

DISSERTATION

MENTOR:

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ORGANIZATIONAL PROFILE:

M16 Labs- M16 Labs is a health-tech company that is working towards development and implementation of a Patient Health-Centric Platform to Manage Everyone's Health & Wellness.

VISION: To be the Patient Health-Centric Platform to Manage Everyone's Health & Wellness

MISSION: #HealthyIndia through #HealthyYou by Making Care & Wellness Accessible

COMPANY GOALS:

1. Create Affordable Healthcare IT Solutions
2. Make Healthcare Solutions Easy for & Accessible to Every Strata of Society

Key Learnings from Internship

Teamwork

Coordination

Data Analysis

Leadership Skills

Communication

INTRODUCTION

- Various types of electronic records have been investigated, analysed, designed, or implemented over the last 20 years, with enormous breakthroughs in information technology, notably in the domains of health.
- EHRs are described as digitally stored medical records that are preserved for the entirety of a person's life in order to support care continuity, education, and research.
- EHRs may contain information on observations, lab results, medical imaging, therapies, treatments, drugs given, patient identification data, legal permissions, and other things.
- Implementing EHRs in a healthcare system is more complicated than it first looks. When it comes to implementing an electronic health records system, there are several potential roadblocks.
- Providers can avoid problems and improve the efficiency of the transfer process by being aware of them in advance.

RESEARCH QUESTION

What are the benefits of EHR (MetahOS) platform in a hospital setting?

OBJECTIVES



1. TO REVIEW VARIOUS
ELECTRONIC HEALTH
RECORDS PLATFORMS
INCLUDING METAHOS AND
DOCUMENT THEIR ENABLING
AND HINDERING FACTORS



2. TO STUDY METAHOS
PROCESSES IN A HOSPITAL
SETTING



3. TO ASSESS ENABLING
FACTORS AND BARRIERS
ENCOUNTERED BY METAHOS
DURING EHR
IMPLEMENTATION IN THE
HOSPITAL SETTING.

LITERATURE REVIEW

S.No	Author	Article	Salient Features
1.	Sima Ajami and Razieh Arab-Chadegani	Barriers to implement Electronic Health Records (EHRs)	The goal of this study was to identify the most significant obstacles to using EHRs. This research was a non-systematic review. The literature on the primary impediments to implementing EHRs was combed through using the library, books, conference proceedings, data bank, and search engines such as Google Scholar.
2.	Chen Hsi Tsai, Aboozar Eghdam, Nadia Davoody, Graham Wright	Effects of Electronic Health Record Implementation and Barriers to Adoption and Use	Despite the significant advancements in the area of electronic health records (EHRs) throughout the past 25 years, acceptance and implementation issues still exist, and the advantages achieved are still not up to par. The objective of this scoping review was to give the most recent information on the consequences of EHR deployment and the obstacles to EHR adoption and use
3.	Anna De Benedictis, Emanuele Lettieri, Luca Gastaldi, Cristina Masella.	Electronic Medical Records implementation in hospital	Many hospital management still have unanswered questions about how to adopt Electronic Medical Records (EMRs) across the whole facility. EMRs have extended been recognised as essential to improving healthcare quality and safety, saving costs, reducing patient adverse events, simplifying processes, advancing clinical research, and getting the best clinical results. Professional opposition to accepting EMRs remains a problem for hospitals

S. N o	Author	Article	Salient Features
4.	Sima Ajami and Tayyeb Bagheri-Tadi.	Barriers for Adopting Electronic Health Records (EHRs) by Physicians	The review of publications reveals a wide range of potential impediments to EHR implementation. Despite the good impacts of employing EMRs in medical offices, their adoption rate is still low, and physicians are resistant using them. Use of an electronic health record requires a certain user profile, a certain system profile, external assistance, and a number of organisational and environmental enablers.
5.	Lisa Sprague	Electronic Health Records: How Close? How Far to Go?	41 Many observers hope, or even presume, that as a business case emerges and practice standards shift, resistance will convert, but the tide has not yet turned. As previously stated, the grounds for physician opposition to EHRs may be just as compelling as those in support of them. Objections to the idea that a physician should invest in IT to reduce his or her own pay by saving money for someone else are particularly difficult to overcome

METHODOLOGY

STUDY DESIGN: Descriptive Study

STUDY SETTING: In ABC and XYZ Hospital. ABC Hospital is a 27 Multispeciality Bedded Hospital in Hubli District of Karnataka and XYZ Hospital is a 250 Bedded Multispeciality Hospital in Kondapur District, Western part of Hyderabad, Telangana, India.

STUDY POPULATION:

1. Front Desk Staff
2. Data Entry Operators
3. Nurse
4. Pharmacist
5. IT Admin professionals
6. Doctor Secretaries
7. Doctors
8. Medical Superintendent
9. Billing Agents

SAMPLING:

Intern has selected 10 front desk operators from each hospital based on their morning and evening shift, 5 data entry operators from each hospital based on their morning and evening shift, 6 Nurses from each hospital based on their morning and evening shift, 6 Pharmacist from each hospital based on their morning and evening shift, 10 IT Admin professionals from each hospital who heads digitals patient experience units in each Hospital, 5 HOD and 10 Doctors from each hospital based on availability during Morning time and afternoon time and 5 Billing agents from each Hospital who look after Billing procedures and IRMS (Insurance and Risk Management Services) unit in Hospital.

SAMPLE SIZE: 116

DATA COLLECTION METHODS AND STUDY TOOLS:

Review of Literature- Google scholar and PubMed

Interviews- Pen-Paper and audio recorder.

Observation- Direct Observation

Documents and records- Hospital Care records and record review

Oral Histories- Pen-Paper and audio recorder.

Focus group discussion- Guide

RESULTS AND DISCUSSIONS:

1. MetahOS processes in a hospital setting:

STEP 1: In a hospital setting, the process starts with an assessment of existing workflows and processes followed in a hospital.

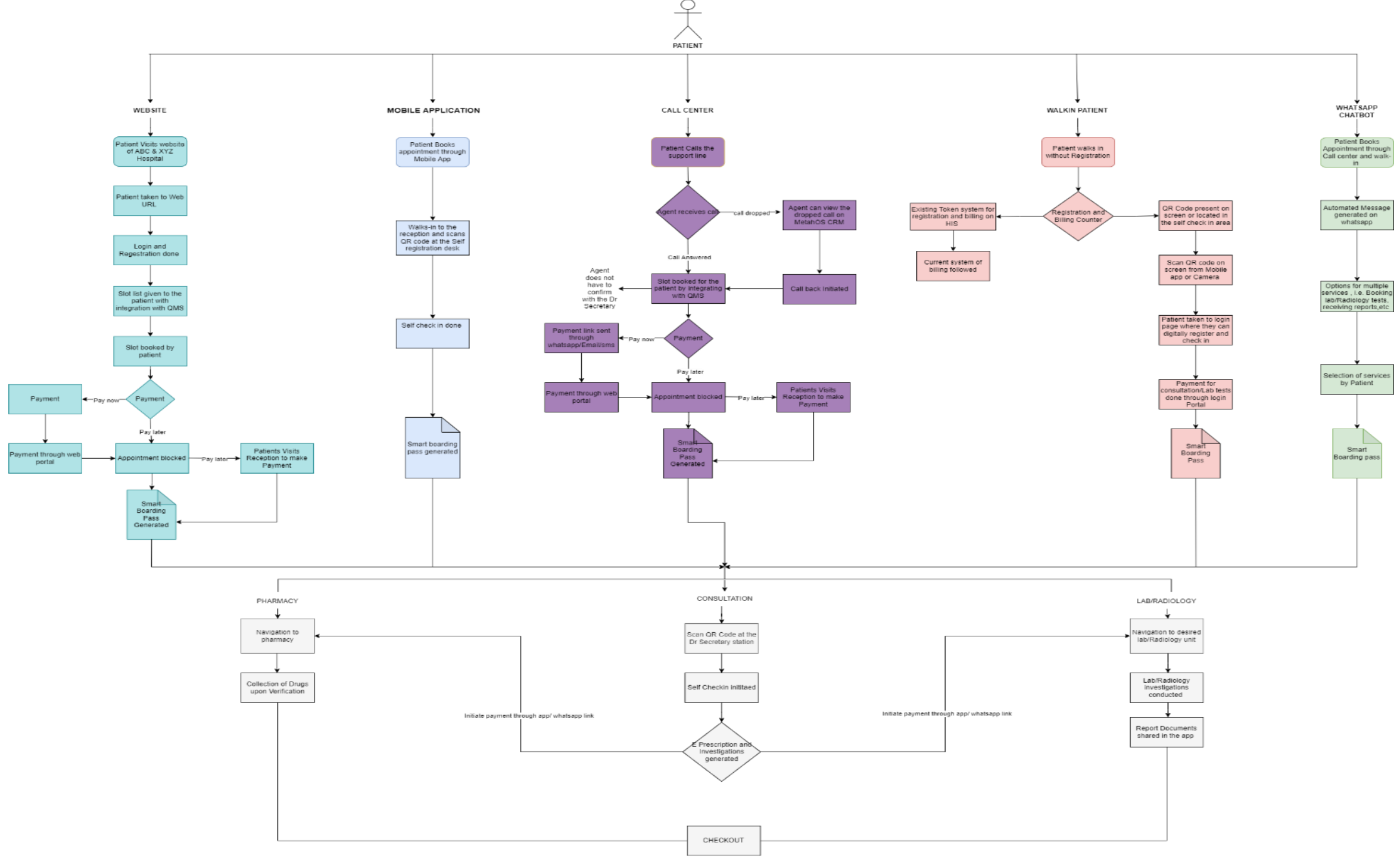
STEP 2: Assessment of Gaps in existing software

STEP 3: Noting all the requirements needed by end-user and hospital administration.

STEP 4: Presenting MetahOS enabling solutions to gaps and working on customizations as required by a hospital.

STEP 5: Training end-users and trainers.

STEP 6: Implement a complete Digital Patient Experience.



To assess enabling factors and barriers encountered by MetahOS during EHR implementation in a hospital setting.

Smart organizations are putting the patients first. By using their data, they can deliver relevant and targeted content that adds value to the patient experience. And without EHR software, you will find it difficult.

- People: High workload on the staff, and challenges in employee retention.
- Process: Limited communication channels with the patient, and usage of systems that do not talk to each other result in convoluted processes.
- Technology: Usage of legacy systems creates issues in creating a complete digital experience. Lack of Systems Integration across all the systems & applications that are used at the hospital.
- Environment: Increase in patient demand for technology, instant information, and staying connected with their care provider.

STUDY POPULATION	ROLES/RESPONSIBILITIES	BARRIERS ENCOUNTERED	SOLUTIONS BY METAHOS
Front Desk Staff	- Billing and registration - Booking consultation - Managing OPD worklist.	- Increase workload - Standalone legacy software - Software don't talk to each other - Data not accessible in one place - Multiple softwares for different modules	- Complete Integration from patient registration to discharge on a single platform - Decrease workload - Data is saved on the cloud storage. - Patient data can be accessed on single platform - All modules available in a single software - End to End integration
Doctor Secretaries (DS)	- Managing QMS (Queue Management system) - Booking appointment - Managing Doctors consultations	- Poor Queue management - Increase TAT - Poor patient satisfaction - No Patient digital experience	- DS can manage doctors' calendar - Can send payment links directly saves time for patients - TAT decreased - Improves patient satisfaction as token numbers are generated which makes queue management satisfactory
Data Entry Operators	- Managing Inventories - Adding service items - Adding line items	- Multiple softwares for different modules - Increase workload - Softwares don't talk to each other	- Reduced Workload - End to End integration - All modules in single platform
Nurse	- Site management - Bed management - Vitals recording	- No means of recording vitals digitally - Patient record on paper, no cloud storage - Difficult in maintaining MRD - No Bed management available	- Nurse can record vitals digitally and auto-saved and simultaneously available for doctors - Readily available patients record for assessment - Bed management available - Medical records are available in single platform and saved in cloud storage.

STUDY POPULATION	ROLES/RESPONSIBILITIES	BARRIERS ENCOUNTERED	SOLUTIONS BY METAHOS
Pharmacist	- Pharmacy Dispensing - Pharmacy Billing and maintain transactions.	- Pharmacy details not linked to patient prescriptions - Pharmacy no integration with HIMS - Reports not generated in legacy softwares - No digital records of dispensed pharmacy	- Dispensing and billing is done digitally - GST reports are readily available. - Prescriptions from doctors get populated in pharmacy module. - GRN reports generated in MetahOS - Pharmacy module integrated with HIMS
IT Admin professionals	Managing Users and their ids	- No tracking of screen time of employees - No maintenance of records digitally	- Employee details reflected in platform - Can manage user ids and passwords - Working time recorded
Doctors	Consultation and prescriptions	- Doctors not using emar - Prescriptions not digitally - No storage of patient data on the cloud	- Doctors can consult using the same platform - HIMS integrated - Patient journey maintained - All the patient data is readily available for doctor review.
Medical Superintendent	Managing Dashboards and analytics	- Analytics can't be accessed - No records of the clinical dashboard, operations dashboard. - No assessment of expenditure and revenue in an hospital.	- Dashboards are available of all the modules - Analytics available as clinical dashboards, operations dashboard and PRM dashboard - Data can be extracted in form of CSV or PNG file
Billing Agents	Managing payments, refunds, and claims.	- Billing and refunds not linked to each other - Refunds become difficult as not integrated to HIMS - Claims details not recorded digitally. - No IRMS (Insurance and Risk Management Services)	- Real-time payments - Payments linked with HIMS patient data - Refund is initiated instantly in the prime source of payment - Claims linked with patient data - Claims dashboard readily available with individual patient records

CONCLUSION:

1. Reduce patient waiting time for Walk-in and Appointment patients
2. Streamline processes for outpatient departments and Consultations.
3. Reduce load on the front-line office.
4. Multiple channels for connecting patients with care providers.
5. Enhanced communication channels through our platforms.
6. Decrease patients' No-Show rates.
7. Integrate all applications into one umbrella.
8. Increase patient acquisition, retention, and referrals

The best way
to predict the future
is to create it.

Abraham Lincoln

A photograph of a path made of dark, irregular stones leading from the foreground into a calm body of water. The water is still, reflecting the light from the sky, which is a pale, hazy blue. The path of stones recedes into the distance, creating a sense of journey and direction.

Thank
you