CHAPTER 1: INTRODUCTION

**Introduction**

Mahusekwa District Hospital plays a critical role in providing healthcare services to expectant mothers and their newborns. However, the current reliance on a paper-based system for managing maternity patient records presents challenges that hinder efficient healthcare delivery. Developing a Maternity Patient Management System (MPMS) aims to address these challenges and improve the overall management of maternity patient data.

This chapter aims to outline the details of the organization researched which is Mahusekwa District Hospital. These details include the background, vision , mission statement and the organizational structure. The problem definition of the current system and the need for the development of the new system, constraints and justification of the proposed system are also shared in this chapter.

**Background**

Mahusekwa District Hospital is a healthcare facility located in Mahusekwa, within the Mashonaland East Province of Zimbabwe, specifically in the Marondera District. The hospital was constructed between 2009 and 2012, with the aim of addressing the growing healthcare needs of the local community. It was officially opened in 2013 and has since become a vital institution for providing comprehensive medical services to residents in the surrounding areas. The establishment of Mahusekwa District Hospital was driven by the need for improved healthcare access, particularly in maternity and pediatric care. The hospital is equipped with various departments, including maternity, outpatient services, mortuary and emergency care, ensuring that a wide range of health services is available to the community.

**Company Organogram**

Mahusekwa District Hospital has a hierarchical organizational structure, with the District Medical Officer being the head of the district who delegates duties to the DHE which includes the District Nursing Officer,Procurement officer,Health Information Officer, Health Promotions Officer, District Health Administrator, District Pharmacist, Principal Medical Laboratory scientist and the nutritionist.The District Health Information Officer is the head of the Health information department and reports directly to the District Health Officer.The DHE oversees their departmental staffs and interns.The HIO

delegates authorities directly to the Health Information Assistant.Communication in the organization is mainly vertical as information flows from the top to bottom and vice versa.

**Vision**

To have the highest possible level of health and quality of life for all citizens of Zimbabwe.

**Mission Statement**

To provide, administer, co-ordinate and advocate for the provision of equitable, appropriate, accessible, affordable and acceptable quality health service and care to Zimbabweans while maximizing the use of available resources, in line with the Primary Health Care Approach.

**System’s Request Summary**

Mahusekwa District Hospital have realized the need for a Maternity Patient Management System (MPMS) that aims to transform the management of patient records in the maternity department by transitioning from a paper-based system which is prone to mistakes, delays and errors to a digital platform.The current manual processes lead to errors and delays that negatively impact care for mothers and babies. This project aims to improve data accuracy, streamline workflows, and enhance patient engagement by providing real-time access to records and reducing administrative burdens. The system will feature secure electronic storage, user-friendly interfaces for staff, and patient access to their health information. Overall, the MPMS will modernize maternity care at the hospital and improve health outcomes for the community.

**Problem Definition**

Nowadays man is living in a world of advanced technology and transformation. For this reason, users of information especially in the healthcare environment are demanding more information to support and manage their operations. In a hospital, the maternity care department plays a crucial role in providing essential healthcare services to expectant mothers and their newborns. Mahusekwa District Hospital uses a paper-based system for managing maternity patient records which has many challenges in tracking patients’ information, medical history and treatment plans. The existing workflow for managing these patients is inefficient and time-consuming leading to errors, omissions, and inconsistencies in patient information. This process of manual record-keeping results in data loss, difficulties in tracking patient histories, and challenges in monitoring maternal and infant health outcomes over time. Furthermore, patients and their families frequently struggle to access relevant information regarding appointments, procedures, and care plans due to records being misplaced or left at the hospital. This highlights the need for a more efficient and reliable system (Maternity Patient Management System) to enhance the quality of care at the hospital.

**Aim**

To develop a robust user-friendly Maternity Patient Management System (MPMS) at Mahusekwa District Hospital that aims to eliminate the existing paper-based patient record system. This system will enhance data management, improve patient care, and streamline workflows in the maternity department.

**Objectives**

* To Design a user-friendly digital Maternity Patient Management System that is intuitive and easy to navigate for healthcare providers and patients. Enable healthcare providers to access and update patient records in real-time, improving efficiency and responsiveness in patient care
* To develop a system that can track patient information,medical history and treatment plans enabling healthcare providers to coordinate care effectively and allowing patients to access their health information.
* The system must enable healthcare providers to access and update patient records in real-time, improving efficiency and responsiveness in patient care
* To implement role based access control and security protocols to protect patient data and maintain confidentiality.
* To implement a payment gateway enabling expecting mothers to make online payments for maternity registration.

**Constraints**

Constrains to the new system include:

* **Time Constraints**: The system must be completed within a specific time frame, which may restrict the depth of research and testing of the system
* **Budget Constraints:** There may be limitations on the financial resources available for the project, limiting access to advanced technology or software solutionsand hosting options necessary for system development and implementation.
* **Security Constraints:** The website system may need to comply with security standards and protocols to protect patients data and prevent unauthorized access.
* **Technical Constraints:** Integrating the new system with existing hospital IT infrastructure or ensuring compatibility with various devices may pose technical difficulties.
* **Data Migration Constraints:**  Transferring existing patient records from paper to a digital format may encounter challenges related to data accuracy and completeness.

**Justification**

Implementing a Maternity Patient Management System at Mahusekwa District Hospital is justified through the reasons mentioned below:

* **Enhanced Efficiency:** Transitioning from a paper-based record-keeping system to a digital platform will enhance the efficiency of workflows within the maternity department, this reduces administrative burdens, and allow healthcare providers to focus on patient care.
* **Improved Data Accuracy and Security:** The system will mitigate risks associated with paper records, such as data loss and inaccuracies, ensuring that healthcare providers have access to reliable and up-to-date information
* **Better Data Management and Patient Care**: Real-time access to patient records will enable timely decision-making and improve the overall quality of care provided to mothers and newborns because digital records are easily searchable, trackable and analyzable.
* **Cost Saving**: The system will reduce costs associated with paper storage.
* **Empowerment of Patients:** By allowing patients to access their health information, the MPMS will foster greater engagement and involvement in their healthcare, leading to better adherence to treatment plans.

**Conclusion**

In conclusion, the development and implementation of a Maternity Patient Management System at Mahusekwa District Hospital are essential to address the inefficiencies of the current paper-based record-keeping system. While the project may face several constraints, the benefits of improved efficiency, data accuracy, and enhanced patient care justify the need for this initiative. By embracing digital solutions, the hospital can significantly enhance maternity services and contribute to better health outcomes for mothers and their new borns. This project not only holds the potential for immediate improvements but also sets the stage for ongoing advancements in healthcare delivery at the facility.