergency ambulance services
- Telemedicine app and device
- Training and back-end Telemedicine physician support
- Ideal for a local to provide daily care (with telemedicine support) to small and tiny villages within 10 -12 Kms



customizations (on request): The interiors can be customized as per client requirements, if feasible. Additional costs and extended time of delivery are to be expected.

## MEDICAL EQUIPMENT

The following medical equipment will be provided with the AmbuPod. The same can also be provided (without the vehicle) to equip a static clinic.

- Outdoor clinic tent, chair, table (only with vehicle)
- stretcher light weight - 4 fold( Only with vehicle),
- O2 giving set, small
- ECG device, with bottle of ECG gel
- Pulseoxymeter (finger)
- Blood pressure meter (aneroid)
- bell and diaphragm stethoscope general,
- ENT scope electric
- Foetal Doppler Heart rate monitor
- Hb Test set, with 10 strips
- Glucometer, with 10 strips
- foot operated Suction device
- thermometer digital
- Ambubag with adult and paediatric face pieces
- Nebulizer
- Measuring tape
- Weighing machine adult
- Weighing machine infant with hook
- LED torch rechargeable
- Peak flow meter
- Patellar hammer
- Pen, pad, paper



Support for the above will be provided by us

### **Add-on (optional and on request) medical equipment**

As per request and if feasible. The following can be suggested: Electronic stethoscope, Pulmonary function test device, Defibrillator, etc. Costs as per procurement cost + admin charge. Support will be provided by the respective brand owners.

## MEDICAL CONSUMABLES

Generally non-parenteral medicines required in primary care and as per the TPG2020 guidelines. Additional medicines if required shall be provided as per demand. Modifications of the list or changes can be done as per requirement. Please note that it would be illegal to provide the medicines unless it is based on an ePrescription. For this the AmbuApp telemedicine software will be mandatory.

Costs of medicines will be as per procurement cost + admin charge.

## MEDICAL TESTS

- ECG 3 lead and 12 lead
- Oxygen saturation and pulse rate
- Haemoglobin (strips) (Meter can be provided at additional cost)
- Glucose (by finger prick method)

Add-on (optional and on request) medical tests can be provided as per request and if feasible. Costs as per procurement cost + admin charge. Support will be provided by the respective brand owners.



Medical test consumables can be provided as per request and if feasible. Costs as per procurement cost + admin charge. Support will be provided by the respective brand owners.

## IT HARDWARE

At village/AmbuPod: 10 inch colour screen, Android tablet PC with adequate memory and speed to run the bundled apps. The PC would be 4G with calling and WiFi so that it could be connected to the Internet by sim card or WiFi. Warranty is as provided by the manufacturer.

## TELEMEDICINE HUB AND SPOKE APPLICATIONS

**The telemedicine spoke** (village end) Android application is easy to use and convenient. Called the AmbuApp Telemedicine Client, data is collected in a structured format so as to be useful for analytics. The main language is English but can be customized for various languages (costs apply). A large amount of data is fed-in without the need to type it in thereby making it fast and convenient. To quote examples:

1. The demographics and/or unique ID can be scanned from a QR coded card without the need to type it in. This info can also be extracted from another external app.
2. Most complaints/symptoms can be selected by sliders, tick boxes or from dropdown lists. This ensures prevention of typing errors and entry of incorrect/nonsensical data)
3. The address can be captured automatically from the location data using GIS
4. Images can be captured with one click
5. Legal consent form

Further details of the application are as below

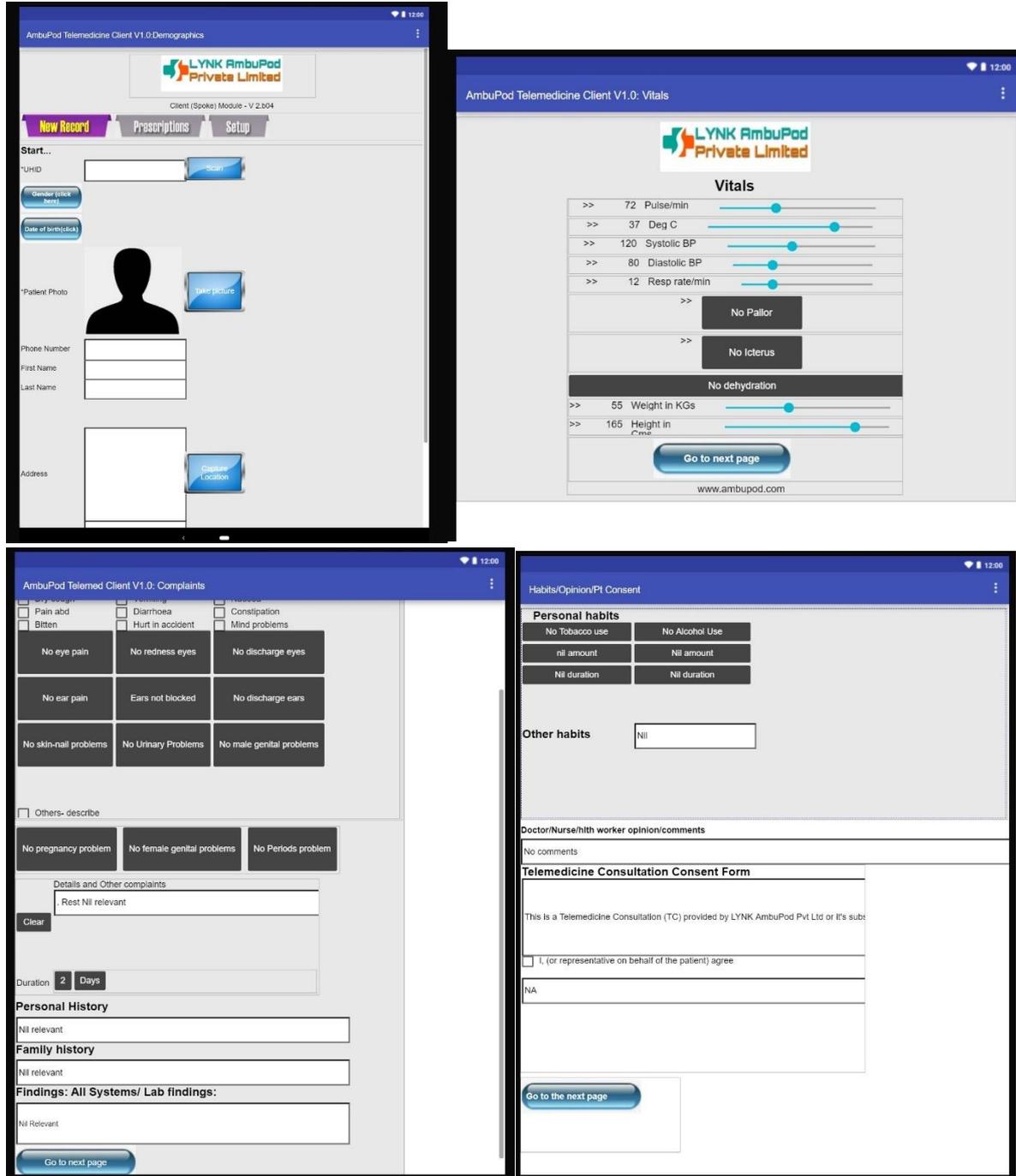
## THE AMBUAPP TELEMEDICINE SOLUTION

- Specifically designed for Scenarios III and IV (as per the TPG 2020)
- A cloud based solution with an Android or browser based client (as per choice)
- Works on Android, Windows and Mac
- Works on desktops, laptops, tablets and phones
- The client (spoke) works off-line and on-line
- The hub module is browser based and works in a pure cloud/Hybrid cloud/LAN/WAN configuration
- Built-in EMR
- Focused on structured clinical data capture and analysis
- Online Payments ready
- Built-in security powered by the google engine
- Can interoperate with any other HC IT application via HL7 module connects
- ICD 10, SNOMED-CT and LOINC enabled
- ePrescriptions (as per TPG 2020)
- Touch and user friendly
- Directly acquire patient images in one click
- Can capture data from medical devices\*
- Plug-and-play ready for primary care
- Modularized and customizable for any speciality(s)
- Low training curve; On line-training

\*Device dependent

Warranty and maintenance are carried out by us as this is an app designed by LYNK.

Here are some images of the (village-end) AmbuApp Telemedicine client



The hub software will be provided at the central hub and is browser based. Doctors work remotely at the hub and provide advice to the village patients. The software has been designed to be very easy to use and consists of a SINGLE PAGE that carries out all the activities required. This includes viewing relevant patient data, their images and deciding on the diagnosis. To make things easier, standardized, error proof and faster, we provide ICD

10 coded diagnosis , LOINC and SNOMED CT coded procedures and ready prescription templates. An average doctor will learn to use our software in as less as 1 hour of training. In addition to the above, we provide anonymisation capabilities to ensure that the doctor is legally protected from claims of patient data leaks. This is a feature not found in any clinical software anywhere in the world (as per our knowledge).

If the hub is setup by the client then the client will need to provide a windows-based laptop to each doctor with at least the following configuration:

Processor: 1.4 gigahertz (GHz) or faster processor

RAM: 2 GB or more for 64-bit

Hard drive space: 256 GB or higher for 64-bit OS (SSD preferred)

Graphics card: DirectX 9 or later with WDDM 1.0 driver

Display: 800x600, though 1080x1920 is preferred

Internet Connection: 10 MBPS (steady) or higher

## SOFTWARE CUSTOMIZATIONS

Customizations and sharing of data (in/out) can be done by secured JSON, Delimited files or HL7 messages. customizations can be carried out as per client requirements, if feasible. Additional costs and extended time of delivery are to be expected.

## BUNDLED SOLUTIONS AVAILABLE

We understand that each client's requirement could be different and we there for offer bundled solutions to suit every requirement and budget.

The following 3 solutions are available:

### AMBUMANPAC©

A man wearable kit that provides diagnostic tests and equipment, Basic emergency equipment and drugs (Primary care medicines) along with a Telemedicine app and device. We provide training and also optional back-end Telemedicine physician support to ensure quick setup and activation.

The AmbuManPac© is ideal for providing daily care (with telemedicine support) to a tiny village of as less as 100 families.

This kit can also be carried on a cycle (provided by the client) and allows a person to care for 2 or 3 tiny villages within a radius of 2 to 4 KMs.



The following shall be provided:

- ECG device, with bottle of ECG gel
- Pulseoxy meter (finger)
- Blood pressure meter (aneroid)
- bell and diaphragm stethoscope general,
- ENT scope electric
- Foetal Doppler Heart rate monitor
- Hb Test set, with 10 strips
- Glucometer, with 10 strips
- thermometer digital
- Ambubag with adult and paediatric face pieces
- Nebulizer (battery operated)
- Measuring tape
- Weighing machine adult
- Weighing machine infant with hook
- LED torch rechargeable
- Peak flow meter
- Patellar hammer
- Pen, pad, paper
- Medicine bag small(with a starter pack of 15 OTC medicines)
- Back pack for the above
- Training (online)
- Additional test kits can be provided on demand (costed separately)

#### AMBUMOTOPAC©



A scooter/motorcycle borne kit (motorcycle/scooter provided by the client). The AmbuMotoPac© is ideal for providing daily care to a number of small and tiny villages with a radius of 4 to 8 KMs.

The following shall be provided:

- Oxygen set, small
- Suction apparatus, foot operated
- ECG device, with bottle of ECG gel
- Pulseoxymeter (finger)
- Blood pressure meter (aneroid)
- bell and diaphragm stethoscope general,
- ENT scope electric
- Foetal Doppler Heart rate monitor
- Hb Test set, with 10 strips
- Glucometer, with 10 strips
- thermometer digital
- Ambubag with adult and paediatric face pieces
- Nebulizer (battery operated)
- Measuring tape
- Weighing machine adult
- Weighing machine infant with hook
- LED torch rechargeable
- Peak flow meter
- Patellar hammer
- Pen, pad, paper
- Medicine bag medium (with a starter pack of 15 OTC medicines)
- soft packs for the above
- Training (online)
- Additional test kits can be provided on demand (costed separately)

#### AMBUPOD© AMBUCLINIC

A fully operational mobile clinic cum ambulance that provides diagnostic tests and equipment, emergency equipment and drugs (Primary care medicines) along with a Telemedicine app and device. The AmbuPod can carry one lying and two seated patients and allows for the patient to be treated in the vehicle and moved to a medical establishment in emergencies. The AmbuPod© is ideal for providing daily to a number of small and tiny villages within a range of 6 to 10 KMs.



Sustainable, affordable and quickly scalable solutions as above are urgently required to improve the delivery of healthcare in rural India.

The ambuPod AmbuClinic has, in addition to all the equipment described in the AmbuMotoPac, the following:

- Outdoor clinic tent, chair, table (with branding)
- stretcher light weight (4 fold),
- Cupboards for (optional) medical equipment and medicines
- Telemedicine Software Android Front-end one user 1 year license
- Telemedicine Software Android back-end one user 1 year license
- ECG App
- Eye Tests Apps
- Hearing tests App

For details, costs, etc please email Dr. Lavanian, Director at [director@ambupod.com](mailto:director@ambupod.com) with cc to [lavanian@gmail.com](mailto:lavanian@gmail.com)

## TRANSPORTATION, TRAINING AND IMPLEMENTATION

We can deliver our solution and equipment to any part of India served by postal, road, rail or Air transport services. Training will be carried out online for the doctors and village AmbuPod manager. If the AmbuPod vehicle is also purchased then the selected AmbuPod Manager will have to visit Bangalore for a 3 day training. In case the purchase is for 5 or more vehicles, one of our team members will arrive on site to carry out training. Additional costs for training, transportation and vehicle registration with the local RTO shall apply.

## MAINTENANCE

We provide a 1-year warranty and online maintenance contract for the spoke (village end) application. The license for each spoke is renewed each year.

The hub application, if setup at the client's hub and run by the client's doctors, is charged per doctor user per year with yearly maintenance. A standard amount of server space is provided per client and any excess used is chargeable.

## MANPOWER AND BACKEND SUPPORT (AS PER REQUEST)

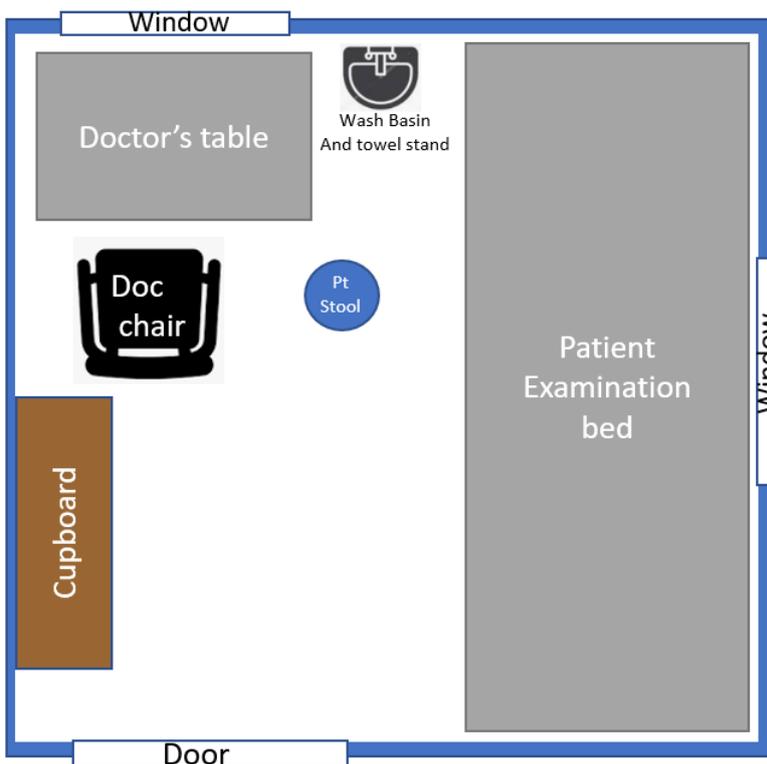
Bulk generic Medicines and test reagents/strips can be provided on request, placed well in advance. Oxygen will need to be refilled at local agencies.

If the project utilizes 5 or more AmbuPods in a single geographical location we would try and provide a local rep for level 1 issue resolution.

## LOCAL INFRASTRUCTURE REQUIRED AT A STATIC SITE (IF APPLICABLE)

In case a healthcare setup is requested at a static site, the following infrastructure and admin support is suggested.

- A private shaded area/room (with adequate ventilation and light) of at least 2 meters x 2 meters.
- Protection from direct sunlight, rain and dust
- A ceiling fan and room lighting
- A chair, small table, patient stool and a hard bed with mattress (6ftx2 ft)
- Hard, clean floor and walls
- A towel stand, wash basin and cupboard
- Window and door curtains
- A waiting area, if feasible
- A washing and drinking water source
- Internet availability (WiFi or 4/3/2G)
- Safe parking area for the AmbuPod (if used)
- Cooperation and support of the local administration



## TIMELINES

Timelines can be very variable depending on multiple factors. What we provide here is an approximation assuming that activities by all partners are carried out on time. We assume training of 3 AmbuPod Managers and 2 doctors.

The schedule starts from day zero. Day zero is the date that the full payment reaches our bank account. Time for discussions, negotiations, modifications, etc are not part of this schedule. It is also assumed that the infrastructure and staff are ready.

No.	AmbuPod system provided along with vehicle	Duration (working days)
1	Construction, equipping and testing of the AmbuPods	60 to 90 days
2	Training of AmbuPod Manager and doctors	6 days
3	Transportation to site	4 to 30 days
4	Setup at site	1 to 3 days
5	Testing at site and backend	1 to 3 days
6	Exigencies	5 days

No.	AmbuPod system provided at static site	Duration (working days)
1	Equipment ordering, collection, testing and validation	15 to 20 days
2	Training of AmbuPod Manager and doctors	6 days
3	Transportation to site	3 to 15 days
4	Setup at site	1 day
5	Testing at site and backend	3 days
6	Exigencies	2 days

## CONTACT DETAILS

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