# CHAPTER TWO

**INTRODUCTION**

Automated patient information system is a system that is comprehensive and integrated, designed to manage the medical records of patients in the hospital. The chapter will review the related work done by other researchers in other to have concept on how the design and development should be.

# LITERATURE REVIEW

## ELECTRONIC PATIENT INFORMATION MANAGEMENT SYSTEMS

Electronic Patient Information Systems have the potential to improve health by giving health professionals improved information about their patients. They can also improve the quality of health care and help control costs through improved efficiency. The literature review covers health information systems with an emphasis on the management of patient information and will help contextualize the survey results. In particular it considers issues relating to the transfer of patient information from paper-based records to digital.

Hospitals can also be regarded as organizations based on high technology and information intensive processes. According to Lawrence and Dyer (1982), such organizations are not hierarchically structured bureaucracies but are often based on democratic control mechanisms with Institutionalized stakeholder influence in decision processes. A survey under 2752 European hospital patient information managers indicates that technology can substantially influence hospital activities and services (Anderson, 1993) It is also expected that health care budgets and funding will spend significantly on sophisticated patient an diagnostic classifications. The use of IT in diagnostic and treatment processes will all to the development of networks of clinical, hospital and health care processes (Smith and Gert vander Pijl, 1999).

The construction of medical patient information is important to improve the hospital medical care capability, the management decision making level of healthy and the hospital operational efficiency. Nowadays, comprehensive hospital information services and management plant form have been established, centering an electronic medical records and clinical pathway. The establishment and use of these information system played an important role in improving he degree of patient satisfaction, enhancing hospital efficiency and health care quality, protecting the safety of health care, and reducing health care costs.

In health care organization, many different user groups (physicians, nurses, administrators, managers, radiologist, pharmacist, etc.) with variety of backgrounds and conflicting interest exist. Implementation of a hospital information system could not happen without an analysis of the feelings and perceptions of individuals who make use of it (Ndira, Rosenberger, and wetter, 2008).

Keeping of records is a very important aspect of information dissemination. We come in contact with large quantities of data and these data become very important if we must produce the right information at the appropriate time for required use.

Retrieving of data depends crucially on time to produced vital information. When retrieving data, important and relevant files are delayed due to poor storage of the data or poor retrieval process and this makes information became obsolete. This can be prevented in such a way that data concerning various entries a kept in manner which can be retrieved when needed without losing a single data item.

Application of computer to medicine provides practical to solutions to problems normally raised by clinicians with defined medical need are important Doctors have been able to communicate with one information using the internet (often referred to as “the information super highway”) which can link computers used by doctors in different hospitals and/or general practices around the world.

Computer is used to prepare operating room reports, enter and store examination data of patient and conduct research on medical subjects that may requires, follow test or research.

The reasons for the urgent introduction of computers into hospitals are due to the following.

1. Computers may make it possible for physicians and health scientist to conduct research that will extend the frontier of medical knowledge, without computers some promising area of research could not be explored.

2. Computers can help to improve the quality of a physician’s diagnosis.

However, with all these, computerization has found its place in the maintenance of medical records.

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## PATIENTS INFORMATION SYSTEM RECORD

According to Wikipedia, An Electronic patient information management system (PIMS) is a comprehensive, integrated information system designed to manage the medical, administrative financial and legal aspects of a hospital and its service processing.

An Electronic patient information management system is essentially a computer system that can manage all the information to allow health care providers to do their job effectively. These system have been around since they were first introduced in the 1960s and have evolved with time and the modernization of health care facilities. The computers were not as fast in those days and they were not able to provide information in real time as they do today.

The staff used them primarily for managing billing and hospital inventory. All these has changed now and today hospital information systems include the integration of all clinical, financial and administrative application modern Electronic patient information management system include many applications addressing the needs of various departments in a hospital.

They manage the data to the clinic, finance department, laboratory, nursing, pharmacy and also the radiology and pathology departments. The hospitals that have switched to electronic patient information management system have access to quick and reliable information including patients’ records illustrating details about their demographics, gender, age etc.

By a simple click of the mouse they receive important data pertaining to hospital finance systems, diet of patients, and even the distribution of medications. With this information they can monitor drug usage in the facility and improve its effectiveness. As an area of medical informatics, the aim of an Electronic patient information management system is to achieve the best possible support of patient care and outcome and administration by presenting data where needed and acquiring data when generated with networked electronic data processing.

When a person becomes a patient in a hospital or any health Centre a file is opened for the patient. This file contains records of previous symptoms, treatments, reaction to treatments, doctor’s comments and other hospital records.

In the making of a record of a patient’s medical history, the practice is for the doctor or nurse concerned to interview the patient on his past illness or health problems. Once the medical records are available on the computer they may be retrieved by a doctor when necessary for review and updating. Although medical records of most people are currently kept and manually maintained. In file cabinets, it is likely that is in the nearest future this record keeping function will increasingly be handled by a computer data bank.

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## EVALUATION OF THE EXISTING SYSTEM

The existing system is a manual system where patient visiting the hospital for the first time go through the registration processes at the reception (General Out Patient Department) and a hand card is issued to the patient after the registration process. Then the patient is send to a nurse who takes the patient Blood Pressure (BP) and the patient is assigned a Doctor. The Doctor examine the patient and diagnose the patient; if a confirmatory examination test is required the patient is given a pathology laboratory (LAB) form to go for a test, after the test have been conducted the patient come with the result to see the Doctor, if the patient needs to be admitted, then a bed is assigned to the patient, that s an INPATIENT. Where the patient need not be admitted, the patient is given drugs prescription to be obtained either at the pharmacy or be purchased, such patient is term as OUTPATIENT.

Also In the existing system, The clinic records information on piece of papers called prescription sheet and output it in a file jacket provided for each patient. Prior to the problem encountered with patient’s attitude to their check up and treatment, the nurse’s laxity (laziness) over their duties, the need arose to develop a software that will be able to solve the problem. The problem caused by the use of manual method of keeping outpatient information can only be solved by computerizing the hospital outpatient information system. The clinic records information on piece of papers called prescription sheet and output it in a file jacket provided for each patient.

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## PROBLEMS ASSOCIATED WITH THE EXISTING SYSTEM

A study of the existing manual patient information system reveals the following problems:

1. Lack of enough and proper storage facilities like file cabinets, visible shelf filing system.
2. The type of materials used for keeping records are easily damaged which results in the loss of information.
3. Time as well as energy wasted in an attempt to provide information which is needed in the generation of statistical report.
4. Problems in areas of:
5. The last drugs administered to a patient.
6. The last diagnosis made.
7. Retrieval of a patient file who has misplaced his/her hand card (small card) and cannot recall his/her registration number.
8. Contents in a file are misplaced as a result of laziness and carelessness of the people working in the storage section.
9. The security and privacy of medical record is not guaranteed.
10. The manual filing system works effectively when the numbers of items to be stored are small. Moreover, the filing system tends to crash if it performs complex operations like cross-reference or process the information in the files.

**EVALUATION OF THE NEW PROPOSES SYSTEM**

The new proposed system is an Automated system. It is a web based patient Record System. The goal of the new system is to increase the speed, reduce the man power needed to operate the system and reduced tedium on the part of the staff.

In the new system, the patient goes through the normal registration processes and a Hand card is issued with a unique identifier (clinical number). The patient is then send to the Doctor, the Doctor enters the patient clinical number to access the file and commence treatment and diagnosis, if the Doctor requires a confirmatory test on the patient the Doctor give a pathology laboratory form to the patient. In the LAB the pathologist conduct the test and enters the result in the patient file on the compute and the patient return to the Doctor who check the result of the test and give the patient drugs prescription, if the patient need to be admitted, the nurses assigned a bed to the patient.

If the patient has an anti-natal case, the patient goes to the Anti-natal clinic straight for registration since the new system is a networked based (Local Area Network) all the information and data goes to the database which reside on a server in the Record department.

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## BENEFITS OF THE NEW PROPOSED SYSTEM

The overall benefit of thee proposed system is to provide a computerized program that:

1. Stores data relating to patient in the hospital
2. Provide a means of easy access of record generated from the processing of the mass data collected concerning an entity or patients in the clinic.
3. Provides menu-driven and user friendly software programs for the purpose of maintaining records in the clinic.
4. Generates reports and data that can be for analysis.
5. Reduces staff stress levels.