Smart Phone Based Intelligent Health Care System

Kalithasan. S  
PG Scholar  
Department of Computer Science & Engineering  
Christian College of Engineering and Technology, Dindigul, Tamilnadu-624619, India

Dharani Manoharan.B  
Assistant Professor  
Department of Computer Science & Engineering  
Christian College of Engineering and Technology, Dindigul, Tamilnadu-624619, India

Abstract

Android is most commonly comes installed on a variety of smart phones and tablets from a host of manufacturers offering users access to Google’s own services like Search, YouTube, Maps, Gmail and more. Increasing health insurance cost adds to the increased challenge of improved patient care at lower cost. The plethora of technologies already used in existing healthcare IT infrastructure is often poorly integrated. One of the biggest problems for elderly patients is forgetting to take their prescription drugs. It is estimated that only 50 percent of patients take their medication as prescribed. Either they forget to take the drug or they do not take it at the time or dosage set by their physician. This means that we lose half of the benefit of prescription drugs through human error. This costs the systems billions in negative health outcomes. In this paper surveyed, it will save their valuable time, satisfy their desire for personal control over their own health, and lower the cost of long term medical care. so this process can use for easily claim insurance from specific Organization.

Keywords: Health Care, Hospitalizations, Big Data, Predictive Modeling, Australia, Health Insurance Claims

I. INTRODUCTION

Android is a software stack for mobile devices that includes an operating system, middleware and key applications. Android is a software platform and operating system for mobile devices based on the Linux operating system and developed by Google and the Open Handset Alliance. Open - Android allows to access core mobile device functionality through standard API calls. All applications are equal - Android does not differentiate between the phone's basic and third-party applications -- even the dialer or home screen can be replaced. Fast and easy development - The SDK contains what need to build and run Android applications, including a true device emulator and advanced debugging tools.

Health insurers are mostly concerned with insurance risk, because they agree to reimburse health-related services in exchange for a fixed monthly premium. Poor risk measure could result in exceeding a financial budget. Therefore, one of the most obvious goals for health insurers is to identify high-risk customers by predicting their health care expenditures. Various predictive models have been developed to identify high-risk customers by predicting health-care expenses [5]. Traditional prediction models used demographic information and prior costs to predict future costs [1]. More sophisticated models that incorporate diagnoses [6], [7], drug claims [6], [7] and self-reported health status data [8], have been shown to improve prediction performance.

In hospitals comprised by far the largest component of health expenditure in Australia, consuming 40% of regular health spending [10]. Furthermore, the Australian Productivity Commission, an independent research and advisory body of the Australian Government, pointed out (in their report on government services ) that around AUD (Australian dollars) $3 billion were spent on unnecessary public hospital admissions annually [15]. Earlier identification of those at risk would also help reduce unnecessary hospitalizations and potentially save taxpayers billions of dollars every year. From various perspectives, better prediction of hospitalizations will enable earlier intervention, reducing costs and improving quality of life.

The aim of this paper is to develop a model that predicts the total number of days spent in hospital during a calendar year for individuals from a general population, using large scale health insurance claims data. Illustrates the flow of predictive model. In Predictive model each and every member have own username and password. After login the Admin module can be add, delete and update the details of the entire hospital if all the rights have that admin. In the staff module can register the all the staff like doctor, receptionist, lab admin and if doctor can view and cancel the appointment of the particular patient these rights have that module. In the last module is patient, if any people have illness then first of all register after that only you give the appointment fixes the particular hospitals. In that patient details gave the health insurance claim applied to the insurance. This allowed us to investigate the predictive power of models incorporating data from different domains (e.g., demographic information, medical information) and at the same time for different demographic sub-populations.

The reminder of this paper is organized as follows. Section II, describes the Related Works. Section III summarizes the conclusion.
II. RELATED WORK

I. Duncan introduce this study used health care records generated when hospitals send claims to a health insurance company to receive reimbursement for their services. This data set included the hospital claims data for 242,075 individuals from a private health insurer called Hospitals Contribution Fund of Australia (HCF), one of Australia’s largest combined registered private health fund and life insurance organizations. The data set included hospital admission administrative records and hospital procedure claims, as well as enrollment information on the period an individual or his/her family was covered by the insurance policy. The data also contained the basic demographic information of customers, such as age and gender (the data set was received after pseudonymization to prevent the possibility of identifying real persons).

O. Hasan, D. O. Meltzer, S. A. Shaykevich, C. M. Bell Before building a predictive model, the raw data was recorded and organized into a structure that allowed for efficient computing. Three levels of information: The data provided had three levels of information: customer level, hospital admission level, and hospital procedure claim level.

E. Coiera, Y. Wang, F. Magrabi, O. P. Concha Contained customer demographics (e.g., age and gender) and information about the health insurance products customers buy. Every customer had at least one entry of such information. Customers who updated their personal information during study period could have duplicate records. For the case customers were provided, only the first record was taken – the nearest to the start of study period.

B. Fireman, J. Bartlett, and J. Selby introduce this study used health care records generated when hospitals send claims to a health insurance company to receive reimbursement for their services. This data set included the hospital claims data for 242,075 individuals from a private health insurer called Hospitals Contribution Fund of Australia (HCF), one of Australia’s largest combined registered private health fund and life insurance organizations. The data set included hospital admission administrative records and hospital procedure claims, as well as enrollment information on the period an individual or his/her family was covered by the insurance policy. The data also contained the basic demographic information of customers, such as age and gender (the data set was received after pseudonymization to prevent the possibility of identifying real persons).

H. Quan, B. Li, C. M. Couris, K. Fushimi Delivered during a hospital admission. It included service item information such as item type (e.g., same-day accommodation, overnight accommodation, prosthesis, theater, etc.), It also contained information on the cost of each procedure. Each procedure claim was related to a hospital admission record, and a hospital admission record could be associated with multiple procedure claims.

C. A. Powers, C. M. Meyer, M. C. Roebuck to make meaningful comparisons, two methods were used as baselines so that meaningful comparisons could be made to the prediction models developed. The first baseline model predicted the same constant number of days for all customers. The constant number of days were used as prediction which optimized one of the performance measures – root-mean-square-error (RMSE). In the second baseline model, the DIH of the second year of the observation period was used as the forecast for the DIH in the prediction year. A predictive model was built using bagged regression trees, which is quick to train on large datasets. Every tree in the ensemble is grown on an independently drawn bootstrap replica of the data. Observations not included in this replica are ‘out-of-bag’ samples for this tree.

III. PROPOSED WORK

Mobile computing describes a new class of mobile computing devices which are becoming omnipresent in everyday life. Handhelds, phones and manifold embedded systems make information access easily available for everyone from anywhere at any time. We termed the integration of mobile computing to pervasive health care as mobile health care. The goal of mobile health care is to provide health care services to anyone at any time, overcoming the constraints of place, time and character. Mobile health care takes steps to design, develop and evaluate mobile technologies that help citizens participate more closely in their own healthcare. In many situations people have medical issues which are known to them but are unwilling or unable to reliably go to a physician. Obesity, high blood pressure, irregular heartbeat, or diabetes is examples of such common health problems. In these cases, people are usually advised to periodically visit their doctors for routine medical check-ups. But if we can provide them with a smarter and more personalized means through which they can get medical feedback, it will save their valuable time, satisfy their desire for personal control over their own health, and lower the cost of long term medical care. so this process can use for easily claim insurance from specific Organization.

A. Administration

The administrator can create User accounts for the staff, define the departments of the hospital, add Discount, add Tax and define the schedule for the doctors and other staff members which can be viewed all through the application.

B. Registration

The registration module captures the complete patient’s information with a unique identification number. It keeps track of the department and the doctor to whom the patient is reporting, Doctor’s daily schedule list, Patient visit history, etc.
C. **Doctor/Radiologist**

The doctors registered with the application can view the list of patients in their mobile inbox. They can also store/update the case summary and prescribe the tests and medicines to the patient.

D. **Laboratory/Radiology Test**

This module automates the investigation and the process involved in delivering the results to the concerned doctor. The laboratory module supports to perform various tests. For example, AMC ANC, Renal function, Lipid Profile, Thyroid function, Peripheral Blood, Routine Blood, etc. The Lab Technician stores and forwards the test reports for the tests prescribed by the doctor to the patient.

E. **Dispensary**

This module is utilized by the staff present in the dispensary where they can add and edit the medicine stock present in the dispensary which helps the doctor to prescribe those medicines which are available in the dispensary. Dispensary staff can easily view and issue the medicines prescribed to the patient in this module by the Doctor. The Dispensary staff can monitor their stock of medicines and send requisition to Store where the balance has reduced considerably.

F. **IPD Registrar**

The IPD Registrar admits the patient in IPD ward and allocates the bed to the patient according to the availability of the beds.

G. **Store**

This module keeps the watch over the stock/issue of various medicines to the Dispensary department.

H. **Billing**

This module is concerned with the OPD as well as the IPD and Emergency module. The bill is generated once the patient is discharged by the Doctor. There is a provision to generate a Duplicate bill if required by the Patient.

I. **Health Insurance**

This module is utilized by the patient present in the dispensary where they can add and edit and uploads the patients’ health records in the dispensary which helps the government or private health insurance company. Patients apply for health insurance can cover this module.

### IV. EXPERIMENTAL ANALYSIS AND RESULTS

A. **Regression tree**

A predictive Baseline model was built using bagged regression trees, which is quick to train on large database. Applied to the continuous output estimate from the bagged tree regression model. When the predicted value was smaller than days, it was considered as a prediction of no hospital days and vice versa. Since we predicted a number of days in hospital for each customer in a particular year, the prediction would be performed at the customer level. To further process the feature matrix, all information from levels other than the customer level had to be aggregated into the customer level and sorted into the respective year bins. Baseline models: To make meaningful comparisons, two methods were used as baselines so that meaningful comparisons could be made to the prediction models developed. The first baseline model predicted the same constant number of days for all customers.

B. **Your Privacy Protector**

Privacy Protector that understands the social net behavior of their privacy settings and recommending the reasonable privacy options. It uses user’s personal profile, User’s interests and User’s privacy settings on the photo albums as parameters and with the help of these parameters the system constructs the personal profile of the user. Its automatically learned for a given profile of users and assign to the privacy options. It allows users to see their current privacy settings on their social network profile, namely Face book, and monitors and detects the possible to the privacy risks. Based on the risks it adopts the necessary information for privacy settings.

### V. CONCLUSION

Mobile technology has the potential to help with this and communications problems. Patients no longer need to visit doctors’ offices to be reminded to take their medicine. One of the biggest problems for elderly patients is forgetting to take their prescription drugs. It is estimated that only 50 percent of patients take their medication as prescribed. This means that we lose...
half of the benefit of prescription drugs through human error. This SHMS solution addresses the issues from multi-discipline angels namely Patients, Doctors, Pharmacy, Hospital Management and Services. The application provides both clinical as well as patient care aspects to hospital management. The application is divided into different modules, each addressing a specific activity of the hospital and there by facilitating better patient care.

REFERENCES


