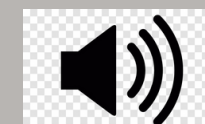




EMR Adoption

Assessment of factors influencing doctor's
acceptance of electronic medical record for
OPD consultation in SRCC Children's
Hospital, Mumbai

Submitted by
Dr. Netra Kadam
Roll No. -0945



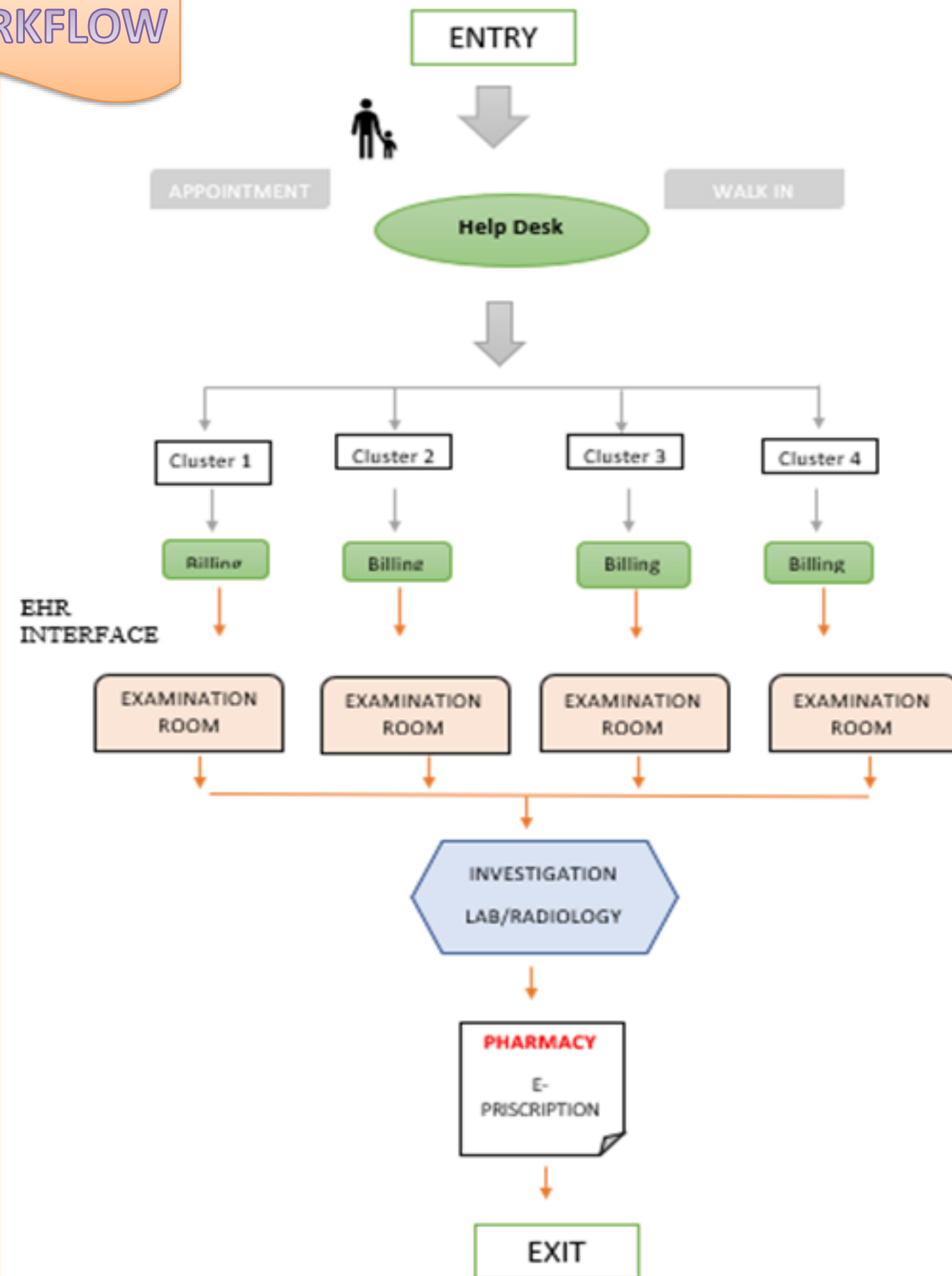
Introduction



- Electronic Medical Record/ Electronic Health Record
- Narayana Health
- Digitalization
- Athma, Aadi Application
- SRCC Children's Hospital



WORKFLOW



Advantages

Electronic Medical Records

- Reduce Medical Errors
- Quick access to medical records
- Coordinated and efficient care
- Displays the complete patient chart on a single screen
- To en route prescription and investigation orders from respective pharmacies, laboratories, and imaging centers.
- Offers integration with SNOMED-CT codes.
- Easy access to test results and imaging reports.
- AI-based automated Favourites list
- Automatic drug-to-drug and drug-to allergy interaction alerts

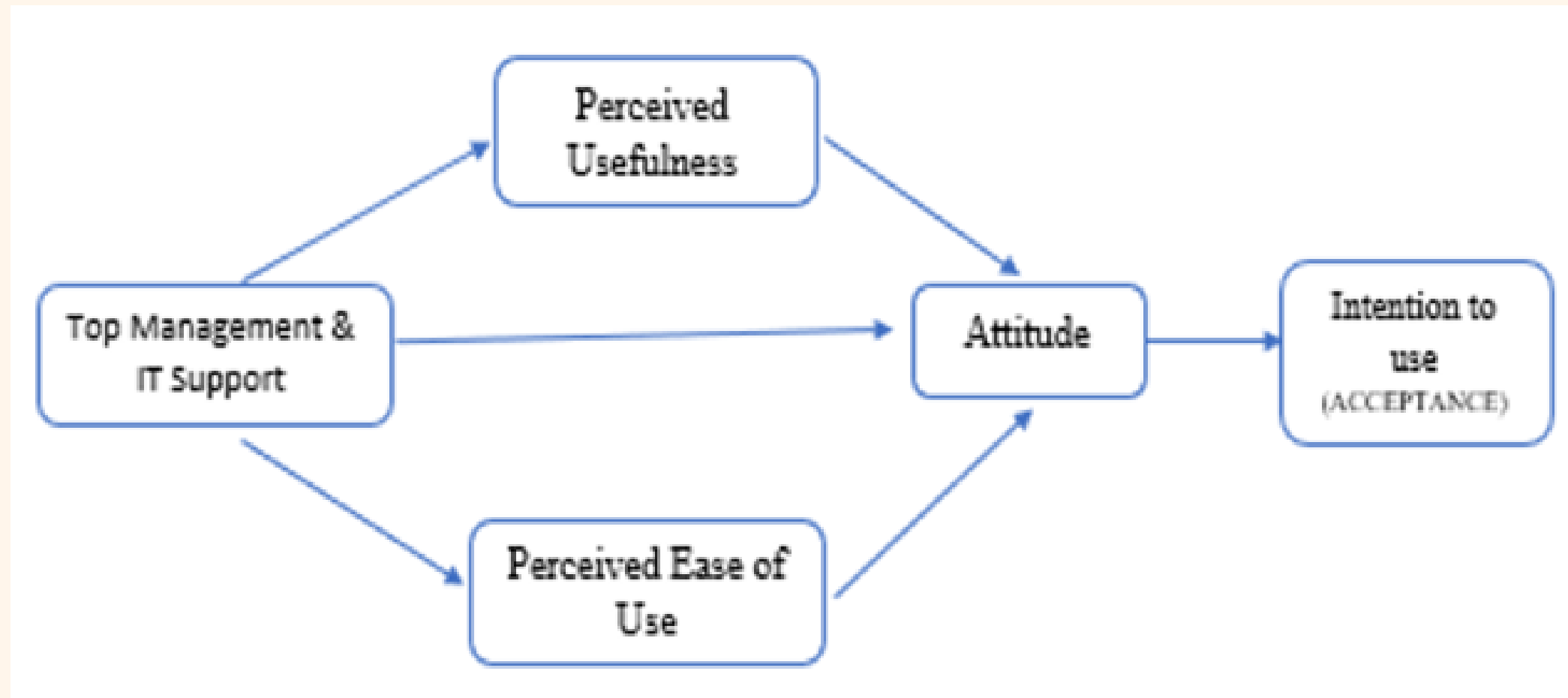
Review of Literature

Article	Author	Research Methodology	Result
Systematic Review Literature			
Successfully implementing a national electronic health record: a rapid umbrella review	Orna Fennelly, Caitriona Cunningham, Loretto Grogan, Heather Cronin, Conor O'Shea	A rapid umbrella review was completed (2019) across several search engines (PubMed, CINAHL, Scopus, Embase) and Gray literature. Identified studies (n = 5,040) were subject to eligibility criterion and identified barriers and facilitators were analysed, reviewed, discussed and interpreted by the expert panel	Twenty-seven literature reviews were identified which captured the key organizational, human and technological factors for a successful EHR implementation. Governance, leadership and culture, End-user involvement, Training, Support, Resourcing, and Workflows, individual end-users have varying Skills and characteristics, Perceived benefits and incentives, and Perceived changes to the health ecosystem which were also critical to success.
The adoption of electronic medical record by physicians A PRISMA-compliant systematic review	Bireswar Dutta, and Hsin-Ginn Hwang	Systematic review was carried out based on literature published in 5 databases: PubMed, Web of Science, Scopus, The Cochrane Library, and ProQuest from 2014 to 2018, concerning barriers perceived by physicians to the adoption of EMR.	The top 5 frequently mentioned barriers are privacy and security concerns, high start-up cost, workflow changes, system complexity, lack of reliability, and interoperability. Thus an attentive analysis of the definitive condition is needed before relevant intervention is determined as the implementation of EMR must be considered as a behavioral change in medical practice

Review of Literature

Article	Author	Research Methodology	Result
Conceptual Model			
Electronic health record acceptance by physicians: Testing an integrated theoretical model	Marie-Pierre Gagnon, El Kebir Ghandour, Pascaline Kengne Talla David Simonyana	Electronic questionnaire sent to physician members of the Quebec Medical Association Canada. They tested four theoretical models (Technology acceptance model (TAM), Extended TAM, Psychosocial Model, and Integrated Model) using path analysis and multiple linear regression analysis in order to identify the main determinants of physicians' intention to use the EHR. Study evaluated the modifying effect of sociodemographic characteristics using multi-group analysis of structural weights invariance.	The four models performed well and explained between 44% and 55% of the variance in physicians' intention to use the EHR. The Integrated model performed the best and showed that perceived ease of use, professional norm, social norm, and demonstrability of the results are the strongest predictors of physicians' intention to use the EHR. Age, gender, previous experience and specialty modified the association between those determinants and intention.
The Applicability of the Modified Technology Acceptance Model (TAM) on the Sustainable Adoption of eHealth Systems in Resource-Limited Settings	Nicole Bakhoun MD, Christian Gerhart MD, Emma Schremp BS	Electronic questionnaire sent to physician members of the Quebec Medical Association Canada. They tested four theoretical models (Technology acceptance model (TAM), Extended TAM, Psychosocial Model, and Integrated Model) using path analysis and multiple linear regression analysis in order to identify the main determinants of physicians' intention to use the EHR. Study evaluated the modifying effect of sociodemographic characteristics using multi-group analysis of structural weights invariance.	The findings of the structural equation modelling (SEM) indicate that perceived usefulness has a significant influence on attitude and intention to use eHealth. the model portrays 56.2% of the fluctuation in social aim to utilize eHealth frameworks. Hence, the implementers should give need in upgrading the associations specialized framework, staff's IT expertise, and their disposition towards eHealth by giving nonstop help

Methodology



Research Question

What are the factors influencing doctors' EMR adoption for outpatient consultation?

Research Objective

- To understand factors, influencing Doctor's EMR adoption for outpatient consultation in SRCC Hospital
- To understand significance correlation between TAM Variables i.e., perceived usefulness, perceived ease of use, Attitude of doctors and Top management and IT Support

Study Design

- Study Area: SRCC Children's Hospital Mumbai
- Study Design: Descriptive cross-sectional
- Study Population: All OPD Consultants of SRCC Children's Hospital
- Sampling Method: Simple random sampling
- Sample Size: 60
- Inclusion Criteria: Doctor should do a consultation in OPD of the Hospital, Doctor should well train to use EMR in consultation.
- Exclusion Criteria: Incompletely filled questionnaire



Survey Design

1. First part includes the demographics specificities of the doctor such as gender, age, work experience.
2. Second part includes eighteen statements for evaluating the EMR services
3. Doctor's experience based on the 5-point Likert scale.
4. Google Online Form

Data Analysis

1

IBM SPSS Software

2

Spearman Correlation is used to measures the strength of association

3

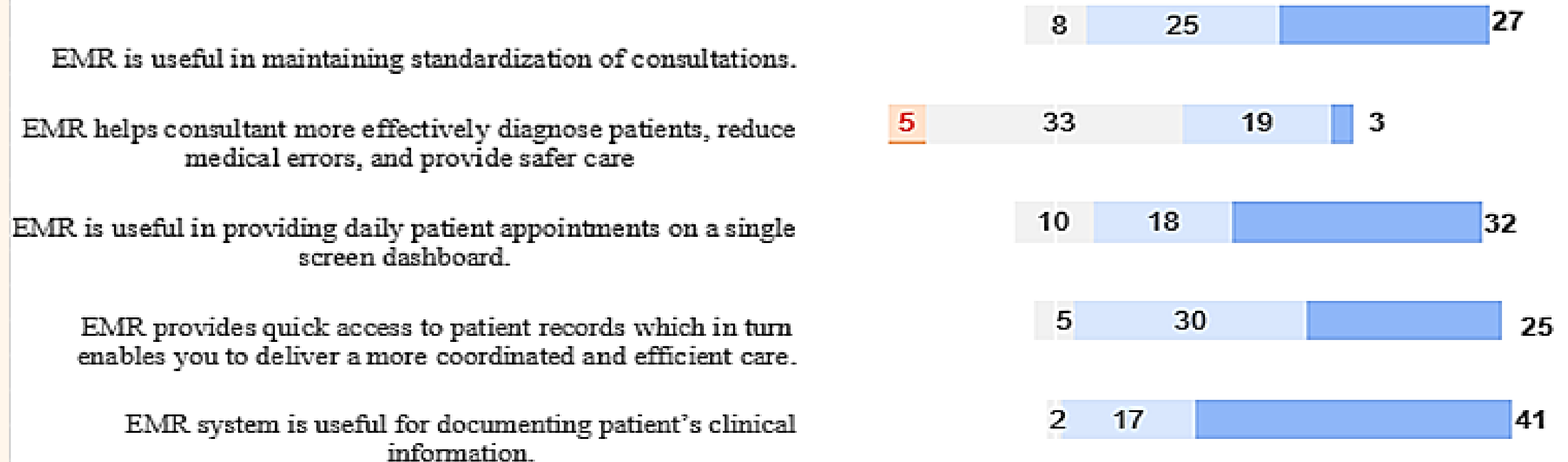
Regression analysis can explore the magnitude of the influence between variables

Results

Perceived Usefulness

Perceived Usefulness

■ Strongly Disagree ■ Disagree ■ Neutral ■ Agree ■ Strongly Agree



Perceived Ease of Use

Perceived Ease of Use

■ Strongly Disagree ■ Disagree ■ Neutral ■ Agree ■ Strongly Agree

Overall, I find the EMR system easy to use.

2 11 17 21 9

EMR system provides useful guidance in performing tasks.

2 17 7 18 16

It is easy for me to remember how to perform tasks using EMR

4 13 13 21 9

Interfacing with EMR system requires a lot of mental effort.

3 24 13 14 6

I often become confused when I use the EMR system

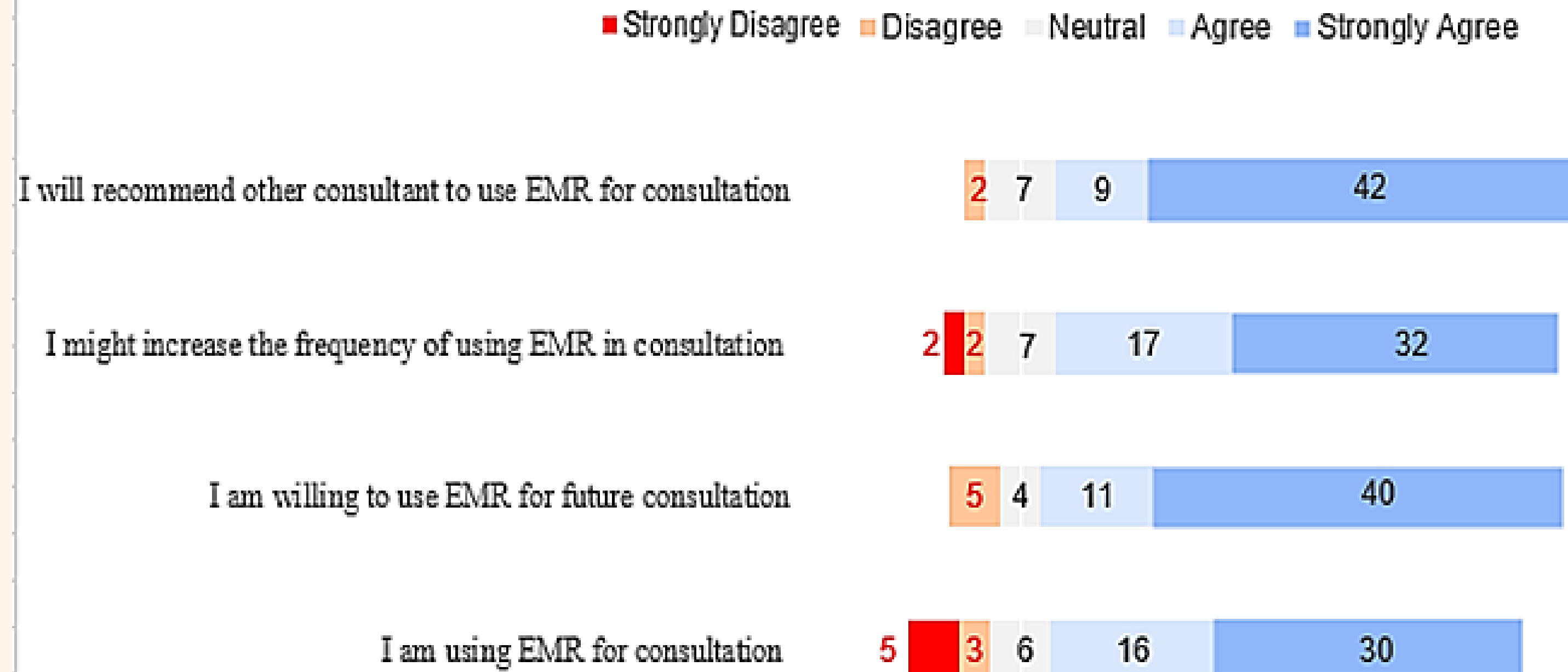
4 29 11 12 4

I find it cumbersome to use the EMR system.

2 20 20 7 11

Attitude towards EMR Usages

Consultant's Attitude towards EMR Usages



Top Management & IT Support

Top Management & IT Support

■ Strongly Disagree ■ Disagree ■ Neutral ■ Agree ■ Strongly Agree

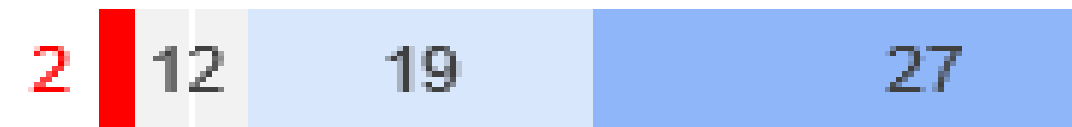
SRCC Hospital provided a comprehensive training on using EMRs.



SRCC Hospital is well equipped to implement EMRs.



The EMR project introduced to me effectively by the management.



Hypothesis Statement

Hypothesis	Statement	Coefficient Value	P Value	Empirical evidence
H1	Perceived usefulness will have a positive effect on Doctor's attitude towards use of EMR.	0.395	≤ 0.01	Supported
H2	Perceived ease of use will have a positive effect on doctor's attitude towards using EMR.	0.303	≤ 0.05	Supported
H3	Perceived ease of use will have a positive effect on Perceived usefulness of EMR	0.445	≤ 0.01	Supported
H4	Top management and IT support will have a positive effect on doctor's attitude towards EMR	0.298	≤ 0.05	Supported
H5	Top management and IT support will have a positive effect on perceived ease of use EMR.	0.318	≤ 0.05	Supported
H6	Top management and IT support will have a positive effect on perceived Usefulness EMR.	0.108	≥ 0.05	Not Supported

Conclusion

- Coming to conclusion classical model of TAM was integrated and modified. The study results suggested that the proposed model of TAM is relevant for recognizing the appropriate factors of EMRs usages.
- The present study identified four significant determinants that affect the end user's behavior when comprehensive implementation of EMRs is considered.
- Overall, the findings show that the two main components of TAM, PEOU, and PU act as mediating variables for external variables of the modified model
- On acceptance level of consultants utilizing EMR would upgrade their OPD consultation, and it is very user friendly as it is helpful to retrieve past medical information of patients and easier to detect medication error.
- IT experience manages doctor's knowledge of IT, understanding the essential advantages of EMR and their willingness to use.
- Thus analysis of the consultant's attitude is needed before relevant intervention as adoption of EMR must be understood as a behavioral change in medical practice.

Recommendations

Imple from April 2021 to June 2021

1

Leadership assumes a significant part in effective EHR execution. The doctor ought to urge to give greatest selection of EMR and those with most elevated compliances ought to be recognize as Super User which will support different clients.

2

Supporting Infrastructure: Consultant ought to get entire IT framework with quick Internet association

3

Focus on centre proficiency instead of too many component demands. Try not to make broad information passage cantered layouts for doctors. Make forte savvy layouts, as for Paediatric Hospital, Immunization Chart and Nutritional Chart and Trend in graphical

4

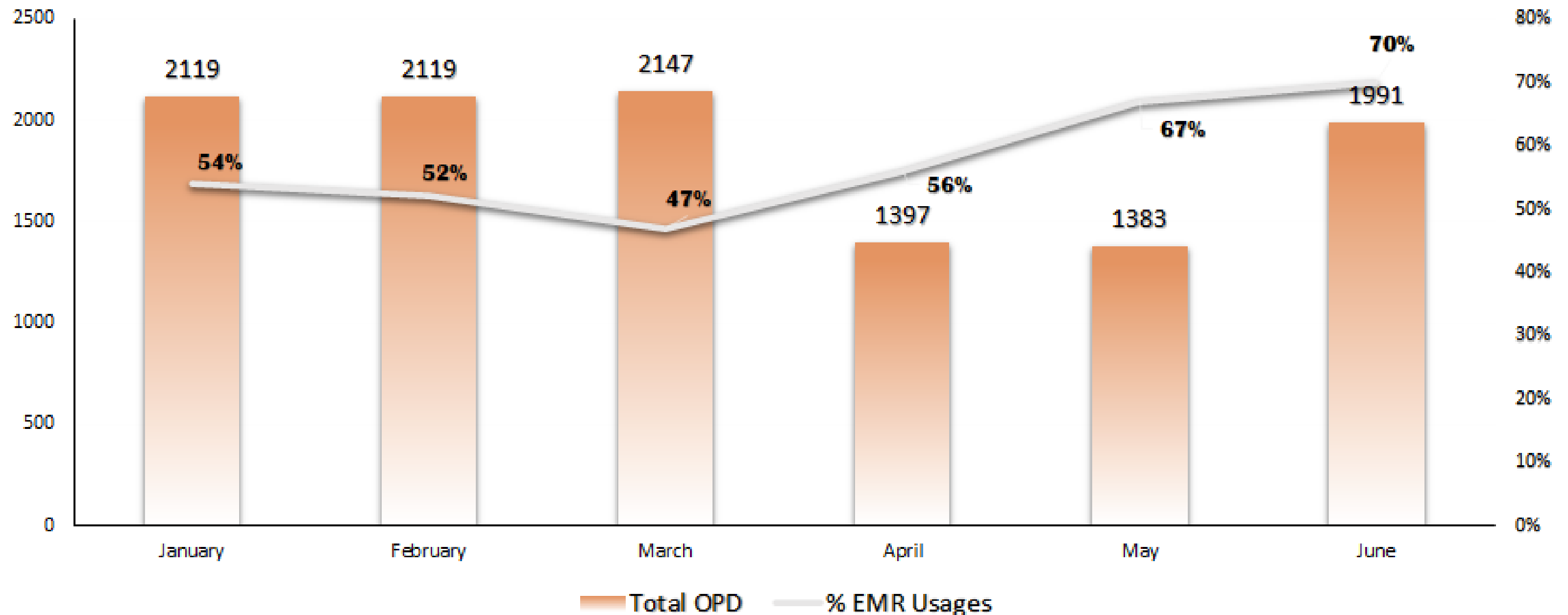
Training necessities to happen consistently.

5

Raise mindfulness and excitement for the execution cycle. Timetable gatherings to talk about the significance of the venture and the advantages that an EHR offers and take for suggestions for future improvement

QUANTITATIVE PROGRESS

EMR Usages
Trend Analysis Jan to May 2021





Everybody has to be able to
participate in future that
they want to live for. That's
what technology can do

-Dean Kamen