**HOSPITAL REFERRAL MANAGEMENT SYSTEM**

**A**

**Proposal Document**

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**Submitted To**

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# ABSTRACT

The demand for more advanced medical attention and the low amount of resources in some of the country’s health centers, has made patient referral and counter-referral an important administrative process that begins with a referral from a lower capacity institution to one with more complex assistance and diagnoses, and ends with a counter-referral to the original institution, with a specific diagnosis, information on the services administered and indications for further assistance. Many patients receive referrals to from public to public hospitals, private to private hospitals and private to public hospitals. Referrals can be inefficient, ineffective, and even dangerous unless the process is well coordinated, with all parties communicating and sharing timely information. Poor communication among hospital professionals can sometimes result in unnecessary costly referrals and late transfers that can prove deadly. All these problems will then be addressed by the proposed Hospital Referral Management System.

# CHAPTER1: INTRODUCTION

## 1.1 Introduction

Many patients receive referrals to from public to public hospitals, private to private hospitals and private to public hospitals. Referrals can be inefficient, ineffective, and even dangerous unless the process is well coordinated, with all parties communicating and sharing timely information. Insurance verification of patients for those who are covered before they are referred to the hospitals speeds up the payment processes and clearance of the patients. This system will enforce the accountability, track patient’s status and reduce malpractice claims involved in missed or delayed diagnoses. A system will also facilitate the interactions between professionals.

## 1.2. Problem statement

Inefficiency in referral processes has led to deaths which can be prevented. Track of patient care should be kept up-to-date for easy future medical attention. Patients and their relatives from the far places need to travel kilometers to seek for health institutions with the advanced medical services. On the other hand, late transfers obviously generate undesirable consequences.

## 1.3. Justification

With the Hospital Referral management system fluid communication between professionals will be enabled to eliminate the frustrations faced during the referral process. Insurance verification prior to the visit for the patients covered comes in place to easy and create a smooth payment. The system will also be significant in generating a case knowledge base. This will help in future to solve similar cases as well to observe with efficient adequate and updated medical information. Patient educational materials provided, explaining the procedures the patient is supposed to undergo as far his/her medical condition is concerned. Online appointment request booking for specialists and patients enables accountability and tracks the patients’ progress.

## 1.4. Objectives

Upon the implementation Hospital Referral Management System, the following objectives should be achieved.

1. To enhance provider/Health system communication.
2. To improve patient access.
3. To foster patient retention, enabling effective care coordination.
4. To make it easy for providers and staff to [search for the right providers](https://www.kyruus.com/providermatch-for-referral-networks) for patients' needs across the network.
5. To track referral patterns in and out of network and better understand barriers to patient retention.

## 1.5. Methodology

Different approaches have been used to gather the necessary information and analyze the generated information regarding the proposed topic. The following methods of data collection were used.

### Interview

There was an interview carried out between various hospital stakeholders from different hospitals. Patients were also interviewed and referral processes outlined.

### Observation

Data was collected by the use of direct observation of the current operations.

## 1.6. Conclusion

From the information gathered, the proposed system would be able to solve some of the problems caused by inefficient referral process. There would be reduced death rates and maximized time use and reduced spending when looking for better medical facilities and resources.

# CHAPTER 2: LITERATURE REVIEW

## 2.1. Introduction

This section provides an introduction to the structured evidence-based review on referral. It complements the methodology section above and details some specific issues pertaining to the review on referral.

## 2.2. Literature Review

High risk scenarios and Patient safety in Referral

This section presents and discusses major themes and results identified within the literature pertaining high risk scenarios in referral. Some of this major theme includes:

### Delayed and late referrals

Poor timing of referrals within palliative care environment creates an impact to the quality of care.

Al-Shahri, Sroor, and Alsirafy (2010) referrals and admissions to a Palliative Care Programme in Saudi Arabia.

### Referral Failures

The literature points to the risks in the hospital clinic referral process. The literature also points to the impact of minimum delays to appointments and improved communication between hospitals and general practitioners.

Vardy, Freud, Sherf, Spilberg, Goldfarb, Cohen, Mor-Tosef and Shvartzman(2008) A Co-payment for Consultant services: Primary Care Physicians’ Referral Actualization. [Table 18, p.120]

### Referral follow-up

Le Doare, Banerjee, Oldfield(2009) Written Communication Between general practitioners and hospitals: Analysis [Table 23, p.129]

Undertook a retrospective study of patient referral letters and paired discharge summaries for all patients admitted to hospitals following referral by their general practitioners. Results suggested that 58% of patients’ referral letters to accident and emergency department were missing from medical records.

## 2.3. Conclusion

From the study above, the proposed Hospital Referral Management System will be able to address the issues above, that is: No more delayed referrals and referral follow up catered for. This will in turn reduce death and track of patients will be monitored.

# CHAPTER 3: PROJECT OVERVIEW

## 3.1. Introduction

Under the project review, the following is going to be tackled: proposed solution, project scope and the resources required for the success of the project.

## 3.2. Proposed solution

The hospital referral management system is the proposed system supposed to handle the referral process between hospitals and clinics. Referral process is divided into two. Hospital to Hospital which involves referrals from public to public, private to private and private to private hospitals. We also have inter-facility referrals, clinics in hospitals e.g. Casualty to dental clinic. A patient to be referred is identified. Reports and images of the patient uploaded in his/her account. Next of kin is informed. A facility or hospital to be referred to is identified. The doctor in emergency /casualty is contacted regarding the patient to get an approval. Appointment is then booked to the hospital or clinic the patient is supposed to be referred to. Insurance verification is done if the patient is covered. The patient educational materials are also provided containing the procedures the patient is to undergo throughout his/her treatment.

## 3.3. Project scope

The system is to comprise of the following:

1. Online appointment requests-Where an appointment can be booked to visit the doctor and get an admission to the referred hospital
2. Insurance verification-To verify the patients’ insurance status prior to the visit to ease the payment process
3. Patient educational material-It provides the procedures explaining what the patient to undergo.
4. Web chat-Where communication between physicians and patients, next of kin and hospital staff.
5. Patient registration-Patient details are uploaded in this section. This also includes the reports and images of diagnosis and previous procedures the patient did undergo.
6. Hospital registration-A section for registering hospitals to the system. The information uploaded includes the services offered by the hospitals, its specialists and its contact information.

The users of the system should be the general practitioners of the hospitals, patients and next of kin.

## 3.4. Resources

The resources required in this project includes the following:

#### Hardware

1. Laptop/Desktop
2. Network devices (Access points and ethernet cables) for internet connectivity.

#### Software

1. Microsoft visual Studio code editor
2. Go compiler
3. Revel -web framework for Golang
4. PostgreSQL DBMS

## 3.5. Preliminary results and evaluation

The results expected for the project to kick off is to see the proposal approved. The resources required for the development of the system availed. The development environment to be set on the work station and properly configure the GitHub for easier management of the source code.

## 3.6. Conclusion

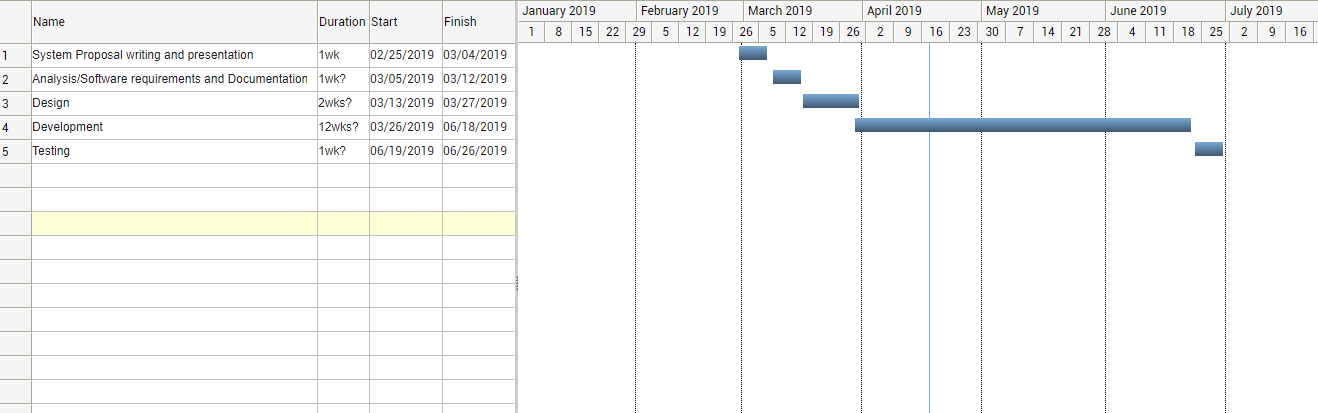
The proposed system to be developed should cover all the areas highlighted in the project scope and problem statement.

# CHAPTER 4

## 4.1. Introduction

The most of the things to be discussed in this chapter includes the Work plan and budget required for the accomplishment of the project.

## 4.2. Work plan



## 4.3. Budget

Table 1 below shows the budget estimated for the software development of HRM system.

Table 1 Budget

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| List of Items | Quantity | | Cost | Total |
| Laptop | 1 | | 40000 | Ksh. 60,000 |
| Safaricom Modem | 1 | | 2000 | Ksh. 2000 |
| Safaricom bandwidth | 50GB | | 500 | Ksh. 25,000 |
| 64GB flash disk | 1 | | 4000 | Ksh. 4000 |
| Document Printing | 5 | | 500 | Ksh. 2500 |
| Total | Ksh. 93,500 |

## 4.4. Conclusion

With the resources in place including availability of cash outlined in the budget, the project is set to be completed within the timelines.

## 4.5. Final Conclusion

In summary, this proposed system will be of great importance to the health system for it will improve the patient care. There would be reduced death rate since the patients can easily access medical facilities in time. The costs will also be reduced in travelling miles so as to get the medical attention. Everything will be centralized.

## 4.6. References

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