

Electronic services literature review examples

[Business](#), [Management](#)



Abstract

There are many developments that are seen with the handling of health records in clinical settings. Health records are an important issue in managing hospitals. Patient data is important to both patients, doctors, clinicians, the government and medical organizations. This is because they are used to assess the health status of a patient. The government is working hard to ensure that the medical procedures are being automated so that there is accuracy and reliability of the systems is an important aspect when handling patient records. This is the reason as to why automation and development of information systems to manage these procedures are being undertaken, so that there is reliability. This paper will focus on an information system that was developed to be used in a hospital. The various modules and their roles are analyzed in detail.

Introduction

There are many medical information systems that have been developed in order to manage medical procedures. Web-based information systems are taking toll in considering adopting automation. These information systems have various modules and domains that handle various procedures. In a medical information system, there are varying views. There is the view that will be used to handle patient data, the view that will be used to manage doctor information and procedures and the view that will be handled when storing the data. The view of data storage and administrative manipulation of the informant system is seen by the information and communication technology staff. The adoption of these systems in the healthcare facilities

by the administrators and physicians is bound to improve performance in operations, in these health care systems. The technology will ensure efficient service to patients and reduce the time lag in the facilities. It enhances communication, reduces chances of errors and omissions and ensures better and safer treatment to patients (Ball, 2000).

There are two main accounts: Patient account and Doctor Account. The patient account is used manage the procedures of a patient. The doctor account is used to manage the views of the doctor and how the doctor will use the information system.

Patient account

The patient account has various modules. This account has six modules that are used to manage the patient information. The six modules include appointment module, medical history module, ask doctor module, order medicine module, personal information module, and medical reports module. All these modules work to answer one or two questions regarding the information system. These modules work to undertake uniquely in the information system (Cretie, 2008).

Appointment module

This is the module that is used to manage the days in which the patient is to have an encounter with the doctor. The module is integrated with the doctor schedule module. The two modules interact so that the doctor can have a smooth handling of schedules. They integrate well so that when there is a new schedule that has been undertaken, the doctor schedule module will be updated. The doctor will, therefore, get the updates and fix their schedules.

This is solely used to manage the schedule of the doctor. The appointment module is used to define and support data which are strongly coded in the whole system. The domain integrates well with the meta-data that deal with health care providers interventions with the patients. The doctor will meet with the patients more than once and this requires that each meeting be recorded. It is important so that the provider will get the progress of their patients. Then there is form which is an interface description of all the components of the system. The form will contain the required component and will also have the concepts in the system. New concepts are added by using the form domain.

Medical history module

This is the module that is used to record the medical history of the patient. The doctor will make use of this information as a guide for the future medication. It is here that holds the observations that were captured by the doctor in previous encounters with the patient. There are many observations per encounter. This medical history of the patient is normally written by the doctor. The information will be integrated with the doctor account. This will help the doctor to undertake further research about the ailment. It can be a research topic for the doctor about when they are researching about the various issues. Order entails the things that have been scheduled to occur. There is also patient information that is recorded in the module; this is information about the patient recorded in the system. A clinical user will be required to open and log into many applications and then find, within each application, the patient history record before seeing the complete records of the patient. Practically, what often happens is that the electronic data gets

faxed or printed and inserted into a paper record at the inpatient setting. If new results are available, then old results can be corrected and updated, or new alerts (for example, allergies) can be added, but the clinician on the units will not get the notices until they are logged into the system. In addition to this, data which are disparate cannot be aggregated into displays which are integrated, for example clinical analysis and flow sheets (Amatayakul, & Lazarus, 2005).

If the nurses and the clinicians also have the integrated access of the data which has been integrated, then the system will show all cases in which the patient was diagnosed with the current ailment integrated with all cases diagnosed because these two could be represented as synonymous terms. The system has the capability of tracking all the vocabularies that currently make it hard to find or track cases across a multiple investigators. In order to resolve the vocabulary variations, a structured vocabulary system must be used, and the data must be captured in such a way that the system can recognize the appropriate terms and place them in the proper context. Data may be entered in free text (such as progress notes), in a structured form via a drop-down pick list, as images, or as digitized signals with associated meta data (e. g., electrocardiograms). Even if the system picks the data from lists pick lists, there is no assurance that the data that has been picked will be compatible with the rest of the data. A system which allows integration of files can be created across the system (Dodani, 2009).

Ask doctor module

This module is the information that the doctor is being asked by the patient, it will help the doctor to get more insights into a situation or an ailment that

the patient might be suffering from and may not have been captured in the system. This is an important aspect as the patients will want to ask the doctor about something that could help to find a quick solution about the problem they are facing. With the current technologies, this module will get the questions that the doctor is being asked from tables that are integrated with the system. The nurses will be the ones asking this information. The nurses will ask this information from the patients and then they will publish this information to be integrated with the doctor account. This is because they are normally the first ones to interact with the doctor. In the research, the doctor uses the information in future research (Carter, 2008).

Order medicine module

This module aids in getting medicine for the patient. The module works in such a way that the medicine that is being ordered is the one that has been prescribed by the doctor. The doctor and the patient must have had initial or subsequent encounters. It is important that the module interacts with the doctor account. The order medicine will interact with the pharmacy module that will be used to buy medicine. When there is no medicine, the users will be notified in the system that a particular drug is out of stock. In this way, necessary measures can be taken. The ordering can be done so that other medicine stock can be taken.

Personal information

This is all the personal information that regards a patient. This information can be updated later. It is integrated with that of the reception so that the two modules can share the same data. Hitherto, a clinical user has been

required to open and log into many applications and then find, within each application, the patient record before seeing the complete records of the patient. Practically, what often happens is that the electronic data gets faxed or printed and inserted into a paper record at the inpatient setting? If new results are available, then old results can be corrected and updated a, or new alerts can be added, but the clinician on the units will not get the notices until they are logged into the system. In addition to this, data which are disparate cannot be aggregated into displays which are integrated, for example clinical analysis and flow sheets. The person is the basic structure of the person in the system. These are the attributes for the person in the system. Business is the data that are non-medical. They are used for administrative purposes (Dewan, & Lorenzi, 2011).

Medical reports module

This is a module that is used to provide the medical reports that are required by the clinicians and doctors. The medical reports that can be generated with this module include laboratory results, medical evaluation, discharge summary, pathology reports, and radiology reports. Discharge reports are mostly used when the patient is being discharged from the hospital. This report will include the total bill that is payable by the patient. It will also include the follow-up summary and the dates when they will be required to call again. This information will enable the patient and the doctor to follow up on the patient if there are some issues that need to be monitored after the patient has been discharged. Medical evaluation report will be used to generate the report on whether the patient will need further consultation about a given procedure. This report will be used when procuring the various

medical needs to be used in the hospital. This procedure comes after the patient has undergone all the processes. It can be generated even before the patient gets the full medication from the hospital. This means that medical records can be generated anytime it is required. The module has been designed so that it can generate reports concerning all the data about a given procedure. It can generate reports about medical records, theatre reports, pharmacy procedures, and clinical procedures. These reports are used in various aspects of management. It can also be used to show track a medical problem concerning a patient. This is normally undertaken by doctors (Gartee, 2006).

Doctor account

This is the other account that is in the system. The account is used by the doctor and will have information about the many procedures that are performed by the doctor. There are many modules that are found in this account.

Doctor schedule module

This is a module that enables the doctor to look at the schedule so that they will be able to manage their time and schedules basing on urgent cases that need their attention. This module is integrated with the appointment module in the patient account. They will have to be synchronized so that there are no disparate data that are created. The disparity is eradicated in the system in the fact that the modules will update a common database. The modules use the most recent update in the database. There is the ability of multithreading which enables the database to manage situations where

there is multiple access and same processes being undertaken. Patient schedule is updated by the staff and whoever is working on the patient data. Immediately a new patient has been assigned to a doctor, the doctor will get this update and will schedule the time available to ensure that the new patients are attended. In case there is an emergency in the schedule, the doctor will be informed of this emergency and the necessary adjustments will be made to the schedule which was fixed already. Emergencies include issues like fatal accident patients or urgent theater sessions that are to be attended (Fowler, & Worthen, 2009).

Knowledge system module

This module enables doctors to share knowledge and their experiences with other doctors and nurses. The system is built with the knowledge that various encounters are unique. Because of this, there is a need to ensure that the unique experiences are shared by everyone. With the knowledge management age where knowledge is preserved and shared by others, this module takes care of this need. This module will build a knowledge reserve that will be used by not only doctors but also interested parties. There have been surges in the use of knowledge which are stored in the statistics and the knowledge base systems. It is because of this that medical organizations, and in general, organizations, are using data mining and other tools to manage the data for optimal use of it. There has been an influx of the use of automated systems to come up with viable solutions for the many medical processes in existence today. Knowledge system modules, and by extension expert systems, have played a crucial role in the computerization of the medical processes in existence today. The knowledge which is personal and

residing in a doctor's head is very hard to articulate and transfer to others. Despite the fact that knowledge management has gained a lot of popularity in many hospitals today, it is still not yet standardized in its operations today. The system has therefore focused on knowledge management as a way of systematic process of finding, choosing, organizing, distilling and presenting the knowledge in a way that brings some improvement to the interests of the organization. The main objective of medical knowledge management is to make sure that the right knowledge is availed to other doctors at the expected time; this will ensure that there is timely decision-making. The notion of knowledge management involves the way organizations function, communicate and solve problems together. In medical information systems, knowledge and the experiences of doctors will usually undergo a lot of procedures and are innovative in nature. Information management entails the response to anticipated stimuli using predetermined steps. It means that the responses that are made in information management were all seen to come before. There must be a problem which had been foreseen before and a solution be created to solve that problem. On the other hand, knowledge management consists of responses to new opportunities and challenges. Most of the time, the responses are innovative in nature. As opposed to what is seen in business scenarios where there are controlled responses to controlled stimuli, it is quite different with knowledge management where the stimuli are responded to innovatively. These responses are applied in volatile working environments.

Other features of the system

With the system, the doctor is able to select the name of a patient from a drop-down list and records the history information about the patient name is recorded when the patient enters the hospital. Their bio-data are captured when they enter the hospital. This way, the name is stored in the database. The doctor will not have to capture the details of the patient from scratch. This is because this information has already been captured. The procedure will be simple for the doctors as they will just retrieve the name. Many systems do not have this capability as they are mostly autonomous with the other medical modules in the hospital. This, therefore, makes data integration a difficult process to undertake. The system has been designed so that it integrates well in all the processes in the hospital. There is no need to look for information from other modules. If the information is really important, then, it is included in the module. Care has been taken so that the data access is ensured. The doctor information and the confidential information have been taken care of so that staff will only access information that is important to them. The doctor also will record the medication which will be taken by the patient. This information is available in the pharmacy. This is so because the modules are integrated (Geelan, 2009).

The doctors are also provided with the latest news about medical processes. This page is available in the home page of the account. This is important as it keeps doctors informed about what is happening in the world.

Conclusion

Web based medical information systems are the way to go in managing information about patients and doctors. Doctors will need varying

information when they are attending to the [patient. Record clerks also will need the information from the various sectors in order to capture all the information. These issues should be considered when designing an information system. These have been taken care of in the information system that has been design.

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