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TBMI19 Medical Information system Seminar-02

Report on Better and less complicated data output

1. **How to divide the database?**

A single and global database can effectively and efficiently handle all the necessary medical information resources, however; an instance of the global database shall be implemented at different levels such as at provider and buyer level, at the clinic's management department level, at general practitioner group and district levels. The idea is the global database will be distributed into many levels and data will be collected from each of the levels and will be integrated into the global server. Users at each levels will have access to the portion of the database at their respective location so that they can access the data relevant to their tasks without interfering with the work at the other levels.

2. **How to integrate the different parts in the database?**

Here, a concept called distributed database system would be the best way to get the data in different parts be integrated into the main global database. The databases in the different levels should be networked into the main global one so that every information from each database levels will flow and get integrated into the global database.

3. **How to implement authorization?**

The authorization shall controls what access should the user have to the database. It can be implemented based on the type of users and the access level they have. For example the administrator at the global or main database can grant several types of privileges to all users at different levels of the database portions, allowing them to access and manipulate schemas, tables, views, sequences, external procedures, and metadata.

4. **How to store the data?**

The data being collected at different levels should be stored electronically in a digital format. A database should exist that contains different tables, and every relevant health information will be stored in its respected tables making a full record. The records will then be shared across the different health care levels through a network system.

5. **How to setup the query, what kind of entities?**

Entities that contains full information for the specific level of information should be implemented in the database. For example at the provider/ buyer level, the entities must be able to hold all possible and relevant information in the form of attributes so that the user at the provider level can use the entity to handle all information coming from the patients at the buyer level.

Queries will help to extract data from the database in an understandable format according to the user's request. For example the SQL SELECT statement, which is used to query the database for useful information. Setting up the queries can differ at each level, this is because the users at all

levels doesn't have equal authorization to access the patient record information, for example the user at the management level at the clinic can have higher level of access to the medical record than the user at the provider/buyer level. Thus, the user at the management level of the clinic will query more entities than most of other levels. Similarly the administrator or may be the nurse at the district level might have much more query to access data from all other portions of the database.

6. **Should the data be stored nationally and or locally?**

As far as distributed database is a recommended way of representing the data, data can be stored both locally as well as nationally. But the data stored locally would be integrated into the database at the national level so that it can be visible for the concerned party.

7. **Who should store the data?**

Data can be stored by representative users of the databases at each level. For example a user can be represented at the provider/buyer level and can be granted with the access level to store and alter data in the database, similarly users can be represented at clinic level, and district level.

8. **How is it done today?**

These days most of health care centers use databases system as a medium of their data storage which is a collection of patients related data and it provides a long term memory for the Information systems which contains entities and relationships among them. On the other hand most of health centers in developing countries, data is managed manually and this form of data management is prone to errors, there is lack of security since data is stored in filling cabinets and is freely accessible to anyone. In case information gets in wrong hands, it may be used against the health center, there may be data duplication where some data may be repeated, it may also be space consuming.