Paduri Hrishitha
19111037

The Importance of Using Database Management Systems in Hospitals

Abstract

1 Introduction

Database management system (DBMS) is a software which is used to manage the database.A database is a collection of inter-related data which is used to retrieve, insert and delete the data efficiently. It is also used to organize the data in the form of a table, schema, views, and reports, etc.The main function of a DBMS is to store and secure personal and corporate data.
Hospital Database System: this is an intelligent system developed to improve the quality of health services offered to individuals and to ensure safe and speedy integration of patients, doctors and health institutions
Hospital used to store their data in traditional file system like :Microsoft Excel (compatible with windows),Open office(compatible with windows/MAC/Linux),Google docs spreadsheets(need internet access any time).The main drawback of traditional file system is data definition is part of application program which works only with specific application. Files are design driven, they require change in design Coding whenever new kind of data occurs.

2 Hospital Database Management Systems

Hospital database systems now provide multifaceted support for the diagnosis, treatment and follow-up of diseases and their management. On a hospital database every process and all data are safely recorded and stored. Examination, medication,surgery and hospitalization reports and all the health institution's records are kept together with the finest detail about patients, and the patient is asked to re-enter each time on his / her application. Personal information (Name / Surname, Birth Place / Date, Blood Group etc.) and contact information are stored safely. Each transaction is stored securely in the database and can be queried separately. With parametric query screens and search forms, search options are offered via multiple options (Name, Gender etc.). The user-friendly, flexible and convenient search interface provides fast and easy access to information.

3 Challenges in Implementing Databases in Healthcare:

As per entity, Constrains key Domain would vary. There are few barriers for acceptance for the implementation of database in healthcare. Main barriers for the implementation of database in healthcare can be pointed out below:
1. The reimbursement mechanism
2. There is broad interest in the capture of population data for those diseases which are so costly and prevalent, still health care policy does not cover for insurance for them. Hence treatment delivery are intertwined.
3. To match the patient need to the available services by comprehensive care, needs special type of database. In this scenario, Multi-dimensional view of the database is implemented using a Network type database called as IDMS (Integrated Database Management System).
4. The Vocabulary consists of the clinical terms embodied in the schema which is bit different than normal words. E.g. cancer treatment techniques, chemotherapy, Radiotherapy etc.
5. Within single healthcare database, Various departments persists which needs department specialty clinical database. E.g. cardiology, urology, Radiology, General surgery, gynaecology, haematology, maternity, nephrology, Neurology, ophthalmology, orthopaedics, Pharmacy, Physiotherapy etc.
6. It has to maintain patient status data for routine, emergency monitoring visits. The database system should also help for scheduling appointments and billing purpose.
7. Academic Rheumatology Clinic at Stanford university has developed database where signs and symptoms of new patients can be compared with those of treated patients. The database structure of these two system differs drastically. The former reduces the patient's past history to a concise snapshots for an easy review whereas the later maintains a detailed time-oriented history for analysis. It concludes from these examples that the database model of healthcare is determined by their medical view ,rather than the facilities provided by the database system. Feedback from the treatment history and method of treatment and its impact is very useful for research. For research statistical analysis and tabular format is preferred rather than general database type. Encoding of data is very much crucial. Data to be encoded includes diagnosis, stages of disease, Patient demographic characteristics etc.. Research always demands rapid access to large quantities of data. There is cost-effectiveness issue as the technology for the specific diseases needs to be altered accordingly. The information obtained from the database plays a vital role for decision making and planning process.

4 Discussion and Results

5 Conclusion