

A STUDY ON THE TRAINING NEED ASSESSEMENT AND PRE AND POST TRAINING EVALUATION OF DOCTORS AND NURSES ON COMPUTERIZED PATIENT RECORD SYSTEM (CPRS)

PRESENTED BY –

Nikita Singh
MBA HM 26
1340



GUIDED BY – Dr. Goutam Sadhu

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BACKGROUND

- ❖ Dr. B L Kapur, an eminent Obstetrician and Gynaecologists, set up a Charitable Hospital in 1930 at Lahore.
- ❖ In 1947, he moved to post-partition India and set up a Maternity Hospital at Ludhiana. In 1956 on the invitation of the then Prime Minister, Dr. B L Kapur initiated the project for setting up a 200 bed hospital in Delhi.
- ❖ The hospital was inaugurated by the Prime Minister, Pt. Jawahar Lal Nehru on 2nd January, 1959.
- ❖ By 1984, when the hospital celebrated its Silver Jubilee, it was an expanding hospital well on its way to becoming Delhi's premier multispecialty institute.
- ❖ BLK Super Speciality Hospital is one of the largest tertiary care private hospitals in the world, with a capacity of 650 beds.

INTRODUCTION

- ❖ A Computerized Patient Record System (CPRS) is an electronic system that is used to manage and maintain an individual patient's health records in a hospital or healthcare facility.
- ❖ The benefits of CPRS for a hospital and patients are numerous like improved quality of patient care , Streamlined Workflow , Better Patient Safety , Reduced Costs , improved Patient Experience .
- ❖ CPRS will be implemented in BLK Max Super Speciality hospital by June mid .
- ❖ For this purpose trainings will have to be conducted for the doctors and nurses for which A cross-sectional survey was conducted to assess the training needs and preferences of doctors and nurses on the CPRS.
- ❖ A pre-training evaluation will be conducted to assess the baseline knowledge and skills of the participants . Then, a customized training program will be developed and implemented for the participants.
- ❖ A post-training evaluation will be conducted to assess the effectiveness of the training program.



LITERATURE REVIEW

TITLE	AUTHORS	PUBLICATION	KEY TAKEAWAYS
Education and Training on Electronic Medical Records (EMRs) for health care professionals and students: A Scoping Review	Mahnaz Samadbeik , Farhad Fatehi , Mark Braunstein , Ben Barry , Marzieh Sareman , Fatemeh Kalhor , Sisira Edirippulige	International Journal of Medical Informatics	•A crucial component of EMR adoption is the creation of suitable training programmes for students and healthcare professionals. •Training needs should be in accordance with the specific training requirements, training objectives, and EMR system . •In order to successfully integrate technology and continue using the EMR systems, training policies and strategies are crucial.
The impact of training on the use of electronic health records	Bishnu Devkota , JF Lamia , N Pommer , Jeff Smith	Research Gate	•Most survey participants were happy with the EHR Training. •When compared to doctors, nurses, and office staff, medical students and residents expressed greater satisfaction with the EHR

LITERATURE REVIEW

TITLE	AUTHORS	PUBLICATION	KEY TAKEAWAYS
Nurses Knowledge, Skills, and Attitude Toward Electronic Health Records (EHR)	Sharon L. Adams	Walden University	•Simulation has developed from a teaching tool to a sophisticated technology that enables real-world interaction . •It boosts the confidence and productivity of healthworkers. •In a simulated setting, teaching nurses boosts their confidence in the abilities they need to advance and allays their fears of making mistakes and failing while using technology
A New EHR Training Curriculum and Assessment for Pediatric Residents	Kathryn Stroup , Benjamin Sanders , Bruce Bernstein , Leah Scherzer , Lee M Pachter	Research Gate	•New EHR users frequently struggle with traditional classroom-based Electronic Health Record (EHR) training. •Improved training emphasises practical application. •Hence the curriculum must be divided into several phases .

METHODOLOGY

RESEARCH QUESTION –

1. What are the training needs and preferences of doctors and nurses for the CPRS implementation
2. What is the knowledge and skill set of doctors and nurses before training ?
3. What are the gap areas after training on which further trainings are required ?



RESEARCH OBJECTIVES -

- To identify the specific training needs and preferences of doctors and nurses for the CPRS
- To obtain a baseline data on the knowledge and skills of the participants
- To compare the baseline data (Pre training evaluation) to the post-training evaluation to assess the effectiveness of the training program
- To find gap areas in order to identify any areas where further training may be needed



METHODOLOGY

The study area for the study was BLK-MAX Super Specialty Hospital, New Delhi.

❖ **STUDY DESIGN:** The study design was a cross-sectional. The primary data was collected through semi-structured questionnaires interviewed from the doctors and nurses to find out the training need analysis .

❖ **STUDY POPULATION** – The study population included doctors and nurses who will be the direct end users of CPRS . Other paramedical staff such as pharmacists , radiologists etc are not included in the study .

❖ **DURATION OF STUDY** – 3 Months (28th February 2023 to 29th May 2023)



METHODOLOGY

SAMPLE SIZE: 100 (Including doctors and nurses)

SAMPLING TECHNIQUE: Simple Random Sampling etc.

MODE OF DATA COLLECTION: The data will be collected through google forms .

A pre-training evaluation was conducted to assess the baseline knowledge and skills of the participants. Then, a customized training program was developed and implemented for the participants. A post-training evaluation was conducted to assess the effectiveness of the training program.

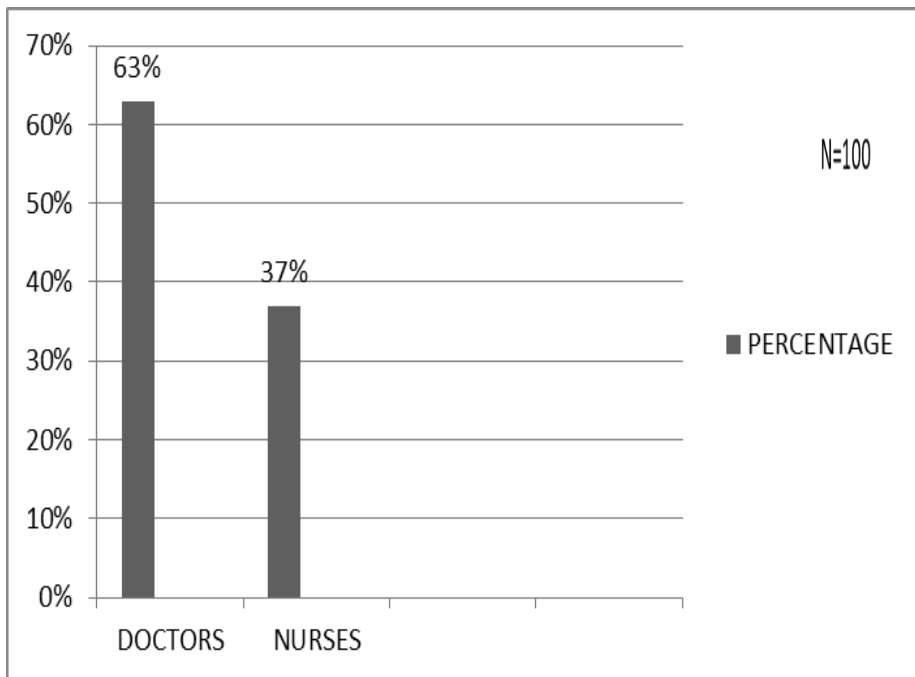
DATA ANALYSIS (TOOL): Google forms was used for data collection and then pie charts and bar graphs will be used for pictorial representation of data .



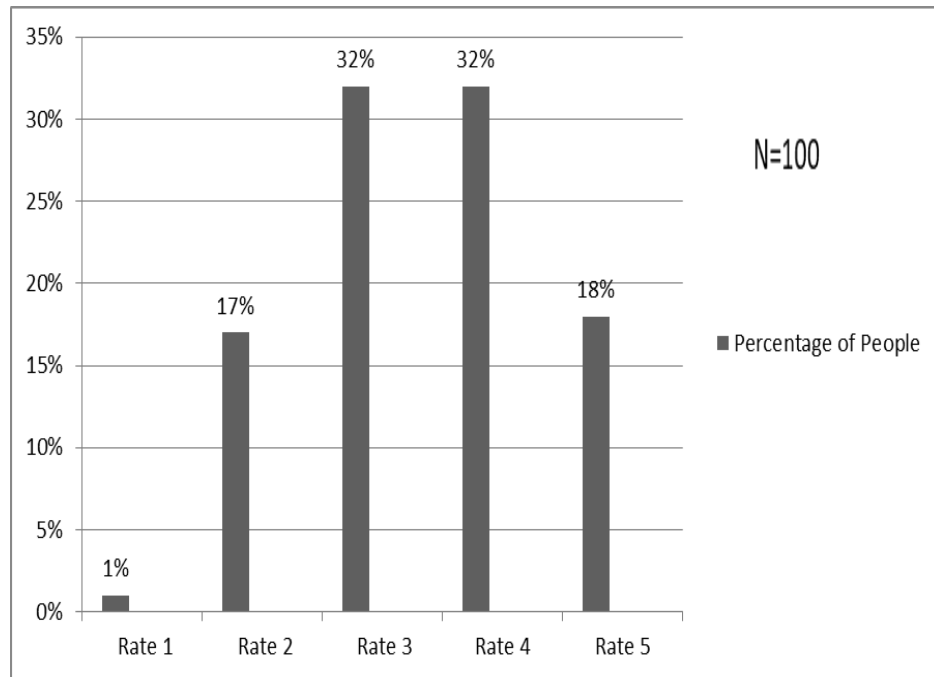
RESULTS

TRAINING NEED ASSESSMENT RESULTS

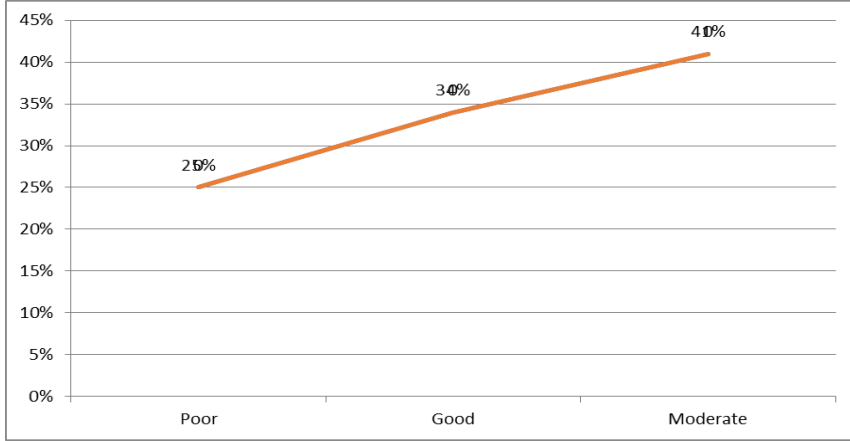
What is your current job role ?



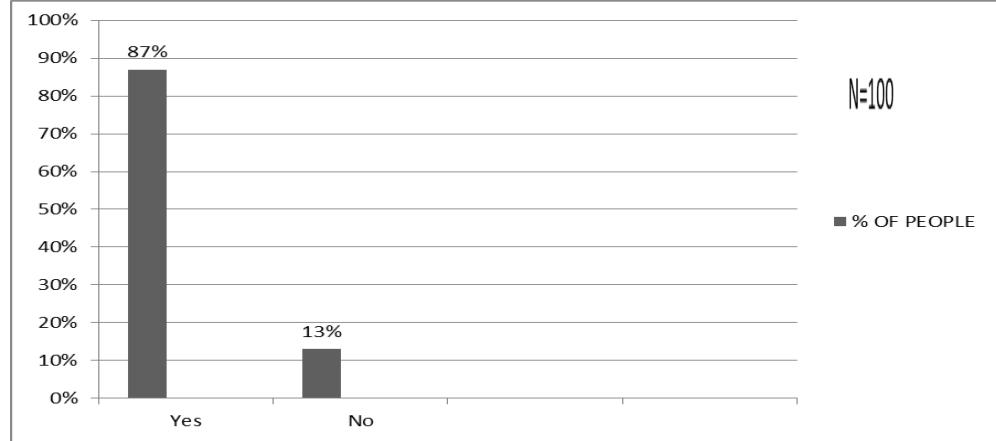
On a scale of 5 how will you rate yourself in terms of proficiency with computer application ?



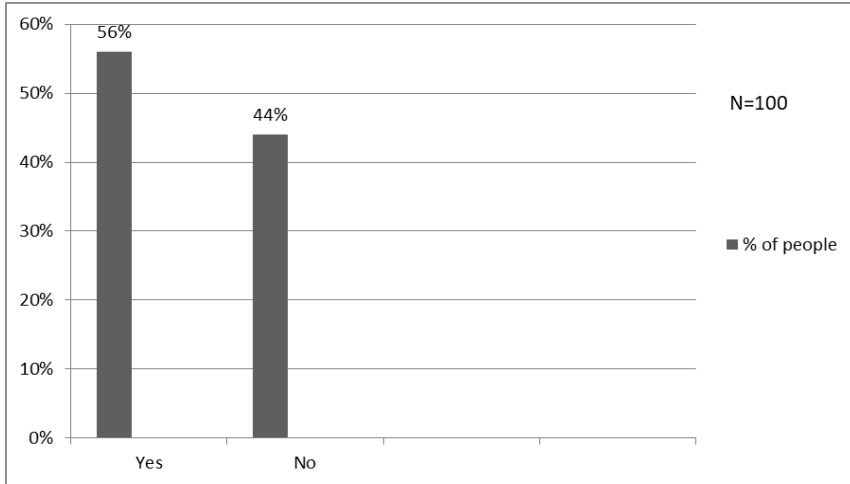
Rate your typing ability



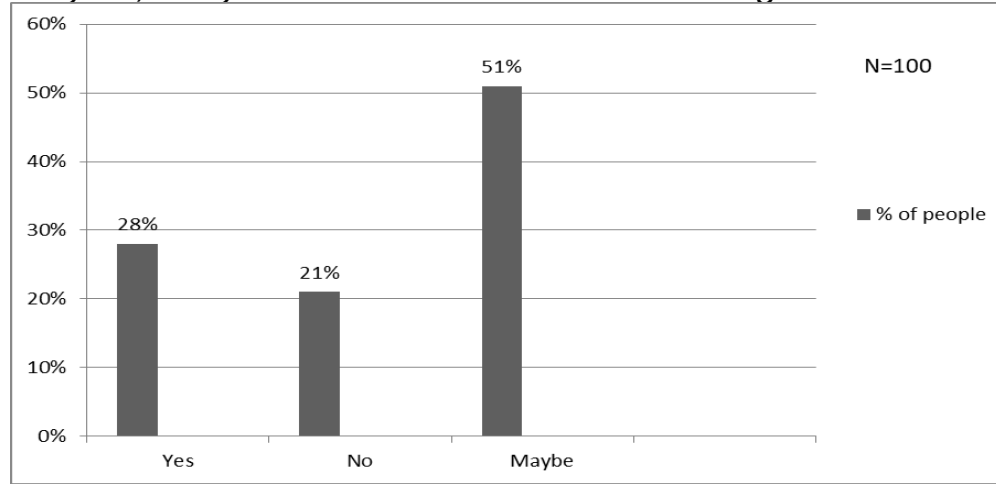
Do you know about the concept of EHR and EMR ?



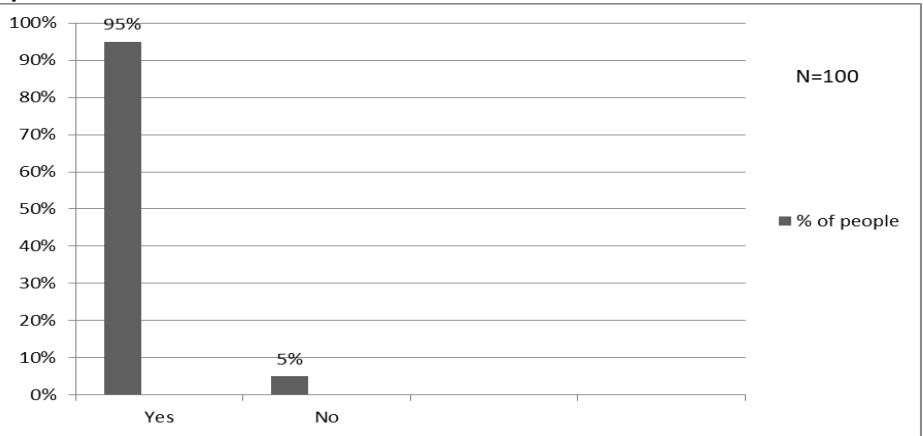
Have you heard about CPRS before ?



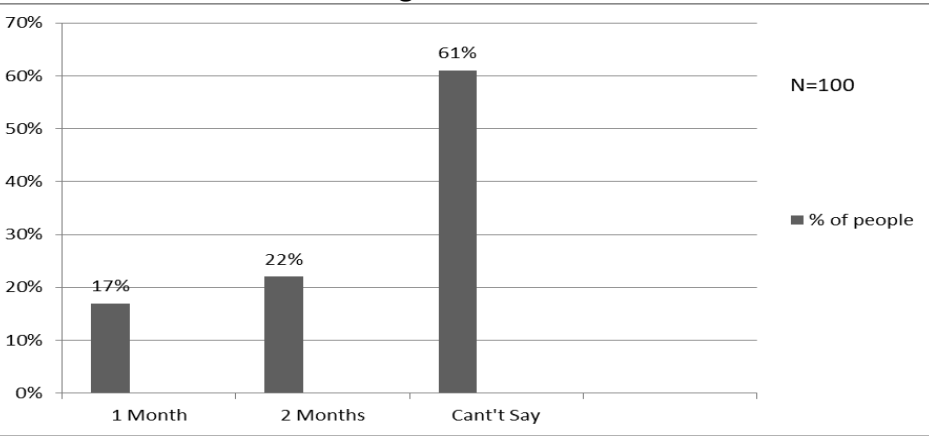
If yes , are you aware of the benefits of using CPRS ?



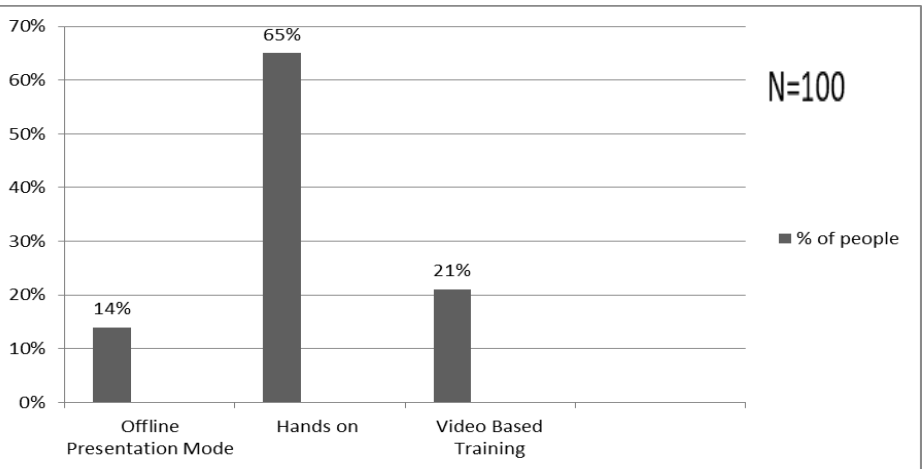
Do you think implementing CPRS will greatly influence patient satisfaction ?



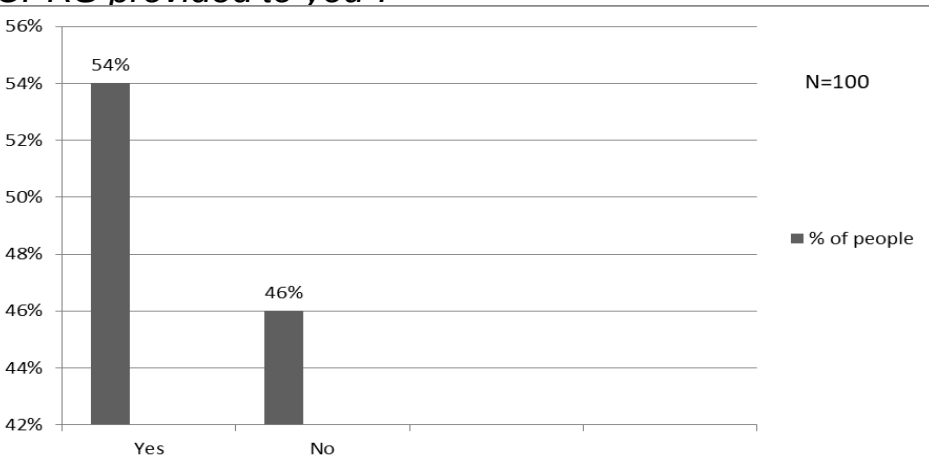
How much estimated time will you need to get a hands on CPRS and start using it ?



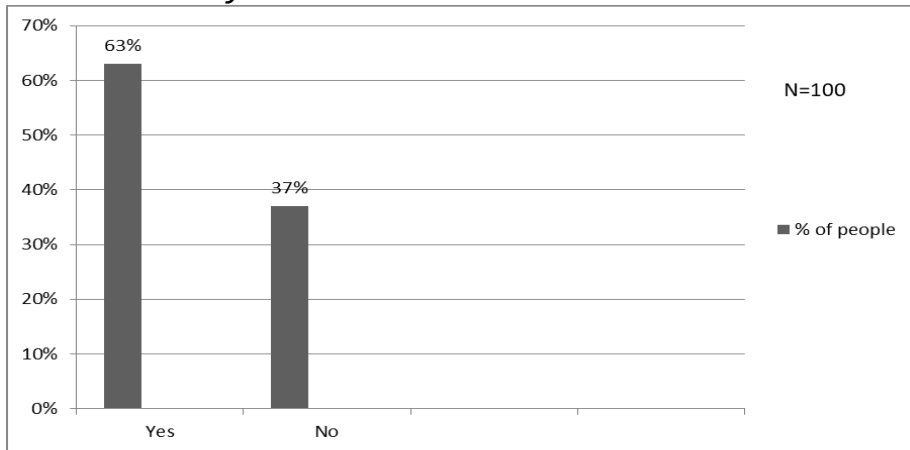
Which mode of training will be suitable for you ?



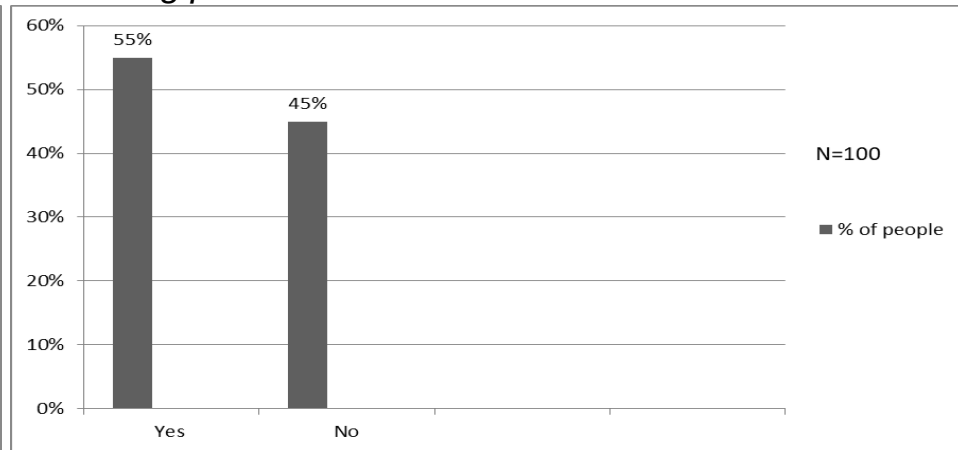
Have you gone through the user information manual of CPRS provided to you ?



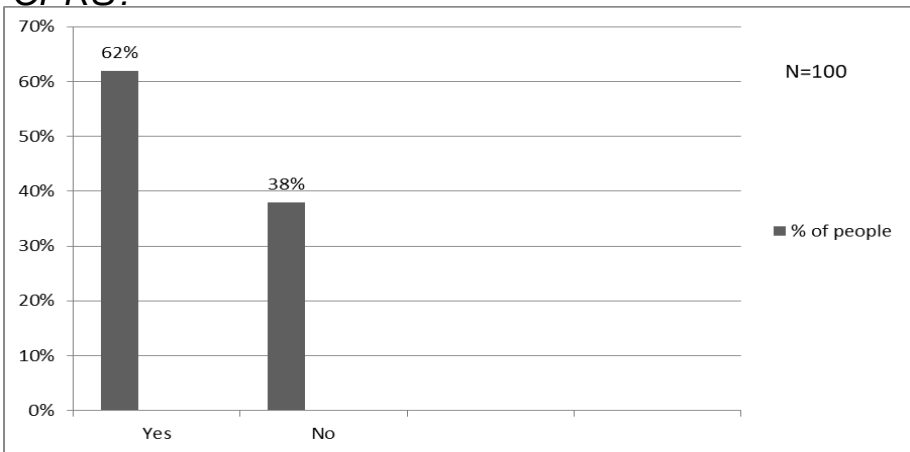
Are you aware of your role-specific function accessibility in CPRS ?



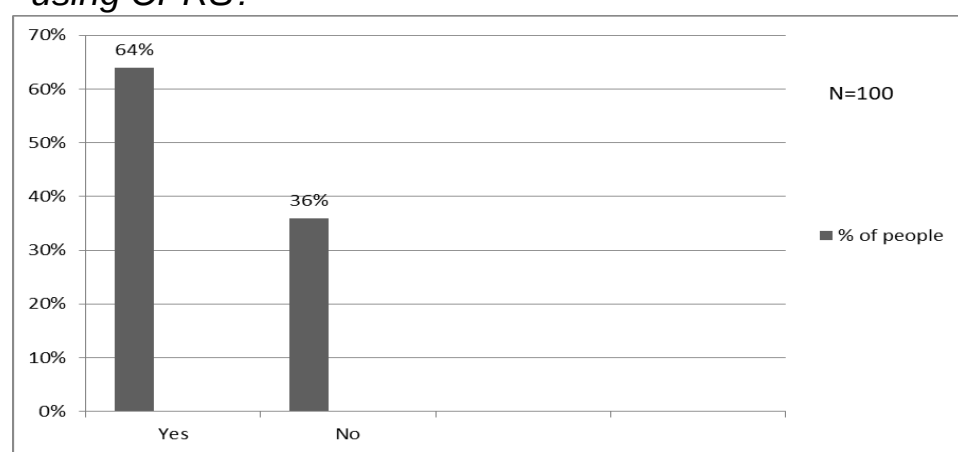
Are you aware of VISTA IDs and its use while accessing patients records ?



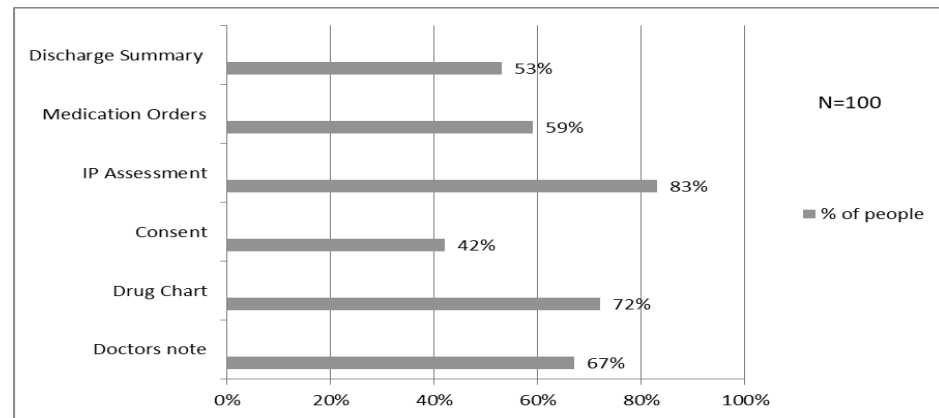
Are you aware of electronic signatures in context of CPRS?



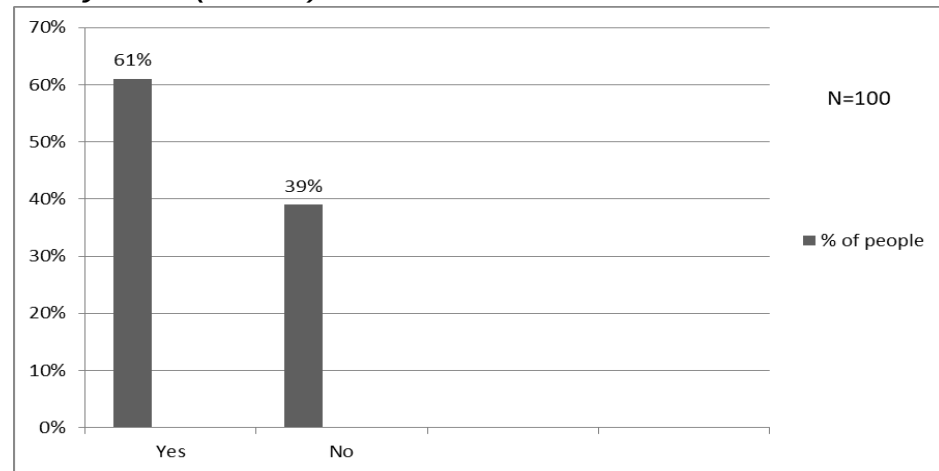
Are you aware of the various functions one can perform using CPRS?



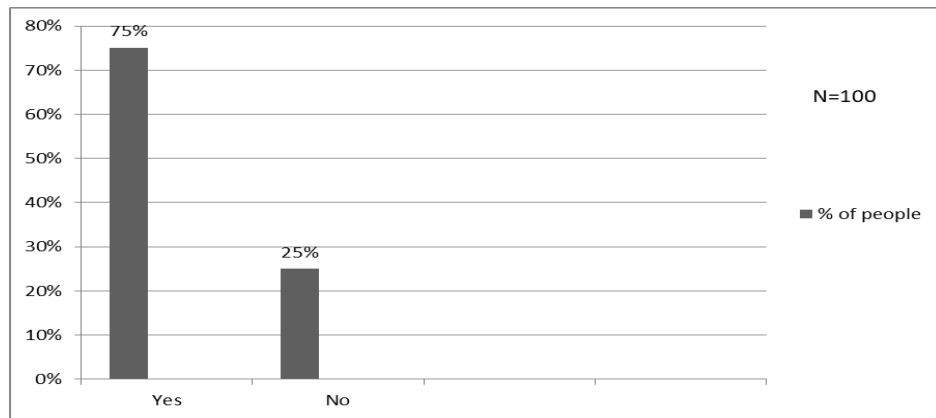
*Which all patient record sheets does the CPRS contain
(Multiple answers possible)*



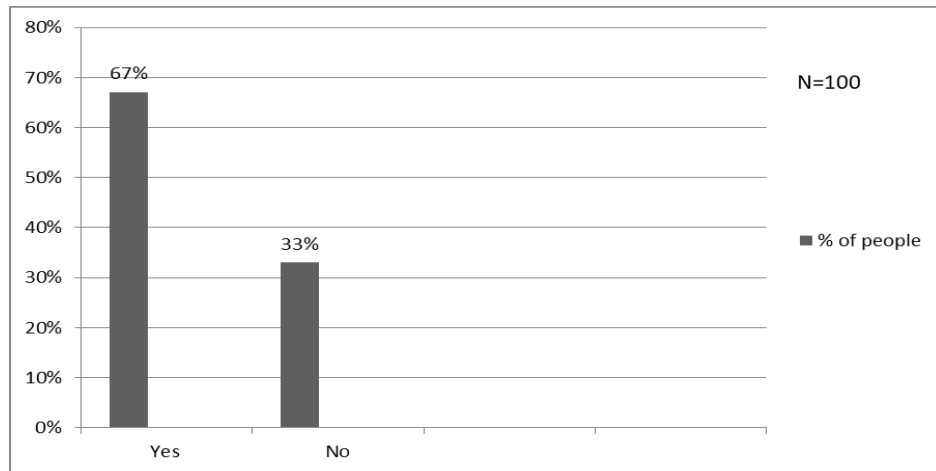
Have you heard about Clinical Decision Support System (CDSS)?



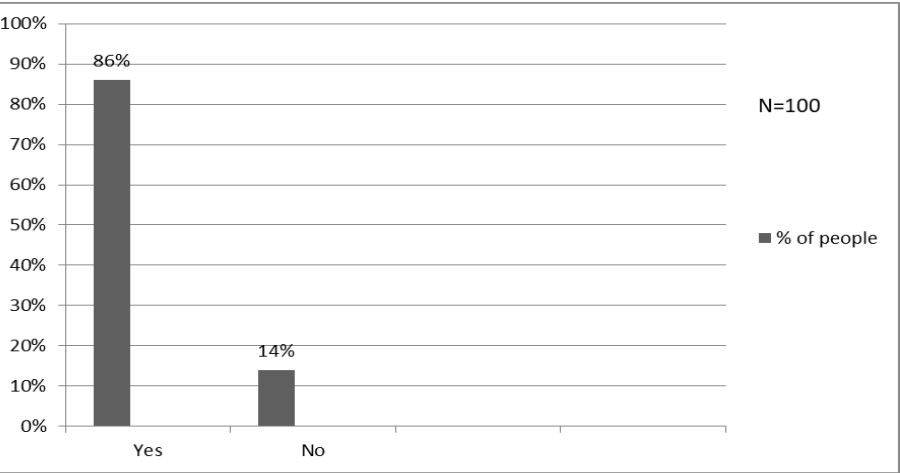
Do you think you can raise order for medication through CPRS ?



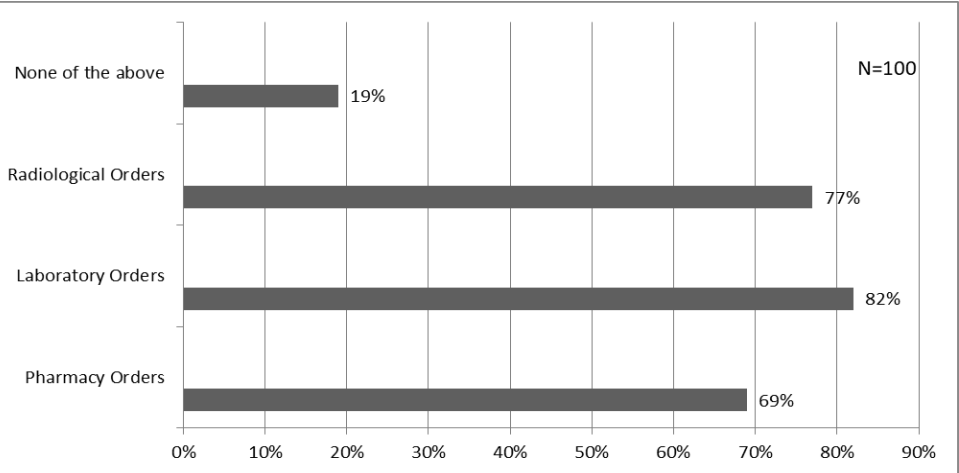
Do you need training on CDSS ?



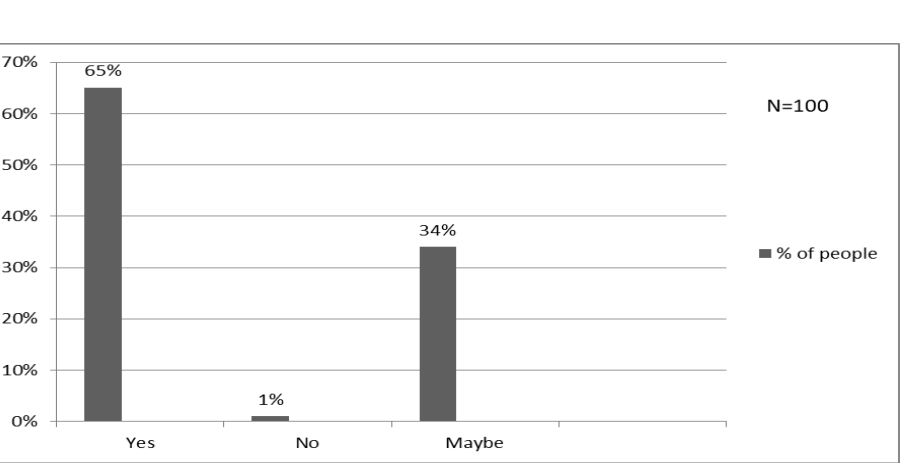
What do you think,Are Clinical Reminders important ?



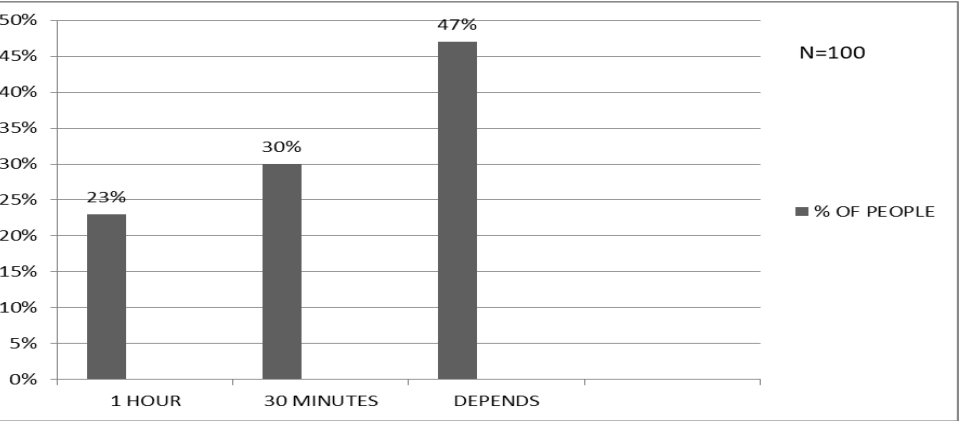
Orders that can be taken on CPRS are ?



What do you think , Can Reports be viewed on CPRS ?



How much time can you spend every day for training purposes?



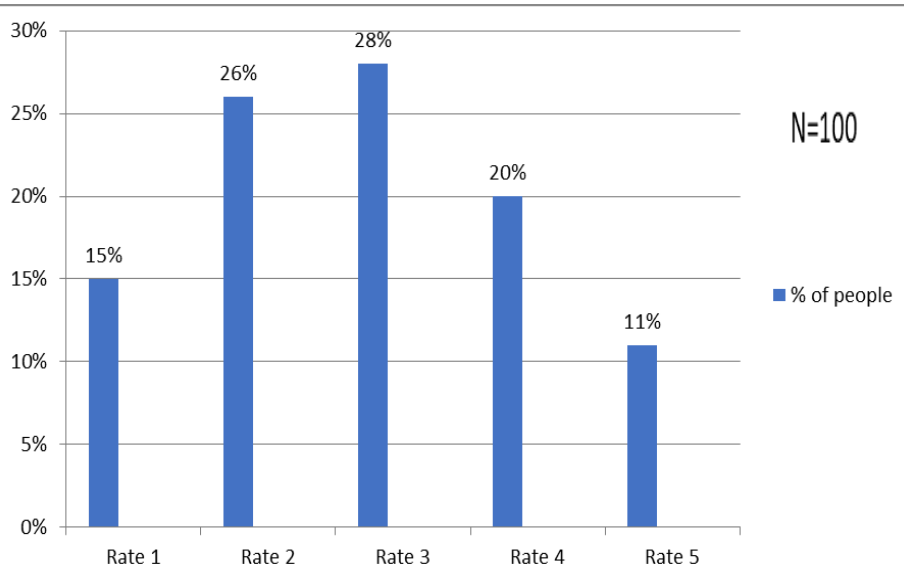
TRAINING SCHEDULE

DAY	TOPIC TO BE COVERED
DAY1	Introduction and Overview · Introduction to CPRS and its benefits · Understanding the importance of electronic health records · Familiarization with the CPRS interface and navigation · Overview of key functionalities and modules in CPRS
DAY 2	Patient Data Entry and Management · Entering initial assessments, diagnoses, and allergy assessments · Managing and updating patient data in CPRS · Practice exercises and hands-on training on patient data entry
DAY 3	Clinical Documentation and Order Entry · Understanding clinical notes and progress notes in CPRS · Creating and signing notes using electronic signatures · Order entry
DAY 4	Viewing and Retrieving Patient Information · Accessing patient clinical details and summaries · Reviewing lab results, vitals, and other patient information · Viewing reports and generating patient-specific reports in CPRS
DAY 5	Workflow Optimization and Best Practices · Tips for efficient use of CPRS and time-saving shortcuts · Workflow optimization techniques for improved productivity · Troubleshooting common issues and error handling · Q&A session and interactive discussion on best practices

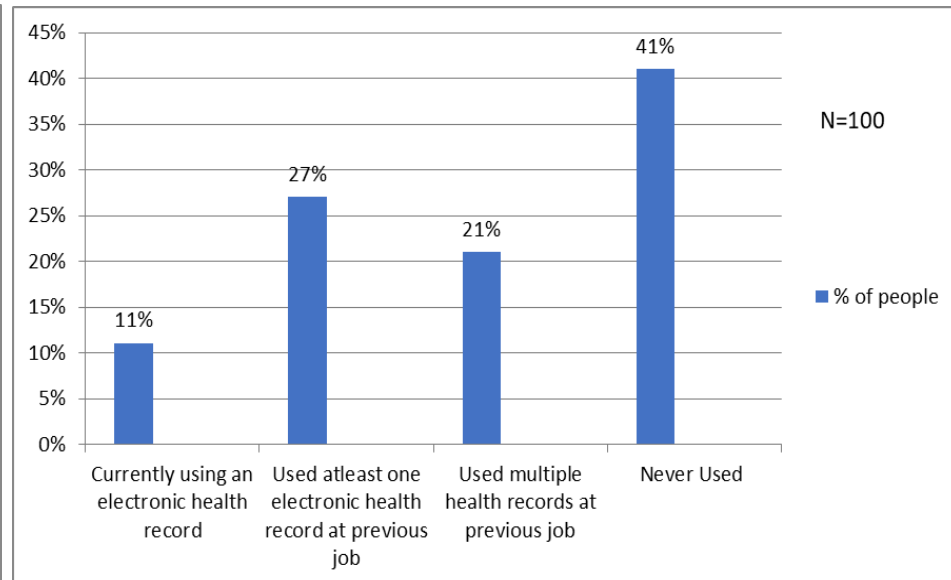
RESULTS

PRE-TRAINING ASSESSMENT

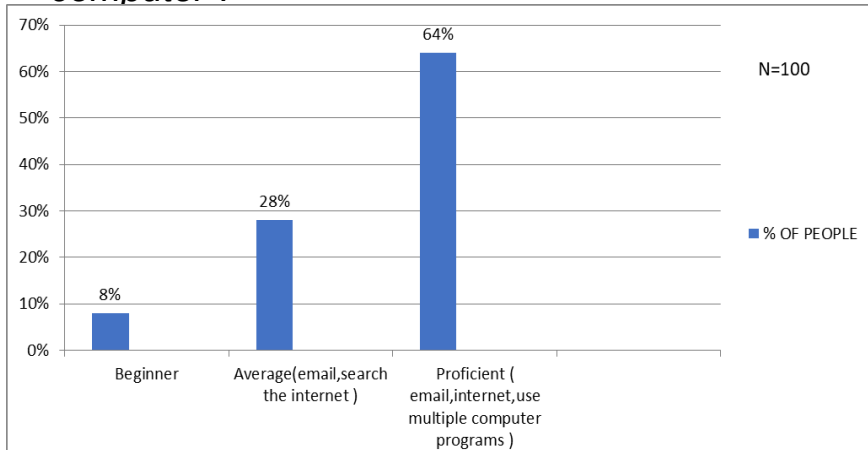
How would you rate your current understanding of CPRS ?



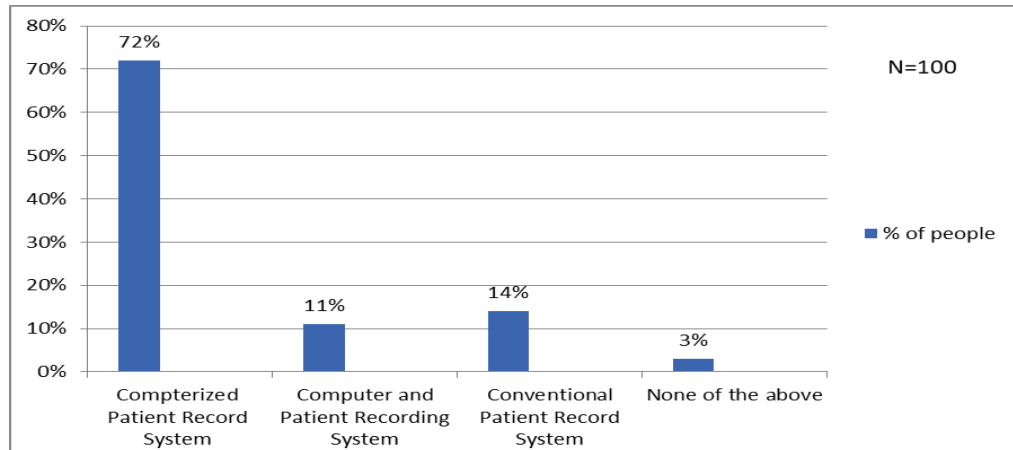
How much experience do you have with an electronic health record ?



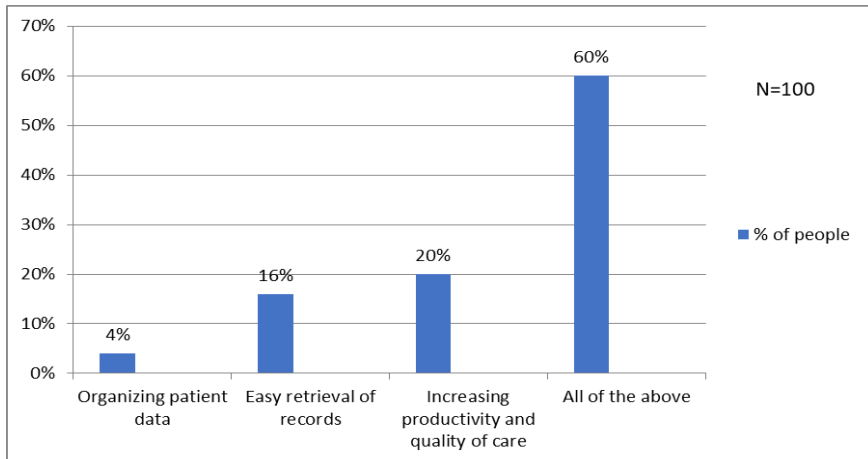
How would you rate your confidence with a computer ?



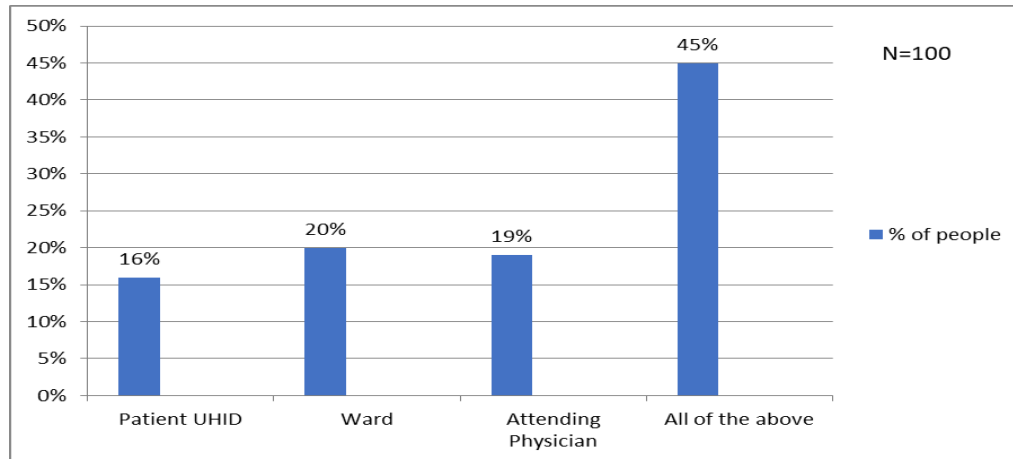
Full form of CPRS is -



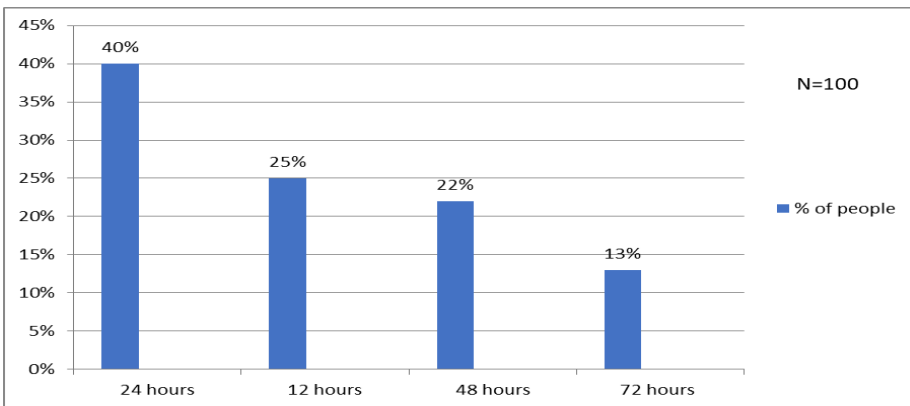
CPRS implementation will help in -



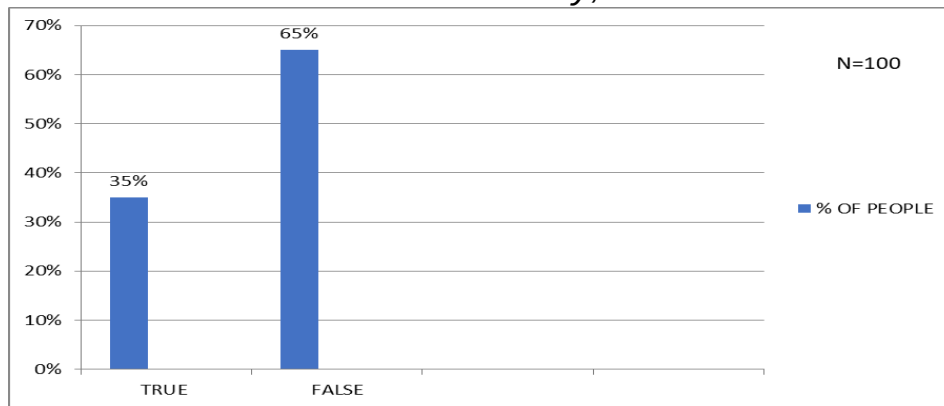
Patients can be searched through -



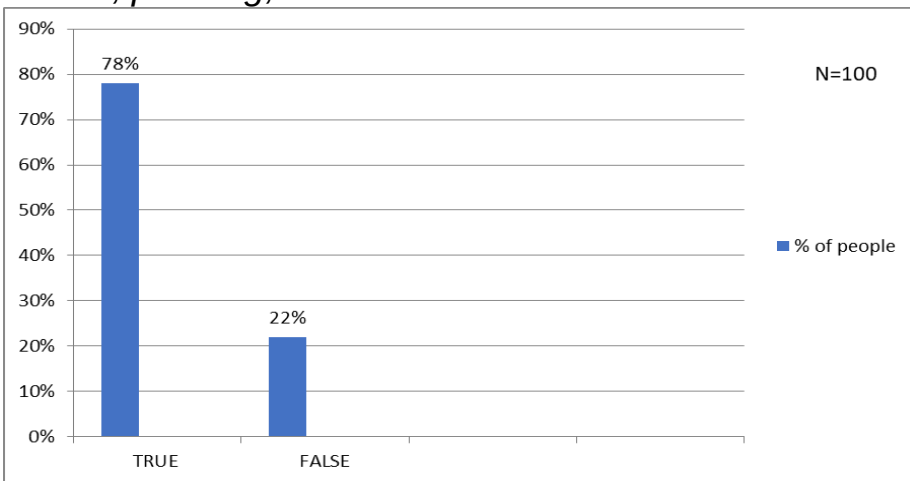
Initial Assessment should be filled before -



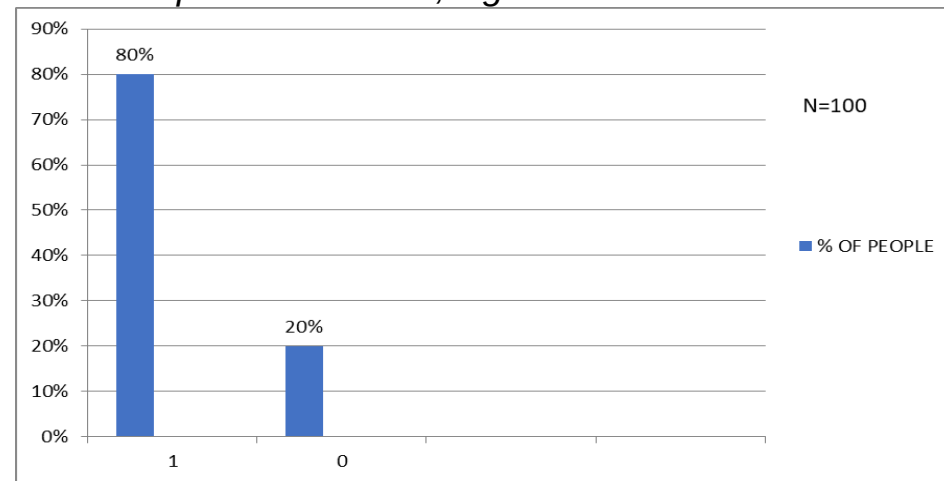
You can take the consent of a patient on CPRS as well, manual records are not necessary, True or False?



Discontinue Order functionality is used to discontinue the active, pending, and unreleased order. True or False?



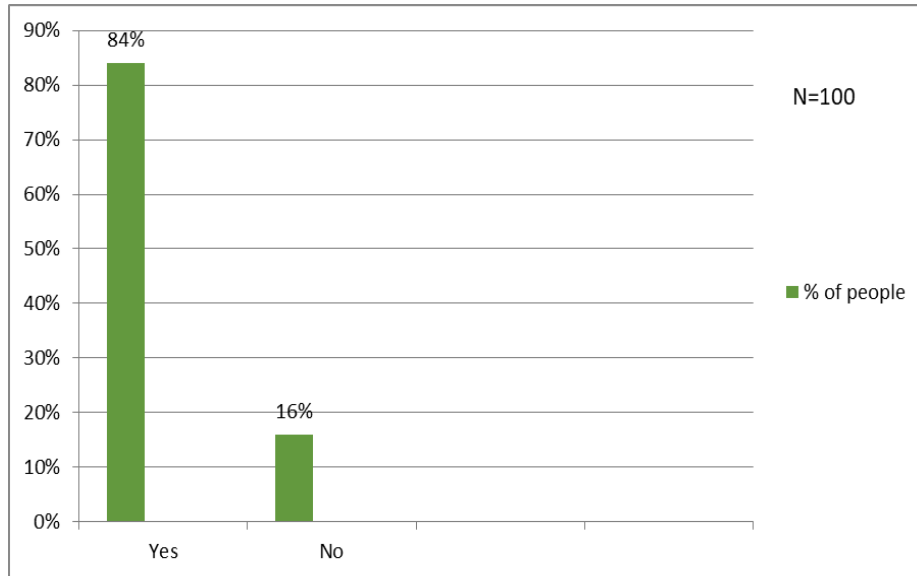
Electronic signatures are of great importance if you wish to place and order, sign a note. True or False?



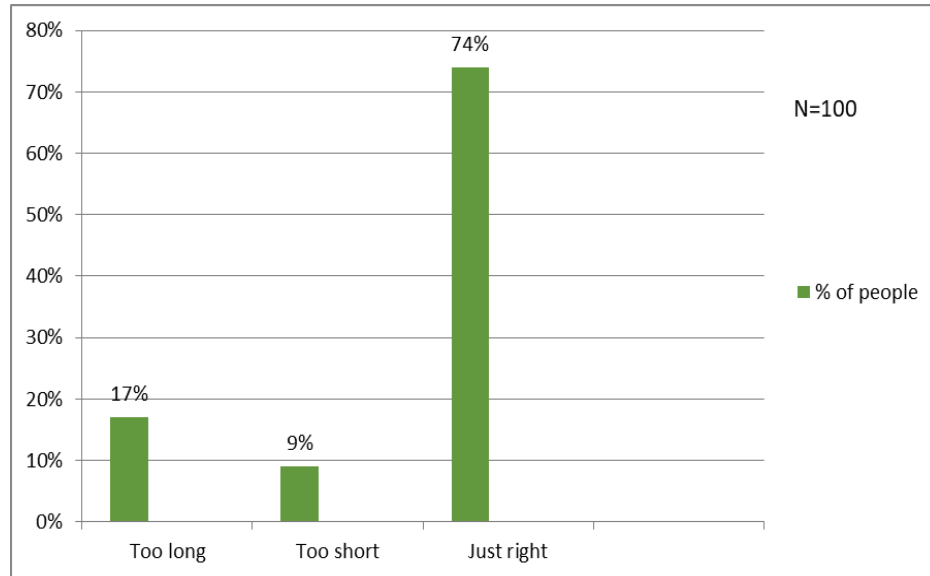
RESULTS

POST-TRAINING ASSESSMENT

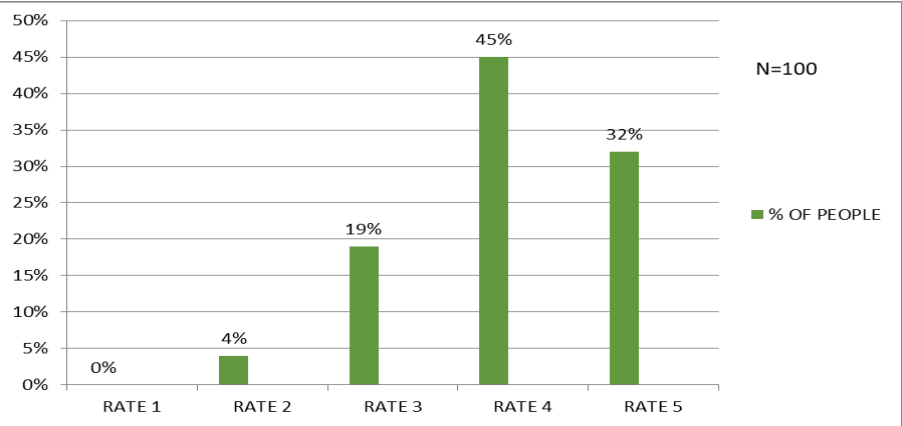
Did the training meet your expectations ?



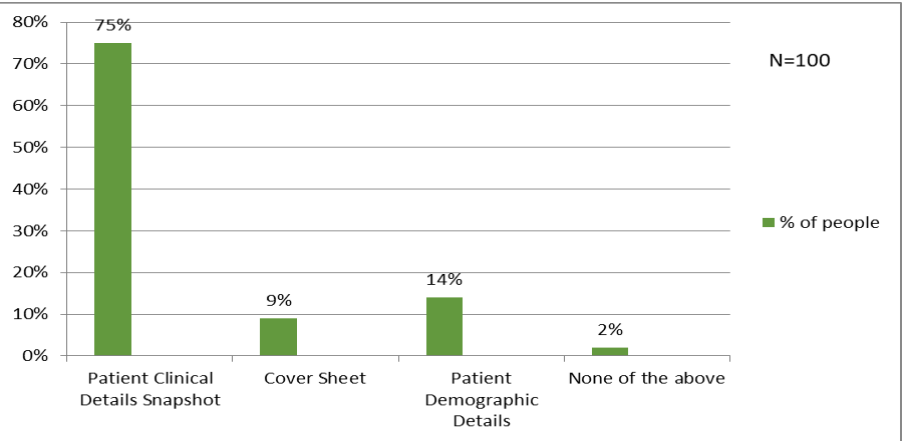
Given the material covered , the length of the training was -



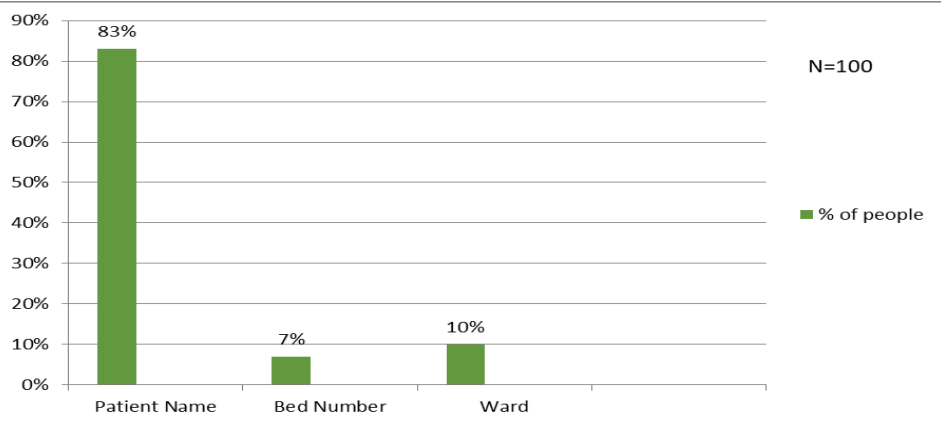
How would you rate the overall quality of the training



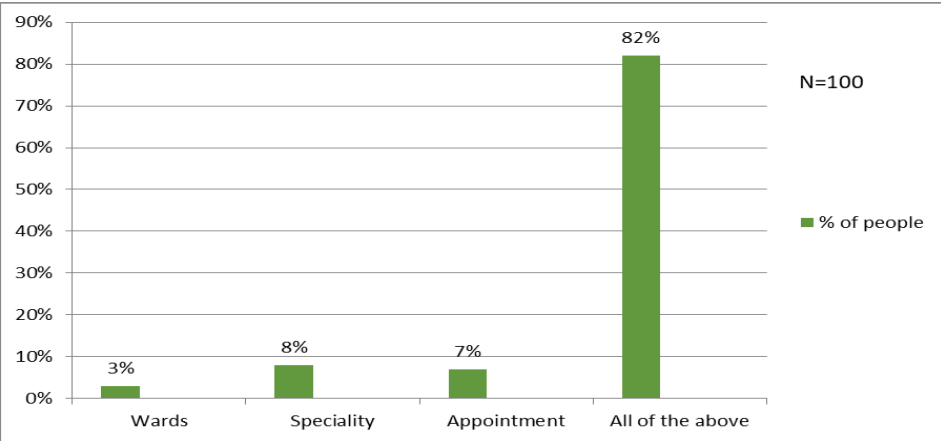
Which functionality can be used to view the patient short clinical details like complains, vitals, allergy etc. .



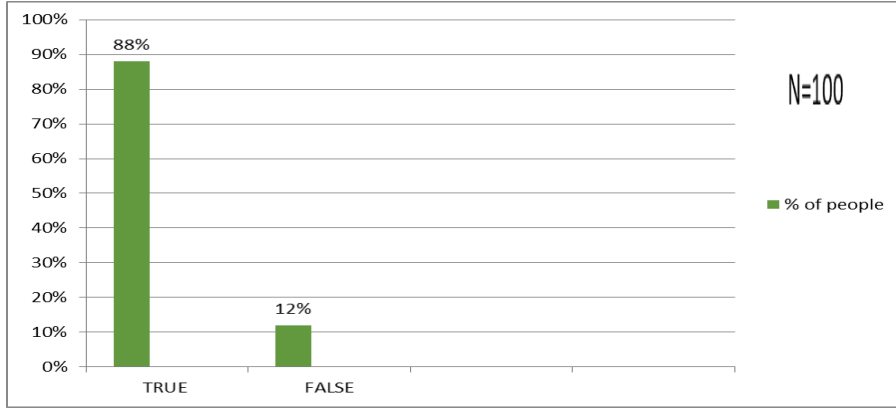
You can search for a patient through advance search option by entering any of these fields -



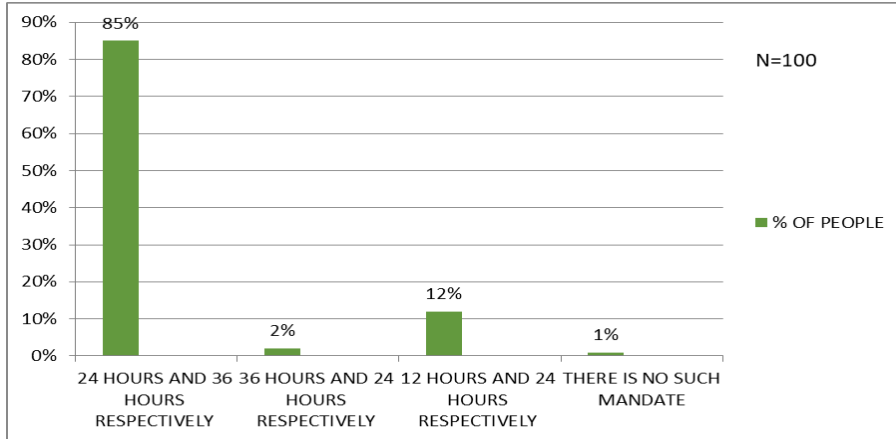
Patients can be searched through -



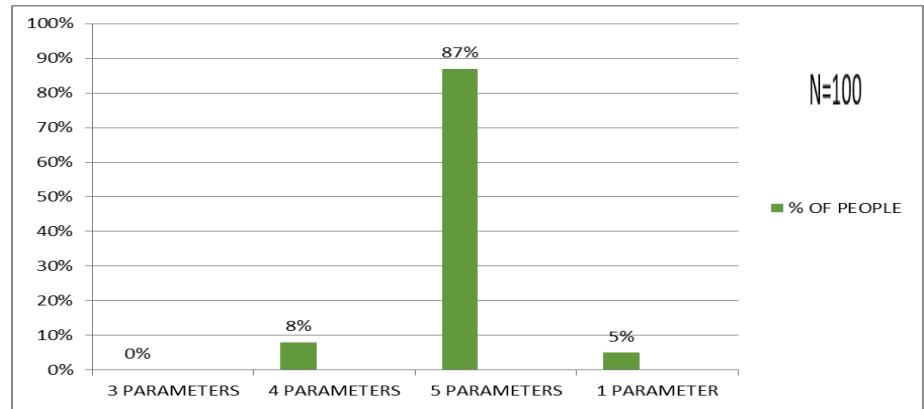
“New Notes” functionality is used to create new notes. True or False?



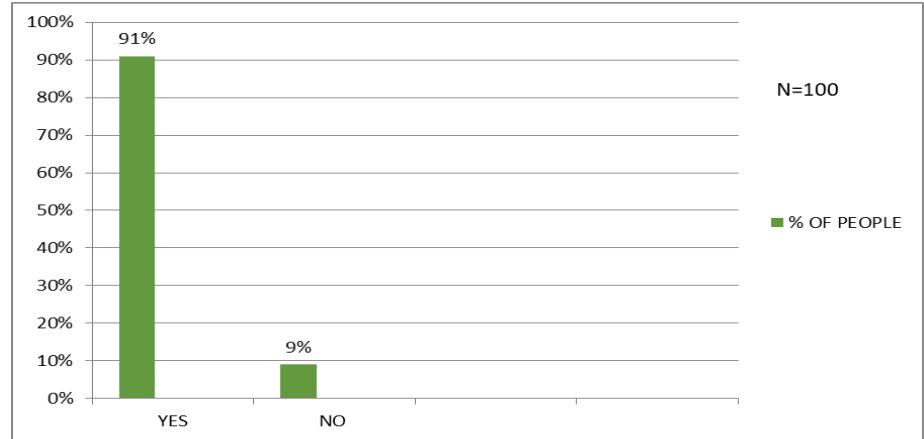
It is mandatory to fill the Initial Assessment and VTE Risk Assessment within ?



Maximum how many parameters can be viewed on a single multiple vital graphs ?



Did the training help you in gaining appropriate skills and knowledge ?





Increase in number of correct responses pre training vs post training



DISCUSSION

- ❖ Similar to the findings of ([Tigh J et al. ,2021](#) and [Donnelle L et al. ,2021](#)), this study demonstrates a significant improvement in performance as evidenced by the pre- and post-training evaluations. These findings support the notion that well-designed training programs can effectively enhance the skills and knowledge of doctors and nurses in utilizing CPRS.
- ❖ The high satisfaction rate reported by the majority of trainees (91%) is consistent with the findings of several literature reviews on training programs for healthcare professionals. ([Bates & Gawande, 2003](#); [Curran, 2016](#); [Edwards, 2012](#); [Institute of Medicine, 2003](#); [Page, 2011](#)) also found high levels of satisfaction among trainees after participating in CPRS training sessions.
- ❖ The inclusion of a training needs assessment in this study is in line with the recommendations of ([Bredfeldtet al., 2013](#); [Joseph K et al., 2013](#)). The assessment helped in identifying the specific needs of the trainees and customizing the training program accordingly .
- ❖ The increase in knowledge level and improved skillset reported in the post-training evaluation is consistent with previous literature on the impact of training programs. Similar findings have been reported by ([Kaihlalanen A-M et al. ,2023](#) and [Awad EB et al. ,2013](#)), indicating that training initiatives can effectively enhance knowledge and skills among healthcare professionals.

CONCLUSION

Specific Training Needs And Preferences Of Doctors And Nurses For The CPRS

- This research article aimed to investigate the training needs and preferences of doctors and nurses for the implementation of a Computerized Patient Record System (CPRS).
- This research helped to gather insights into the training requirements and preferences of doctors and nurses, providing valuable information for the successful implementation of the CPRS.

Increase in Knowledge And Skills of The Participants

- The study also established a baseline understanding of participants' knowledge and skills, which served as a benchmark for evaluating the impact of the training program.
- By comparing the pre-training and post-training evaluations, the effectiveness of the training program was assessed.



CONCLUSION

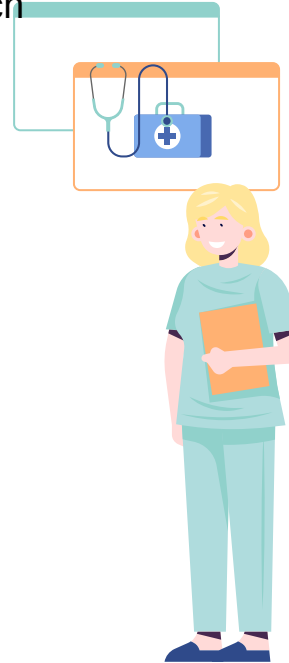
Helped to Compare The Baseline Data (Pre Training Evaluation) To The Post-Training Evaluation To Assess The Effectiveness Of The Training Program

- The study also established a baseline understanding of participants' knowledge and skills, which served as a benchmark for evaluating the impact of the training program.
- By comparing the pre-training and post-training evaluations, the effectiveness of the training program was assessed

Helped to find Gap Areas In Order To Identify Any Areas Where Further Training May Be Needed

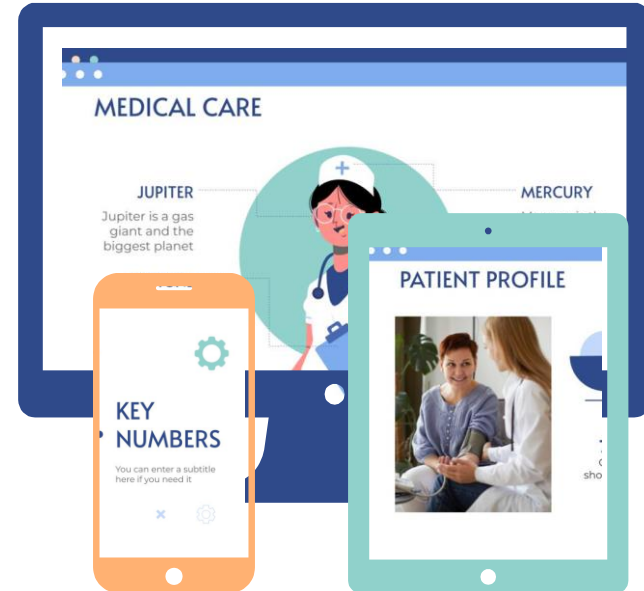
- The research identified gap areas where participants may require additional training to address specific challenges or enhance their proficiency in utilizing the CPRS

These findings guided the development of targeted training interventions to bridge the identified gaps and ensure that healthcare professionals are equipped with the necessary knowledge and skills to effectively utilize the CPRS.



RECOMMENDATIONS

- ❖ Continuously evaluate and improve the training program
- ❖ Address identified areas for improvement: The research identified some areas where the training can be enhanced to make it more effective and comprehensive. This information can be used to update and refine the training program .
- ❖ Provide ongoing support and resources
- ❖ Consider individual learning needs
- ❖ Monitor and measure the long-term impact



Sansys EHR

Not secure | 172.30.0.70/ewd/gvcp/rs/login.mgw?ewd_token=PTbSEFHGnccBPJ/uerl83waDEgvl88



SANSYS EHR 2.0
Electronic Health Record
Copyright© Sansys Informatics Pvt Ltd

80°F Cloudy

ENG IN 11:00 27-05-2023

Sansys EHR

Not secure | 172.30.0.70/ewd/gvcp/rs/cphome.ewd?ewd_token=6pxpmrEHuqz8mLWq/KP1oIfshZ3q8m=EPOSdKpU/DlwHTwoEmEPD9mRUYT

Patient Search

☐ Appointment's ☐ Ward's ☐ Provider's ☐ Emergency ☐ Team/Personal's ☐ Specialities ☒ Default

Show All entries Default: BLK-DISCHARGE LOUNGE Search:

S.No	Patient ID	Patient Name	Age	Gender	Date of Admission	LOS	Ward Location	Room Bed	Specialty	Primary Physician
1	670001233	Om .	68	MALE	12 APR, 2023	45 days	BLK-DISCHARGE LOUNGE	BLK-DL-01	CARDIOLOGY	Saketbhardwaj Amit
2	671075798	Masengo Mula	52	FEMALE	24 APR, 2023	33 days	BLK-DISCHARGE LOUNGE	BLK-DL-02	ANAEESTHESIOLOGY	Amit Mothar
3	670005413	Kuldeep .	45	MALE	04 MAY, 2023	23 days	BLK-DISCHARGE LOUNGE	BLK-DL-07	GASTROENTEROLOGY	Ge Unit
4	670001253	Poonam .	56	FEMALE	12 APR, 2023	45 days	BLK-DISCHARGE LOUNGE	BLK-DL-05	NEPHROLOGY	Sunil Prakash Vishal
5	670001234	A C	37	MALE	19 APR, 2023	38 days	BLK-DISCHARGE LOUNGE	BLK-DL-03	CARDIOLOGY	Amit Goel
6	671075799	Mohd Idris .	56	MALE	12 APR, 2023	45 days	BLK-DISCHARGE LOUNGE	BLK-DL-08	INTERNAL MEDICINE	Deepak Gargi Group
7	671075916	Keshav Bansal	23	MALE	19 APR, 2023	38 days	BLK-DISCHARGE LOUNGE	BLK-DL-04	CARDIOLOGY	Amit Goel

Showing 1 to 7 of 7 entries

Previous 1 Next

- IP Assessment Note is not entered. - Risk Assessment is not entered. - Both notes are not entered.

80°F Cloudy

ENG IN 11:02 27-05-2023

Sangee EHR

Sangee EHR

172.30.0.70/ewd/gcpr/cphome.ewd?token=UZIF1bvh4GkdKQZjHOp4A0Q4Ulr8n=y644dLIV2zd7NNM4WOFDma3kV4PC

Name

Umlia Bahara

Gender

FEMALE

DOB/Age

15 SEP, 1971 / 51 Y

Mobile No.

981825329

Ward - Bed Details

SKTSSH-GNDFLR EMERGENCY - SC-TR-COV04

Admission Date

08 APR, 2023 19:51

LOS (Length of Stay)

49 days

Primary Physician

SMART EMERGENCY TEAM MAX

Encounter Provider

BHARGAVA ANUPAM

Allergies

No Known Allergies

Final Diagnosis

Posting

No Postings

Reason For Visit

UNK

Cover Sheet

Dashboard

Orders

Clinical Notes

Discharge Summary

Referral

Lab

Radiology

Report

Problems | Chief Complaints | Final Diagnosis

No Active Problem Found for this Patient

Allergies / Adverse Reaction | Posting

No Known Allergies

Encounter Notes - OPD/ED Episode

08 APR, 2023 19:51 Inpatient Stay SKTSSH-GNDFLR EMERGENCY

08 DEC, 2022 18:52 SKTSSH-ENT Checked In

22 NOV, 2022 18:52 SKTSSH-ENT Checked In

15 NOV, 2022 18:34 SKTSSH-ENT Checked In

30 AUG, 2022 11:24 SKTSSH-ENT Checked In

Medications

No Active Medications Found

Lab Report

No Lab Test for this Patient

Radiology

No Radiology Found for this Patient

Clinical Notes

23 MAY, 2023 16:04 VTE Risk Assessment and Prophylaxis

23 MAY, 2023 16:04 VTE Risk Assessment and Prophylaxis

08 APR, 2023 20:02 Medication Administration Record (Non-BCMA)

08 APR, 2023 19:58 Emergency Department Initial Assessment

08 APR, 2023 19:58 Nursing ER Triage Assessment

Vitals

Temp 98.2 F 08 APR, 2023 19:52

Pulse 89 08 APR, 2023 19:52

Resp 20 08 APR, 2023 19:52

S/P 150/100 08 APR, 2023 19:52

Pain 2 08 APR, 2023 19:52

Clinical Reminder

VTE Risk Assessment & Prophylaxis DUE NOW Resolve

BREAST CANCER NEW DUE NOW

Sangee EHR

Global Visk EHR

ehs.manhealthcare.in/ewd/mdm/gv/MdmUserCNmgwsi?ewd_token=UuLEY6ku3Pc9g73bbkuY2QCEQnq8m=LLNwQVptzgm01EtaLeEP9pmVadewd_unNo=options6

User Creation

Location: MAX-BLK MEMORIAL HOSPITAL

Welcome: ARUSH SEHRA

Logout

Clone User Vist ID: 55506

Reset

Back

Cloning User Name: /MAH01SHAH01@

Service Section: CARDIOLOGY

Primary Menu Options: Person Class:

OR CPRS GUI CHART

Allopathic and Osteopathic Physicians

First Name: *

Last Name: *

Access Code: *

Verify Code: *

Contact No.: *

Designation: *

Initial: *

HIS ID: *

Electronic Sign: *

SSN: *

Start Date & Time: *

05/27/2023

Service Section: *

CARDIOLOGY

User Class: *

PHYSICIAN

Person Class: *

Physicians

Location: *

MAX-BLK MEMORIAL HO...

User Role: *

DOCTOR

Primary Menu Options: *

OR CPRS GUI CHART

Secondary Menu Options: *

OR CPRS GUI CHART

Keys: *

PROVIDER_ORES

Save

Reset

Back

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THANK
YOU

The image features the words "THANK YOU" in a bold, 3D, light blue font. The letters are arranged in two lines: "THANK" on top and "YOU" below it. The text is set against a black rectangular background that is slightly tilted. The 3D effect is achieved through shading and perspective, giving the letters a sense of depth. The entire graphic is centered on a white background.