

# IN-PATIENT MEDSTAR HIMS

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**Abstract—** A hospital management system is a computer system that facilitates in the efficient execution of the jobs of healthcare practitioners and helps manage information connected to health care. They are in charge of all data management for the medical, financial, administrative, legal, and compliance departments of the healthcare industry. The introduction of the HMS (Hospital Management System) was made in order to address the difficulties in organising all of the patient paperwork related to each hospitalization's numerous departments while maintaining patient confidentiality. HMS makes it possible to handle all patient paperwork in one location, which frees up staff members from having to organise and analyse patient paperwork.

The goal is to automate the company's current manual method with the use of computerised hardware and comprehensive computer software, meeting their specifications, in order to retain their important data and information for a longer period of time with simple access and manipulation. HTML, CSS, Bootstrap, and JavaScript are the key software needs for this application's front end, while PHP, Ajax, jQuery, and MySQL are utilised for the server side scripting to store the user database. Data is pulled from the backend for any necessary verifications. The necessary gear and software are readily available and simple to use. A rapid, secure, dependable, and error-free management system can be achieved with a hospital management system. This will aid organisations in making better use of their resources.

## I. INTRODUCTION

The management of a hospital's operations, including its administrative, financial, legal, and compliance components, is possible through the use of HIMS, or Hospital Management System, an integrated information system. The hospital management system includes elements such as revenue cycle management, business intelligence, and electronic health records.

Information systems have many advantages, including increased service capacity, decreased labour costs and inventory levels, greater cost management, quicker and better information processing for patient care and administration, and higher quality patient care. Through the HIMS portal, all medical services would be integrated into a single system.

The suggested methodology includes three IP models with varying degrees of interpretability. The Hospital Management System will take the place of any hospital's outdated manual paper-based system. The new system's objective is to control patient data. Bills for the patients, personnel, and operating room, as well as the availability of the rooms. To reduce the time and resources now needed for such jobs in a time- and cost-effective way, these services must be provided.

Any hospital's antiquated manual paper-based system is intended to be replaced with the Hospital Management System. Control of patient data is the main goal of the new system. the cost of the patients, the staff, the operating room, and the rooms' accessibility. These services must be provided in a time- and resource-efficient manner in order to reduce the time and resources now required for such operations.

## II. LITERATURE SURVEY

A healthcare system's main objective is to offer society high-quality, cost-effective healthcare. Less financial risk and pleased inhabitants are advantages of a healthier country . By combining a wide range of resources with the help of policy tools, a high-quality and widely accessible healthcare system is created, which in turn generates the desired health benefit for society. [1]

Over time, more people died as a result of the outbreak. The rapid spread of the coronavirus had caused grave concerns for every country, and the health department was at a loss for how to accommodate patients who needed hospital ICU emergency beds as the cases rose globally. [2]

Digital hospitals will have the ability to assess Their infrastructure is more developed in terms of how well their digital transformation supports the planned degree of clinical and operational expertise and fits with business targets according to the Infrastructure Maturity Assessment framework. It enables the establishment of a global benchmark for hospital infrastructure performance and identifies weak points in the current infrastructure. [4]

In hospitals, nurses frequently utilise computerised medical records (EMR). However, research on nurses' opinions of EMR is scarce in Turkey and other nations. This study looked at how EMR systems affected clinical treatment as well as how nurses felt about "Nursing Care Management," "Order Entry," "Information Management," "Information Quality," and "Service Quality." [5]

To increase patient satisfaction, save costs, and enhance healthcare quality, a digital health system is being implemented. It achieves this through the direct technological involvement that results in new diagnostic and therapeutic possibilities as well as the use of more information to develop more engaging and effective care processes. Objective Enhancing the information flows that support them in a modern digital hospital often leads to better clinical and operational operations. [6].

The lack of a standardised terminology used to identify this infrastructure has made it difficult for hospital institutions to assess where they are now and envision where they want to be in the future. Even though the Healthcare Information and Management Systems Society Analytics EMR Adoption Model is a tool for assessing industry adoption of electronic medical records (EMRs), there isn't a tool like it for assessing the foundation and associated technological capabilities for digital hospitals. [7-8] Hospital executives and medical professionals must comprehend how and why to invest in information infrastructure in order to support health information technology that enhances patient safety and care.

### III. SUMMARY OF LITERATURE REVIEW

The primary goal of this initiative is to assist hospitals and patients in determining the availability of ICU beds in certain hospitals using historical data from 2020 regarding cov-19 [15]. The country encountered numerous issues while admitting patients to the intensive care unit as a result of the pandemic situation. According to the reports that are available in the database that the patients have submitted, this also increases efficiency and lowers anxiety among patients so that they can quickly check the ICU admitted and non-admitted patients [16]. As we learn that this approach can assist individuals and the hospital administration in developing better solutions, we can examine forecasts for the following five days for patients in the ICU.

### IV. EXISTING SYSTEM

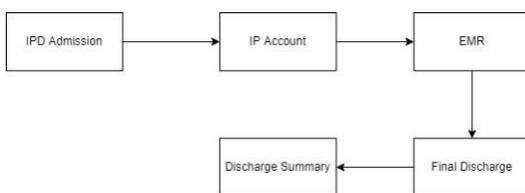


Fig. 1: Block Diagram of the System

Hospitals currently use a manual technique to handle and keep essential data. Under the existing method, numerous paper forms are required, and data stores are scattered throughout the hospital administrative system. The data is frequently inaccurate or does not adhere to management standards. Because forms frequently disappear while being transported between departments, a robust auditing system is necessary to verify that no crucial information is lost. The

hospital has many copies of the same data, which could lead to discrepancies in the data between various methods of storage.

### V. PROPOSED SYSTEM

Any hospital can utilise the Hospital Management System to replace their current manual, paper-based system. Handling patient data is the aim of the new system. Patient bills, operating room schedules, and staff availability. In order to decrease the time and resources now needed for such jobs, these services must be offered in a cost-effective, efficient manner.

#### Scope of the Project

- All that is needed to provide information about a patient is their name, age, and gender. Every time the patient comes up, new data is stored about him.
- To create bills, prices for all services rendered to patients are listed separately on different sheets, and then the total is calculated.
- Patients' diagnoses are typically noted on the paperwork that contains their personal data. To reduce the amount of paper in the office, it is destroyed after a certain amount of time.
- Children's immunisation records are stored on pre-formatted sheets that are retained in a file.

### VI. ARCHITECTURE

Fig1 Fig 4.1 In any hospital, the current manual, paper-based system is replaced with the hospital management method. The management of patient data is the main goal of the new system. Patient bills, employee timetables, operating room availability, and staff schedules. To reduce the time and resources now needed for jobs of a similar nature, these services must be provided effectively and inexpensively. Analyzing each of these models is done using the information that is provided. Only the IPD (In-Patient Department) data provided by the patient is used in this project, and reports are generated in accordance with the EMR. It makes it easier to acquire the patient's discharge summary and an analysis of the algorithm that details the sensitivity, specificity, etc. of the algorithm. It also makes it easy to build the entire analysis.

### VII. METHODOLOGY

**Quality:** Professionals are becoming more aware of the extent to which individual and population health services affect the likelihood of desired health outcomes. The definition of "health services" states that they include "a wide range of services that have an impact on. health and apply to

a variety of healthcare professions (doctors, nurses, and other health care workers), as well as to all treatment settings.

**Patient safety:** To prevent accidents or injury to patients from treatment that is meant to help them, operational procedures and processes must be developed to decrease the risk of errors and enhance the likelihood that they will be identified when they do.

## VIII. SYSTEM REQUIREMENTS

### A. Hardware Requirements

RAM: 2GB minimum (4+ GB RAM recommended)  
Storage: 2GB minimum (8 GB recommended)

### B. Software Requirements

OS: Windows Configuration Management Tool:  
JavaScript, PHP, MySQL , Xampp Server 32 or 64 bit operating system

## VII. RESULT AND DISCUSSION

It provides a better system design for patient care. The project also reduces hospital operating costs to better support patients. From admission to discharge, patients can move through the system with ease. If the patient is admitted, there will be better communication between the various departments. Additionally, it permits internal links for the admitted patients between the pharmacy and other divisions.



Fig. 2: Login page for Admin

## IX. CONCLUSION

In conclusion, the fundamental objective of the hospital management system is to bring a hospital up to date technologically. Computers assist in it and take the place of the manual system to increase its effectiveness. This hospital management strategy has a long history of success and is very dependable. Every element required for efficient management and data storage is present in the hospital. It has a range of features, including the capacity to generate test results, monitor patient health records, and look up patient

data. It is therefore a vital mechanism for the contemporary world.

Since patient data is electronically entered into the "Hospital Management System," it will be protected. This application can find a patient's medical history with just one click. As a result, information processing will move forward more quickly. It ensures the maintenance of precise patient data. It quickly lessens the need for bookkeeping, which cuts labour costs and improves accuracy.

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