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Perception of doctors in India about using EMR/EHR

BY:

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**International Institute of Health Management Research
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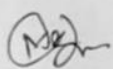
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We wish him/her all the best for future endeavours.


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Manvendra Kumar
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List of Abbreviations

EMR	Electronic Medical Record
EHR	Electronic Health Record
MoH&FW	Ministry of Health & Family Welfare
NeHA	National e Health Authority of India
EMRAM	Electronic Medical Record Adoption Model
HIMSS	Healthcare Information and Management Systems Society
PCP	Primary Care Physicians
WHO	World Health Organization

INTRODUCTION

Healthcare is a complex and fast-moving industry that exists. Every day, a new invention, digital technology is being developed to improve health care with all the power to support clinical practice. Undoubtedly, it brings benefits to the healthcare sector.

Electronic Medical Records (EMRs) are considered to be an important factor in improving the quality of health care and efficiency by reducing adverse events in patients, reducing costs, improvement procedures, improving clinical research and achieving better clinical performance. However, the pace of EMR adoption in health care continues to decline. It has become apparent that hospitals continue to be resistant to professionals in adopting digital technology.

Other studies analyzed both individual and organizational aspects affecting the adoption and implementation of technology but came up with mixed results. Indeed, the mechanisms underlying the adoption and implementation of EMR in hospitals are still unclear.

The healthcare industry needs tools that can enhance accessibility to information and relationships. In 2014, during the National Physician

Survey, it was found that 75% of doctors used EMRs. Of those, 65% indicated that patient care had improved . However, only .less than 5% had a negative impact on the quality of care they provided . There were still a few criminals who would oppose the use of EMRs. Some of them will argue by saying there is no evidence that EMRs have a positive effect on their patients' lives, or that using EMRs in their work will reduce efficiency and adversely affect their patient mobility.

Electronic Medical Records is designed to increase efficiency and reduce text errors by simplifying office work. Includes medical history and patient treatment in the office of one provider. Specifically, it may contain patient contact information, essentials, instructions, allergies, past medical history and more.

Although EMR had significant positive effects, the detection rate was low. The market contains a number of hospitals that use EMR. The use of EMR is limited to corporate hospitals in various cities in India. Compared to developed countries, the acceptance of EMR in India is very low. This low adoption rate is for a number of reasons. It could be improper training of health care professionals or not wanting healthcare

professionals to study EMR, high start-up costs, time factor, inability to pay for private hospitals, lack of awareness of the benefits of EMR. The Ministry of Health & Family Welfare (MoH & FW) began releasing India's Electronic Health Record (EHR) standards in September 2013. This was based on recommendations made by the EMR Standards Committee formed under the Department of Health and Family Welfare (MoH & FW) . This document contains recommendations for the implementation of a common plan for the construction and maintenance of EHRs by health care professionals. These standards were reviewed and announced in December 2016 (March 2016). A list of support / recommendation levels is provided. The National e-Health Authority of India (NeHA) was proposed to be established in 2015 under the Department of Health and Family Welfare (MoH & FW) with the aim of establishing an e-Health ecosystem in India One of the goals of the NeHA states is “Improvement of data management, security and privacy policies, and also the guidelines and patient health records in accordance with.

Background:

The Adoption Model (EMRAM) of EMR was launched in 2005 by the Healthcare Information and Management Systems Society (HIMSS). EMRAM is a kind of eight-phase (0-7) model that is used to measure the amount of acquisition and use of EMR services in any health care organization. This tool supports health care organizations in measuring their progress in terms of EMR adoption as compared to others around the world.

Private Sector Measures:

Electrical Health Records are being used by some of the private hospitals in India. Max Healthcare have started the adoption of EHRs in 2009 and has reached the level of Phase 6 in the adoption of EMR model. Max Healthcare in East Wing and West Wing, Saket in New Delhi received the prestigious award in 2012 (Srivastava 2016). The Apollo Hospitals team has re-implemented the EHR and has achieved phase 6 in four hospitals in Chennai, Aynambakkam, Nandanam, and Jubilee Hills in Hyderabad (Srivastava 2016). Other Hospitals such as Sankara Nethralaya (SN), Fortis etc. also use EHRs. Although, private

hospitals seem to accept the EHRs system, but information is not exchanged between hospitals.

Abstract:

EMR / EHR acceptance in India is very low. The purpose of this study is to find out the challenges India faces in using the EHR and we will be able to get a doctor's opinion on the use of the EMR tool. And to find out that it is costly and effective according to doctors and health workers.

The collection of objective questions is done with the help of google forms. These questions are sent to all types of doctors working in hospitals. The help of social media platforms such as LinkedIn, Facebook and whats app is taken to reach doctors. After collecting the answers from the doctors, all the data is analyzed and graphs like pie chart, bar graph are made to present the report.

The literature provided some evidences about the implementation of EMR like it could help in improving the quality of healthcare by reducing errors in prescribing medication . In the last, recommendations have been provided which can enhance the implementation of EHR in India.

LITERATURE REVIEW

A study from Stanford Medicine was conducted in Nov 2019 by Tracie White to test ideas for EHR / EMR programs among primary care physicians (PCPs). The study focused on identifying what problems doctors experience with EHRs, and using the same solutions.

The survey was conducted online between March 2 and March 27, 2018 by Harris Poll on behalf of Stanford Medicine among 521 licensed PCP operators in the U.S. who use their current EHR system for at least one month. The result was dramatic.

- More than 60% of doctors see the value in EHRs, but they want more progress.
- 63% of PCPs assume that EHRs have led to improved care once
- 66% of doctors are out to be satisfied with their current EHR programs
- 40% of them believed that there are more challenges and difficulties with EHRs as compared to the benefits.

- 49% think that using EHR actually interferes with their clinical performance and that they are unable to give time to patients.
- 71% agreed that use of EHRs is contributing significantly to medical advances
- 59% suggested that EHRs needed a complete revamp

According to a study by one of India's largest hospitals - conducted by Jeremiah Scholl, Shabbir Syed-Abdul, Luai Ahmed on Aug. 9, 2011, the use of EMR did not have a significant effect on medical problems, hospital bills, or overall death within three years but was helpful, particularly in the payment and evaluation of compliance by physicians. Although the actual improvement of the patient's significant outcomes remains to be seen.

Another study that focused on small and medium medical care noted that the use of EMR / EHR was strongly associated with the ability to produce reports but reports did not support quality improvement efforts.

According to an article in the National Library of Medicine, EMR has had a profound effect on patient care and family and physician work.

EMR improves quality of care, patient outcomes and reduction of medication errors. It was also found that EMR improves workflow efficiency by reducing time and helping to manage instructions.

Systematic reviews were conducted to identify interventions aimed at improving the use of EMR in primary health care settings where 10 online databases were searched to identify previously performed studies. In 2008, 12 studies were included in the review and it was found that interventions were focused on the use of EMR activities, including transfers, electronic communications, reminders, implementation of CDSS and workflow support activities, were five times more likely to show improvement in EMR implementation compared to controls. Data-focused interventions were five and a half times the improvement in EMR usage compared to controls.

A review has been made to shorten the lessons learned in terms of the number of electronic medical records (EMRs) in hospital care and was published between 2010 and spring 2019. A lot of research was done and not a single study failed to show a positive result. at the

level of health care. Reduction in costs for about 56% were seen in overall 9 studies out 16 related studies. And 14 stout of 18 studies showed an increase in the quality of health care (78%); the remaining 4 studies missed clear information about the proposed positive outcome.

In addition to the many economic benefits, the review also focused on improvement in the quality of care by all relevant subjects. Already in 2005, the WHO noted, “the potential impact of advances in information and communication technology in health care delivery. 10 years later, the WHO cited a few of the benefits of electronic health records (EHRs) in the report of the third global evaluation of eHealth, produced by the Global Observatory of eHealth.

OBJECTIVE OF THE STUDY :

- To find out the reasons of low adoption rate of EMR
- To find out whether EMR is cost-effectiveness and efficient or not.
- To find out the biggest challenge in implementing EMR

METHODOLOGY

Materials and Methods-

- Google forms was used to make questionnaires.
- Social platform like LinkedIn, Facebook, WhatsApp was used to reach out the doctors/healthcare professionals.
- Collected data was compiled and used for data analysis.
- The data was used to analyse the gaps and barriers in implementing EMR in India. Also to know the perception of doctors/Healthcare professionals about using EMR. This research can be used to formulate an action plan to improve EMR in India.

Study Design:

This is population based descriptive and quantitative study.

Study Type:

It is primary research. Information has been gathered directly from the target audience.

Target Audience:

All specialty doctors who are currently doing practice or have used EMR in past.

Sample Size and Design:

Convenience Sampling

Sample Size: 112

Duration of Study: 1st Feb- 30th April

Outcome Measures

- Reasons of low adoption rate of EMR
- Challenge in implementing EHR in India
- Doctor's personal preference and perception regarding use of EMR tool

RESULT

(1.) Doctor who are familiar with EMR/EHR:

Are you familiar with EMR/EHR?
112 responses

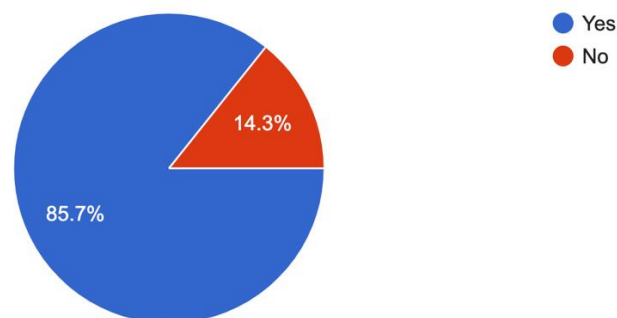


Fig 1: Distribution of population on the basis of familiarity with EMR/HER

There were total 112 responses out of which we have found that 85.7% of them were familiar with EMR/EHR and 14.3% were not. (Refer *fig*)

(2.) Hospital using EMR tool:

Is your hospital using EMR tool?
110 responses

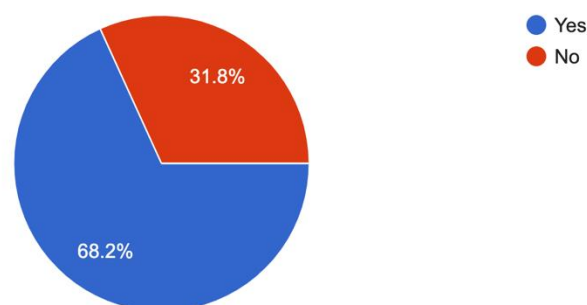


Fig 2: Distribution on the basis of usage of EMR tool in hospital

Doctors who answered this question were 110 out of which 68.2% were using EMR tool in their hospital and 31.8% were not. (Refer *fig 2*)

(3.) Doctors comfortable in using EMR tool

Are you comfortable using the EMR tool?

111 responses

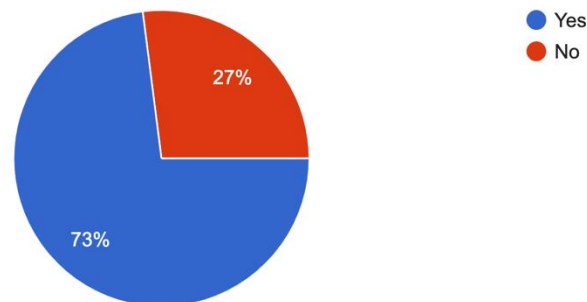


Fig 3: Distribution on the basis of comfortability with EMR tool

There were 111 doctors who answered this question out of which 73% were comfortable using EMR tool and 27% were not. (Refer *fig 3*).

(4.) Doctors who think EMR tools are easy to run:

Do you think EMR tools are easy to run ?

112 responses

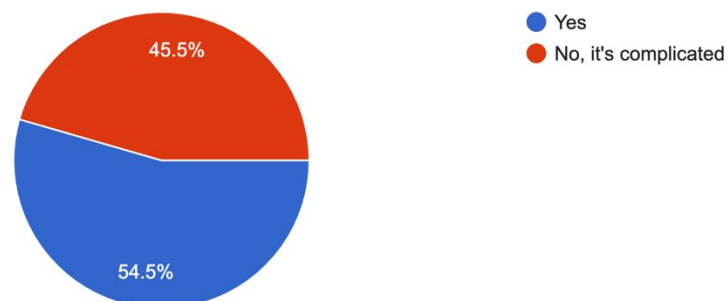


Fig 4: Distribution on the basis of easiness of usage

There were total 112 responses out of which 54.5% think EMR tools are easy to run whereas 45.5% doctor believe that EMR tools are complicated to learn. (Refer *fig 4*).

(5.) Doctors who think EMR tool saves time

Do you think EMR tool saves time?
111 responses

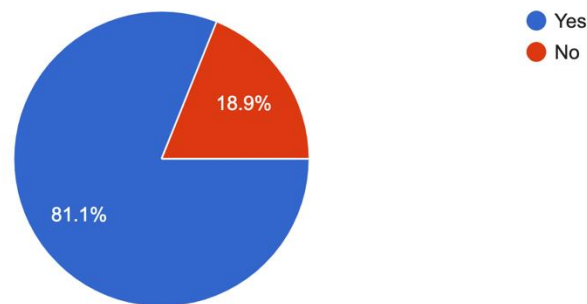


Figure 5: Distribution the basis of time saving

There were total 111 responses out of which 81.1% doctor think that EMR tool saves time and 18.9% believe EMR doesn't save time. (Refer *fig 5*)

(6.) Doctors who think EMR enhances privacy and security of health data

Do you think EMR enhances the privacy and security of health data ?
110 responses

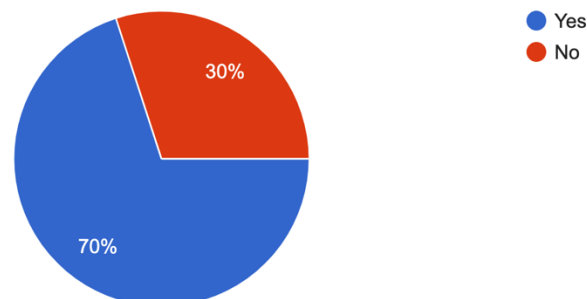


Figure 6: Distribution on the basis of privacy and security of health data.

There were 110 responses that we got from doctors out of which 70% believe that EMR tool enhances the privacy and security of health data whereas 30% believe it doesn't. (Refer *fig 6*).

(7.) Doctors who think EMR has the capability to improve quality of care and efficiency in Health care.

Do you think EMR has the capability to improve the quality of care and efficiency in Healthcare?
112 responses

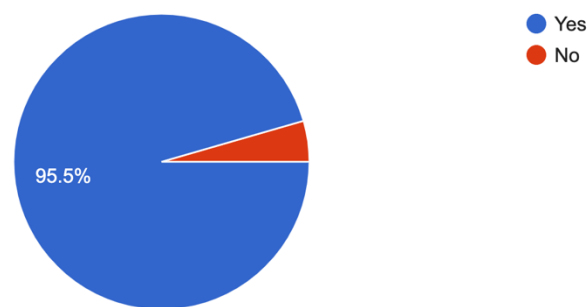


Figure 7: Distribution on the basis of capability of EMR tool in enhancing quality of healthcare.

There were 112 responses out of which 95.5% think that use of EMR tool has the capability to improves the quality of care and efficiency in Health care. Only 4.5% think that EMR has not that capability. (Refer *figure 7*)

(8.) Doctor's perception about comfortability of hospital staff in using EMR tool

Is your hospital staff comfortable using EMR tool?
112 responses

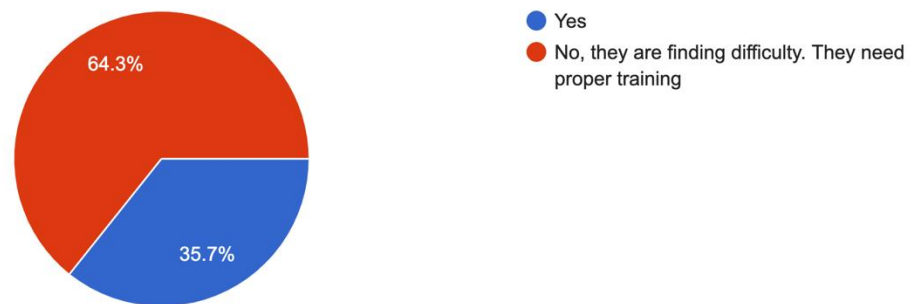


Figure 8: Distribution on the basis of comfortability in using EMR tool.

There were total 112 responses out of which 64.3% believe that hospital staff is not comfortable using EMR tool and finding difficulty in understanding and need proper training whereas only 35.7% doctor believe that hospital staff is comfortable in using EMR tool. (Refer *fig 8*).

(9.) Doctor's perception about challenges and benefits of EMR tool

Do you think EMR has more challenges as compared to benefits?
109 responses

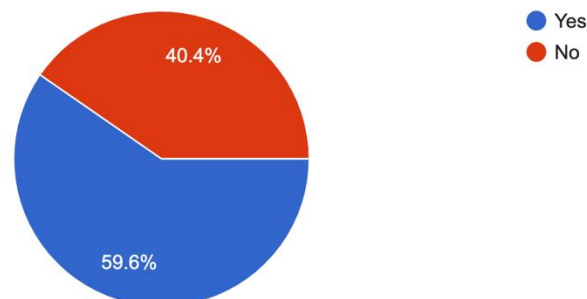


Figure 9: Distribution on the basis of challenges and benefits

There were 109 doctors who responded to this question out of which 59.6% think that EMR tool has more challenges as compared to benefits and 40.4% think that it has more benefits as compared to challenges. (Refer *fig 9*).

(10.) Doctor's perception about the challenges in implementing EHR in India

According to you, what will be the biggest challenge in implementing EHR India?

112 responses

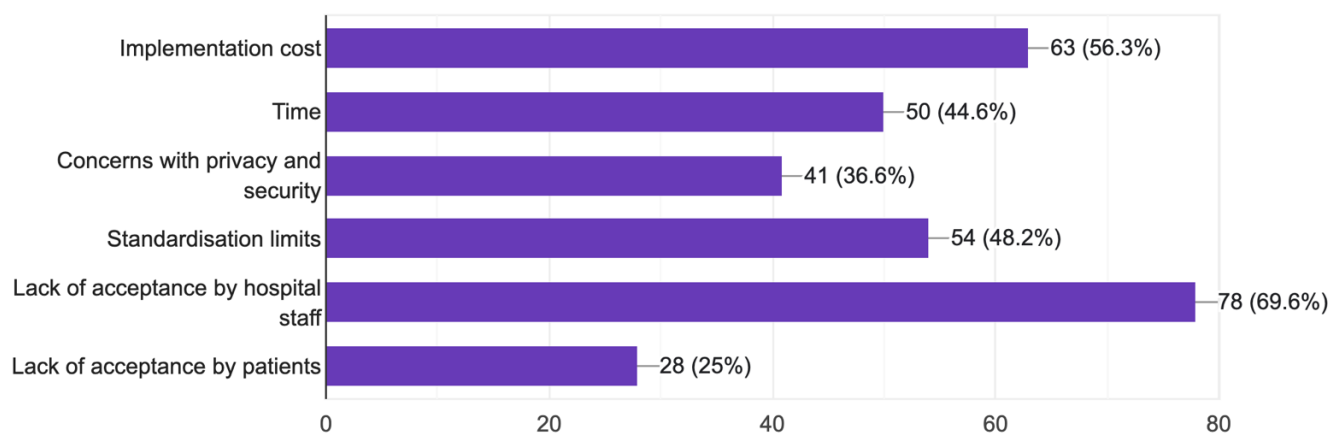


Figure 10` : Distribution of different challenges in implementing EHR in India

Doctor's perception about biggest challenge in implementing EHR in India

There were total 112 responses we got on this question and according to 78 doctors that is 69.6% believe that the biggest challenge in implementing EHR in India is lack of acceptance by hospital staff. There were 63 doctors (56.3%) believe that cost of implementation is one of the biggest challenge. There were 54 doctors (48.2%) believe that standardization limits is one of the challenge, 50 doctors (44.6%) believe time is a factor which limit the implementation of EHR. 41 doctors (36.6%) believe that concerns with privacy and security is one of the factors which limits the implementation of EHR. Only 28 doctors (25%) believe that lack of acceptance is a challenge in implementing HER in India.

(11.) Doctors perception about doing EMR tool as mandatory in Private hospitals:

There should be mandatory use of EMR tools in private hospitals. What do you think?
111 responses

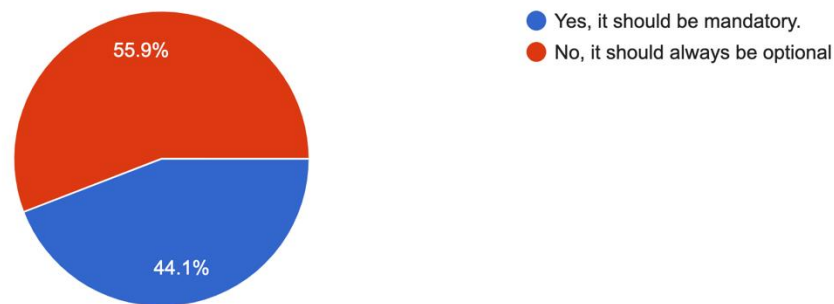


Figure 11: Distribution on the basis of doing EMR as mandatory tool in private hospitals

We got 111 responses on this question out of which 55.9% doctors believe that using EMR tool should be mandatory in private hospitals whereas only 44.1% believe that it should be mandatory. (Refer fig 11)

(12.) Doctors perception about paper based prescription and e-prescription

What do you personally prefer ?

111 responses

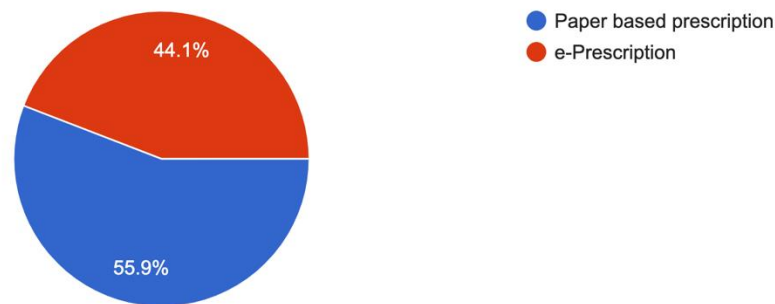


Figure 12: Distribution on the basis of personal preference regarding e-prescription

We got 111 responses on this question out of which 55.9% personally prefer paper-based prescription and only 44.1% doctors personally prefer e-prescription. (Refer fig 12)

Discussions:

Our study found various obstacles regarding the adoption of EMR programs in India. The patient care system changes with the use of EMR over the few last years, and it is an important problem because the transformation of patient care not only changes from paper records to e-prescription but also leads to change. aspects of organization. It really covers the problems that occur during the changing of process of workflow, for example changing organizational culture and issues related to staff training creates a barrier to improving the quality of care.

The literature provided evidence that the implementation of EMR has the capability to improve the efficiency of healthcare care by reducing medication errors. The findings of this study are in line with the literature on barriers to the use of EMRs, especially regarding the difficulty of repairing an EMR tool by hospital staff.

It was also found that EMR improves workflow efficiency by reducing time and helping to manage instructions.

The current review also found that EMR saves time and saves and promotes the privacy and security of health data.

According to the current study the lack of admission by hospital staff is one of the biggest challenges in implementing EHR in India and they need proper training to be comfortable with EMR software. It is a reason why doctors and health care professionals think that EMR has many challenges compared to its benefits.

Apart from this, start-up costs and Time factor have also become one of the challenges in the effective use of EHR in India because the training of hospital staff takes time and high costs. Most people prefer paper-based prescription over e-prescription.

This study clearly demonstrated the importance of involving health professionals (especially hospital staff) in improving the acquisition of an EMR tool. In the literature review, we have found an important role to play in providing effective training to hospital staff on the use of the new system in leading operations. The importance of using education and training as a tool for effective use has been witnessed in the textbooks.

Recommendations:

- Always, training should be available. Training should include basic skills, application tasks and live instructions. Physicians need to be an integral part of training such as representing the importance of EHR implementation and increasing their ability to use the system. This is an important part of EHR success; if your employees are not well trained, then the implementation of EHR becomes a painful process.
- Awareness and enthusiasm for implementation should be raised. Meetings should be organized to discuss the importance of the project and the benefits EHR has. During these meetings, practical goals should be set for the effective use of the system. At the same time, it is

important to ensure that all departments such as from paymaster to physician are involved. Attempts to force early and unreasonable implementation and days of use will undoubtedly slow down the process and prevent people from learning the program.

- Team structure should be created. Everyone should understand that they are important in a team effort. Their value and roles should be clearly defined and emphasized.
- The appropriate EHR company should be selected. When identifying an EHR vendor, focus on how EHR will help you keep up with the technology and patient care.
- EMR users need significant amounts of support, especially in the early stages after implementation.

Conclusion:

EMR is a digital technology that has the capability to improve the quality and efficiency of healthcare. However, it has been seen that the health sector is still struggling to use it in a way so that it can lead to its sustainable use. . Lack of training for hospital staff is one of the major barriers in effective use of EMR. Along with those high costs and

working hours also play a role. Although the potential for effective implementation includes the involvement of physicians in the development and implementation of EMR and the skills development and proper training of all end-users of EMR. While there may be challenges in implementing EMRs after their implementation, staff will be motivated to use them if they see improved EMR features closer and have potential benefits in patient care and workflow. However, it is important that ongoing support is provided to make sure that purchases from a health professional are not lost.

Limitations:

1. Respondents may be untrue when answering survey questions or provide desirable answers to the public.
2. Collected data may not be strong enough to explain complex issues.
3. This study includes a list of formal questions with closed-ended questions in the research proposal. Therefore, the result may not represent the real thing, in the normal way. Also, the respondent had limited response options based on the research conducted by the researcher.

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FEEDBACK FORM

(Organization supervisor)

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Dissertation Institution : Karexper Technologies Pvt Ltd

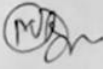
Area of dissertation : EMR tool – Product Management

Attendance: 99%

Objectives met: Yes

Deliverables : Product development and planning and management

Strength: Hardworking, good Communicator, Sincere,
good listener, Obidient Student.

Suggestions for Improvement: Need to focus on depth knowledge,
Problem understanding,
Signature of officer- in-charge:  Fix good.

Date: 21-06-2022

Place: Indore

