Health ATM
Any Time Medical-Help

Piyush Goel
(Student)
Dept. of Bio-Medical Engineering
Manav Rachana International University
Faridabad, India
piyush_goel89@yahoo.com

Sanjay Bansal
Head of Innovation and Incubation Center
Manav Rachana International University
Faridabad, India
futurefactory@mrei.ac.in

Abstract—Health ATM will be a single integrated machine designed to diagnose all the chronic disease. It is a machine introduced with all the latest diagnostic equipments for basic vitals, cardiology, neurology, pulmonary testing, gynecology, basic laboratory testing and emergency facilities. It will do the same work as an ATM machine do for a BANK in reducing the loaf of hospitals. So it will be easy for patients to get world class medical facilities. Machine will be having two variant basically independent & dependent. Three patients can excess the machine simultaneously. This system will help in creating health awareness and also provide global level discussion on the reports so that the appropriate treatment can be done without any delay. It will be a better modernize, simplified, accurate & fast service provider to the people without any friction with the medical authorities.

Keywords: Health ATM, Telemedicine, Life saving Equipments, Vending Machines, Laboratory Testing

I. INTRODUCTION

Health ATM will be one stop single integrated machine to provide diagnosis to all the basic medical problems. It will be introduced with all modern diagnosing equipments used in the cardiology, neurology, pulmonology, audiology, basic blood testing, impotency, gynecology, clinical diagnostic, vending machine and life saving equipments in case of emergency. It will do the same work for a Hospital as an ATM machine do for a Bank. Thus it will make easy to get diagnose medical problem for people where hospitals are not in easy reach and also provide a central platform for the patients to interact with the specialist of the fields through telemedicine(video conferencing). Health ATM will be having many benefits over the present system as it will be an integrated machine that will provide solutions to all medical problems, requiring very small space for installation and working.

It will also help government hospitals such as AIIMS in providing their services to the people living in the different areas including rural India by installing their H-ATM countrywide so that people may excess the hospital information system from various remote locations.[1-3]

II. OBJECTIVE

Our main objective behind Health ATM is to make available a one stop solution to a patient for most of the medical problems and also to connect people with specialist in different hospitals in a better, modernize, simplified, easy and accurate way.

III. BASIC PILLARS OF HEALTH ATM

The basic pillars of Health ATM will be as follows:
1. Diagnostic equipments
2. Life saving equipments
3. Information center
4. Vending machines
5. Medicine stock and laboratory testing

A. Diagnostic equipments

It will be having all the diagnostic machines related to general monitoring, screening, cardiology, neurology, pulmonary testing and audiology. List of diagnosing equipments are:

- EEG
- EMG + BAER
- Spiro meter
- Audiometer
- ECG recorder
- BP and Glucose measurement
- Uroflowmeter
- Basic vital measuring equipments such as height, weight, heart and pulse rate
- Portable X ray
It will include various equipments to save the patient’s life in the case of emergency such as cardiac arrest, breathlessness, unconsciousness and different emergency cases in which its very important to make the patient stable. In such kind of cases we may stabilize the patient at our Health ATM, till the ambulance comes or medical facility get available with the help of the following equipments:

**OXYGEN MASK**

**VENTILATOR**

**DEFIBRILLATOR**

**C. INFORMATION CENTER**

It will help patient’s to interact with the Doctors to discuss the medical problems with help of video conferencing through consultancy and prescription. It will also provide hospital information through HIS for fixing appointments.

**D. Vending machines**

It will solve the hesitation problem among people in buying protection (condoms), emergency contraceptive pills and pregnancy conceive testing strips. Because this hesitation lead to increase in population and sexually transmitted diseases.

**E. Medicine stock and laboratory testing**

It will make available the prescribed medicines to patients in case of emergency and samples for lab testing will be taken and reports are updated later on.

**IV. MODES OF IMPLANT**

There are mainly two modes of implantation:

1. Dependent mode
2. Independent mode

**A. Dependent Mode**

- Representative of hospitals in this machine will work for a particular hospital. All the patients will be assisted by the doctors of that particular hospital only.

- HIS can be accessed of the concerned hospitals by the patient from the Health ATM center.

**B. Independent Mode**

- In this mode H-ATM center will be established by the independent person on the condition of having a team of qualified doctors.
Figure 2: Basic working flow diagram

Figure 3: 3D view of front panel

Figure 4: Side View
VI. APPLICATION AREA

1. Its main application area will be healthcare field. It will help in increasing the network of good organisations in worldwide and in providing the medical facility at the doorstep to the required one.

2. It will be useful in providing medical facilities to busy areas such as Railway Stations, Airports, markets etc.

3. Provide facilities to people during their journey as this can be installed in the aircrafts, rails and ships.

4. This system can be used by the defence organisation such as military, air force etc.

5. It will help rural India to get better medical facilities at much lower costs.

ACKNOWLEDGMENT

Our sincere thanks goes to Prof. Victor Gambhir PVC ,MRIU Dr.M.K.Soni Executive Director & Dean FET, Dr.Jaswant Singh Professor and HOD of Deptt. of Bio-Medical, Mr.R.Satish Kumar HOD biomedical Fortis Escorts Faridabad, Mr.L.Narayanan MD Silicon labs(pvt)Ltd Chennai , Mr.Appasamy MD of LubDub.pvt.Ltd Chennai, Mr.Sudhir from CURA MEDICAL Chennai, Vital biosystem Chennai MD

S.Lantha Kumar Chennai, Mr.Suman Jolly MD of RMS Chandigarh, Ramjee from SAKURA Japan, Mr.Mauriya Vice president RMS, Mr.Gurunam Singh marketing head RMS of NCR region, Mrs.H.R.Lata(HR head) Appasamy associates, Mr.Pankaj Sindhu MD of Healthimpetus (sponsors) from Mumbai who are helping us a lot in Making this project.

REFERENCES


[7] Escorts Fortis Hospital,Faridabad.

