



# International Journal of Innovative Research in Computer and Communication Engineering

(An ISO 3297: 2007 Certified Organization)

Website: [www.ijircce.com](http://www.ijircce.com)

Vol. 5, Issue 9, September 2017

## A Survey on Medically E-Prescription and Diagnosis Integration (MEDI)

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**ABSTRACT:** Prescription in health sector has more important as it gives details and clear health ideas about the patients. The manual prescription has the limitations and it affects the health of the patient as well as hectic work for the doctor. The proposed system we developing is basically on the digital availability of health record. The system designed user friendly as it helps to the digitization of health record of patient which gives availability of centralized health record as well as E-prescription which serves the people who lives in rural as well as remote areas. The illiteracy is the major issue which affect the people that not capable to understand the important of prescription and health record. The proposed system helps to the patient directly that they don't need to maintain the paper record for the diagnosis as the health record is available. The system which uniquely identified the patient as it has fingerprint recognition. The finger recognition and biometric identification system makes the system unique. The UIDAI (ADHAR) also linked with the system that helps to patient who specially relay on government schemes. The patient can be added and updated under the doctor that can be access previous health records and add new prescription if needed. The Patient can also be able to access health and prescription record in the read only format and also from the medical history we can calculate the statistics such as undernourishment children report, pregnant women report, various disease report and also we maintain the stock availability report.

**KEYWORDS:** medical data, rural area, biometric (fingerprint recognition) technology, centralized availability, stock maintenance, statistics report.

### I. INTRODUCTION

E-Prescribing systems have a clear prospect for better and competitive ways of dealing with the health sector, yet it is necessary to be very careful when choosing systems. Implementations are in their initial stages so there tends to be a lack of standards guiding the action of obtaining functional specifications. There are likely advantages but little data to support this assertion.

'Electronic prescription' is a computer based application which utilizes the internet to create, broadcast and fill out a medical prescription form. It is substitute of paper based prescription. Anyone from the medical industry i.e. a doctor, a nurse or a medical assistant can send a prescription online to the centralized system. It results without errors, precise and comprehensible a prescription.

In rural area, the existing mechanism in storing those data is written down to the book. It is difficult to share and recap the data if still in the book. In order to store and make use of the health and medical data it is should be provide digital record system. The digital record system at least supported with record medium and device for data transfer. Record medium needs to be specified because the data is shareable for the doctor. MEDI is an alternative for record medium but should be integrated with the device for data transfer operation. In rural area that there was limitation of electrical



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power supply and due the mobility of the doctor activities, the device should compact and has low power consumption so fingerprint recognition and centralized system (MEDI) concept is developed for some of those conditions. The main function of fingerprint recognition and centralized system is transferring data to centralized system. MEDI system also should support to ensure the data integrity and validity. This MEDI system concept typically developed based on requirement on fields.

## II. RELATED WORK

Manual paper base prescription system- this system is related with the paper base availability of patients prescription, as in the government hospital the patients data or record is maintained on the paper which contains many limitations such as, Duplication of records, Requires paper and coping supplies, Accessibility of medical records-only one person at a time may use the chart, Quality of manual medical record-the paper is fragile and does not last permanently etc Electronic prescribing [1] is alternative to the current method of manually written prescriptions in hospitals. It has many benefits for those prescribing and dispensing medicines and also for the maintenance of medical record the complexity of use of medications has increase enormously leading to a greater risk of errors. E-prescribing is less prone to error it provides a better and more reliable source of information of patients it saves staff time and improves it also reduces the time spent by re-writing the charts of prescription and much more but it also contains some limitations such as, Financial expenses, risk operator on investment much be consider there are expenses related to buying putting into practice sustaining such as application, many small hospitals and clinics may not be able to sub tend such expenses, organizations will have to get appropriate hardware and software to properly applying the system so organization has to bear the cost, training and knowledge important to operate the system software, training may be expensive, user might make mistakes by entering the wrong data, applications requires continuous monitoring and feedback from experts. Health and medical data is important as like the health record and prescription given by the doctor [5]. In the rural area the health record storing and maintenance is done manually written in book and health register. It difficult to search record and summarize the data so it encourages storing the data in digital format. The smart card is an alternative solution for the digitization of data. The rural area has limitations like electrical power supply and availability of expert doctor, so due to mobility of doctor's activities the device should be compact and should has low power consumption. So that mobile data collection system (MDCS) developed for transferring data to smart card and to health information system. The limitations of the above system is it required smart card reader of particular standard to read that card which is limited to particular smart card only, smart card which used can be break after some time and also there will be chances of losing the card. It limits the health services provide to the patient and also it is costly. These above limitations are overcome by the proposed system which is stated below.

## III. PROPOSED SYSTEM

### A) Introduction:-

This paper presents a proposed system which is the web application that has a small contribution towards making digital India. Web application and technologies are platform independent. System designed primarily for devices such as smart phone, tablets and personal computers. The proposed system will be developed for all the devices which support web services. The literacy ratio in rural area like MELGHAT is 44% by the study of different NGO's. The main objective behind this paper is to design the web application which would provide an effective and easier way to maintain patient's e-prescription and record and reduce the overhead of manual documented prescription given by doctors. This web application also has a major contribution towards maintaining privacy of patient's prescription information. This paper is designed keeping in mind the cost, ease of use, less overhead for target users like doctors, new practitioners and patients. To reduce the cost, we are designing this web application for all smart devices, so that doctors, new practitioners and patients could afford it. This web application is designed in such a way that it is easy to use, has less overhead of manual documented prescription and maintaining patient's record manually. The another advantage of using this web application is that doctors can access the all the medical records of patients and patients also track or access medical records in read only format from any place as the data would be stored on centralized system and it could be accessed from anywhere any time. Also it can maintain patient's history that can be used in future. This web application contains biometric thumb recognition technique with centralized availability of patient's



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data. It also maintains statistics of pregnant women and malnutrition children's especially in rural area. This statistical data will be helpful for the NGO's and government to improve the health of unhealthy area like MELGHAT.

## ***B) Advantages of the Proposed System:-***

- 1) Availability of centralized data.
- 2) Reduce paper work and become simple and easy to track the whole system.
- 3) Give more security and increase efficiency.
- 4) Malnutrition child as well as pregnant women statistics report can be maintained.
- 5) Disease report maintenance.
- 6) Medicine Stock and availability report.

## ***C) Application of the Proposed System:-***

- 1) In Private and Government Hospitals.
- 2) For working NGOs in rural and remote areas.
- 3) For maintaining the statistics of malnutrition child and pregnant women in rural areas.
- 4) Helpful for medical pass out student who have to work for 6 months in rural area.

## IV. CONCLUSION AND FUTURE WORK

In this paper we describe how manual prescription can be enhanced to electronic prescription. This will help to reduce the overhead of manual documented prescription given by doctors. Moreover it will help to maintain patient's E-prescription and health record efficiently. It will also enhance the patients knowledge as well as availability of health record by the centralized access of data. The system described in this paper is basically designed keeping centralized availability of patients health record. This paper is designed keeping in mind the cost, ease of use, less overhead for end users like doctors, new practitioners and patients. This paper produces the web application where there are no chances of misunderstanding of medicine names as they are not handwritten and is easily understood.

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