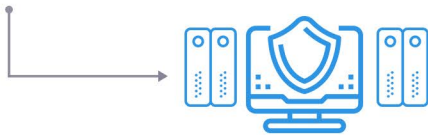


# Healthcare Solution Improves Multispecialty and Clinical Management

## Overview

**Need:** A renowned regional hospital wishes to acquire an information system to help manage the patients care information from various health problems. The system is not a complete medical records system with a proper workflow where all the information from all clinics is maintained categorically.

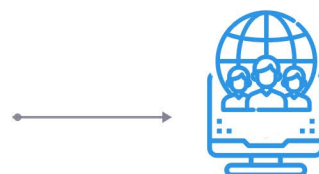


**Solution:** Walkwel aimed at transforming the client's business resources into an improved workflow. We focused on how to generate information that allows health service managers to assess performance and health history. We also inculcated provisions to provide a system that is self-sufficient and made as per the hospital workflow.



### Benefit:

- Improved upkeep by introducing different levels for administration and patients.
- Well maintained patient profile and history.
- Increase in management efficiency up to eighteen percent



## Background

Having a chain of hospitals in a region may have its perks but managing the entire system and database demands a consistent workflow and a well-managed healthcare solution. Apart from providing medical help for various diseases, a hospital has several other roles to play like -



Consultation by Doctors  
on Diseases



Providing Treatment  
Facility



Facility for Admitting  
Patients



Information and Records  
maintenance



Staff Management



Billing and Accounts



The patients have the suppleness of consulting any chain. Giving such flexibility to patients so that they can drop in or schedule their appointment any hour, our clients needed a robust system that is reliable and flexible at the same time.

Several patients misplace their prescriptions and medical history while revisiting the doctors. Some of them even require medical emergency. In such cases defining a prominent workflow and maintaining it becomes way more essential. In short the entire system confined to a secure hospital management system is more of a necessity than luxury. The client expected us to include clinical staff like doctors, nurses, health visitors and also the receptionists who could make appointments and medical records of the patients and staff.

Once the system is dynamic the reports will be generated on the hospital management by medical records staff. Management however will not have any direct access to the system. Keeping the data protection act in mind that guards the interest of the patients, the medical data and details must be fed to the system in such a way that that it is secure and accessible only to a few responsible staff. The healthcare solution client wanted was intended to support the medical staff and managing bodies for better hospital management.

## Problem

Managing a chain of hospitals is a strenuous job. Not only there is a lot of paper work involved, but the information is of utmost importance with no room for any error. While analyzing the ins and outs of the present workflow, we examined the entire system from DISCOS point of view. This method supports the derivation of requirements from different number of perspectives.

After a fruitful sitting we brainstormed and came up with five major problems in the client's conventional management structure. They are -

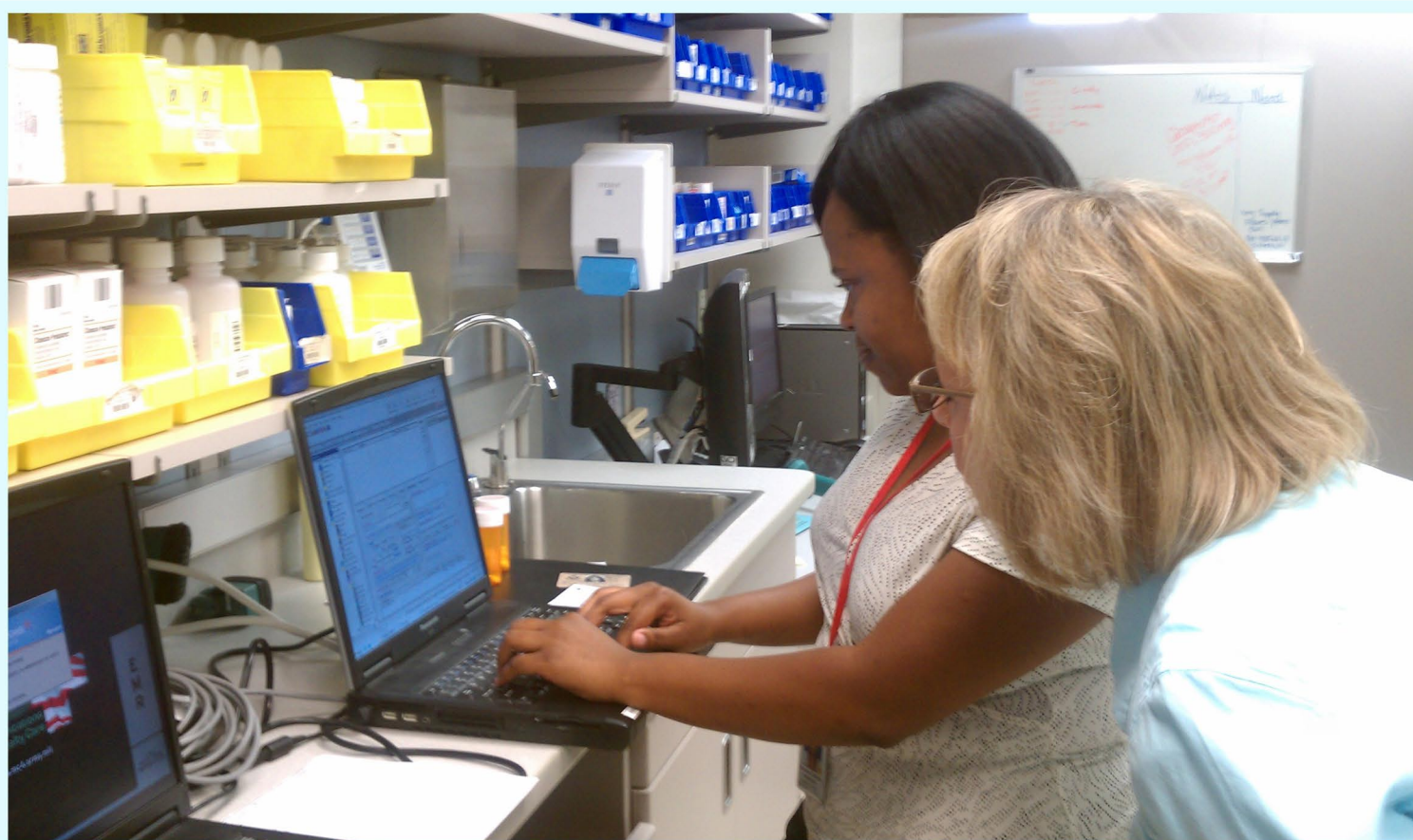
- **Lack of immediate retrieval of information** – The information is not readily available when needed. One needs to search it through files and registers. It caused inconvenience and wastage of time.
- **Lack of instant storage of information** – The information can be instantly stored in the desired place instead of investing double efforts. It is time consuming as well.
- **Lack of Information Update** – Be it any update or a detailed description, the provision of updating the data conventionally is equally tiring.
- **Manual calculation Errors** – Avoiding manual errors is a very crucial responsibility of the person involved in updating/feeding data. With critical information like blood groups and BPs, there is no place for such errors.
- **Prompt Report** – There is no provision of creating a patient report instantly as the data and information is not compiled at a single platform.
- **No Staff management module**– There must be a platform that contains all the information about the shifts and wards in which the doctors and staffs are on duty. Rooster chart is old school. It is the era of

- **No Patient appointment module** – There must be a system that stores patient appointment and send constant reminders to them.

Apart from introducing technical modifications, we also had to train the staff to use their respective modules efficiently and make sure the interface is user friendly and easy to use.

## Solution

These points are not only dependent on the online system introduced, but also the manual system. Implementing change in any system is a very challenging task, especially when the system is already well established. Walkwel accepted this challenge and worked towards making software that follows a robust system that has a probability of negligible failure.



The workflow of the organization was planned again for implementing it in the software. Our clients approved the flow and we proceeded with our work. Apart from workflow, data management schemes were of utmost significance. We at Walkwel, made sure our clients have the latest provision of managing data and even mining it, when need be. There are a few other important things we focused upon.



**Precision** - The level of precision in the proposed system will be higher. All operation would be done correctly and it ensures that whatever information is coming from the center is accurate.



**Reliability** The reliability of the proposed system will be high due to the above stated reasons. The reason for the increased reliability of the system is that now there would be proper storage of information.

**No Redundancy** In the proposed system, utmost care would be that no information is repeated anywhere, in storage or otherwise. This would assure economic use of storage space and consistency in the data stored.



The main objective of proposed system is to provide for a quick and efficient retrieval of information. All type of information would be available whenever the user requires, from staff schedules to patient history. In manual system there are many problems to store the largest amount of information.

Our aim is to make the system easy to operate and should be such that it can be developed within a short period of time and fit in the limited budget of the user. In order to make our ends meet, we planned on having three major solutions in our client' s hospital.

## Case 1

- **Improved Manual System** - One of the major solutions is the improvement of the manual system. Anything, which can be done by using automated methods, can be done manually. But the question arises how to perform thing manually in a sound manner. Following are some suggestions, which can be useful in the manual system.

A more sophisticate register maintenance for various Patient Information, Doctor diary, Immunization Details and a good system for writing bill amount employees and stock availed for the customers can be maintained at central place.

Adequate staff may be maintained so that updating are made at the very moment at the same time. Proper person for proper work should be made responsible so that a better efficiency could be achieved. This needs a lot of work force.

## Case 2

**Batch System -** Another solution can be used of computer based batch system for maintaining the information regarding purchase details, customers and employees.



A batch system refers to a system in which data is processed in a periodical basis. The batch system is able to achieve most of the goals and sub goals. But a batch system data is processed in sequential basis. Therefore batch system is not suggested.

## Case 3

- **Online System -** This system (HMS) provides online storage/ updating and retrieval facility. This system promises very less or no paper work and also provides help to Doctor and operational staff. system.



In this system everything is stored electronically so very less amount of paper work is required and information can be retrieved very easily without searching here and there into registers.

**The work flow of this model is given below -**

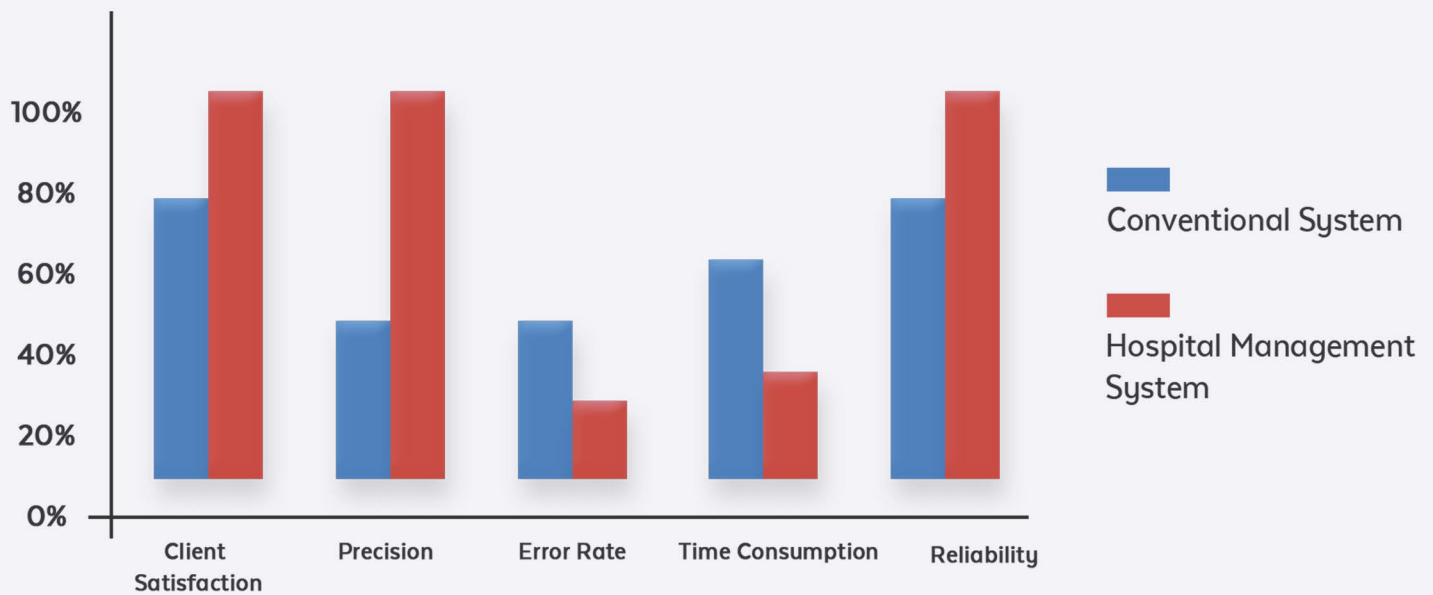
# Hospital Management Information System

Patient Administration	Clinical Suite	Clinical Support Suite	Materials Management Suite	Revenue Management Suite	Support Modules
Patient Registration	Practitioners Workbench	Operation Theatre	Inventory	Patient Billing	HR/Payroll
Appointment Scheduling	Nursing Workbench & Care Plans	Labour & Delivery	Supply and Procurement	Insurance and Contracts Management	Hospital Administration
Admission Discharge and Transfer	Order Entry(CPOE) & Results Reporting	LIMS	Pharmacy Management System	Claims Management	User and Security Administration
Accident and Emergency Management	e-Prescribing (e-Rx)	Radiology and Imaging	Centralized Sterile Supply Department	Healthcare Packages	Management Information System
Bed & Wards Management	Clinical Documentation	Dietary Services	Equipment Maintenance System	Finance	
	EMR & Clinical Data Repository	Blood bank	Fixed Assets		
		Medical Records Dept (MRD)			
		House Keeping, Linen & Laundry			

## Results

The project Hospital Management System (HMS) is for computerizing the working in a hospital. The software takes care of all the requirements of an average hospital and is capable to provide easy and effective storage of information related to patients that come up to the hospital.

It generates test reports; provide prescription details including various tests, diet advice, and medicines prescribed to patient and doctor. It also provides injection details and billing facility on the basis of patient's status whether it is an indoor or outdoor patient. The system also provides the facility of backup as per the requirement, staff scheduling, accounts details and document management.



After introducing the HMS developed by Walkwel, the overall growth of the hospital can be analyzed through a small survey that we conducted among the hospital patients lately.

## Benefits of implementing this solution



Improved Patients  
Friendiness



Unmatched Quality  
Of Care



Controlled & Reduced  
Costs



Minimized Medical  
Errors



Decreased Load on  
Heavily Burdened  
Systems



Enhanced  
Efficiency





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